Welcome to the latest edition of the Tyco Safety Product’s Access Control Catalogue of products available from our distribution centre in Letchworth. We aim to make your product range as comprehensive as possible to ensure you never need go anywhere else. To meet this goal, our product specialists, with your help, have selected the most appropriate, cost effective product range available on the market.

In line with our ISO 9000 accreditation, only those products that meet the highest quality criteria have been included. Our goal is to despatch product on the same day as we receive your order. Our warranty and service returns policy is second to none. We recognise that your business is highly dependent on excellence in customer service and to help achieve this we offer extended warranty from many of our suppliers. Full credit is also available on a “No Question – No Fuss” basis for any new in-warranty product returned to the distribution centre. Our standard duration for warranty is a minimum of 12 months credit.

We are positive that together we can help grow your business and we look forward to working with you in the future.

Tyco Safety Product’s Web site contains an endless supply of product related information available in multiple languages - English, French, German, Spanish, Italian, Dutch and Polish. It is regularly updated and features many aids to the selling process including presentation material, independent product test results and detailed technical information.

Our web site can be found at www.tycoemea.com

NEW - We have posted all of the ADT/Tyco datasheets on the website.

To enhance customer specifications and quotations we also provide a series of product datasheets which can give our clients an opportunity to read more about the product. We are positive that together we can help grow your business and we look forward to working with you in the future.
## Section Title

Standalone

Non PC Based Network

Comlite

Kantech

Aperio

Software House

Cards and Readers

Nedap

Locking

Door Accessories

Cable

Card Bureau

ID Printers

Pre-Sales and Technical Support
This chapter contains information about our range of Standalone Access Control Solutions

- Introduction
- StrikeMaster ES
- DG-180 Keypad
- DG-25WP Keypad
- Sentinel Standalone Two Reader Controller
- ioPass™ Stand Alone Single Reader Controller
A standalone access control solution can be used at one or multiple doors to meet the client’s needs. These do however by nature of being ‘standalone’ require the system administrator to attend each location to add and/or delete users. Therefore these systems often become unmanaged in that once set up – no administration takes place. When this involves a keypad solution. Very soon the keys used for the day to day common PIN soon wear and can easily be identified. The end user must be aware that they will need to keep a record of PIN tokens issued maybe with allocated memory ‘slots’ so that should the token be lost or the user leave the PIN or taken can be deleted from the system.

Standalone systems are often seen as a simple ‘key’ replacement. Whereas before a new lock or cylinder and replacement keys for a controlled area would be provided if a key was lost, stolen or not returned. Now the individual users token or PIN can be deleted from the system as soon as the issue is identified to the system administrator and they attend the system controller.

Some standalone products have either separate control electronics (maybe included in an internal housing together with a PSU) or have all electronics in the keypad or reader which is located on the unsecure side of the door. The later introduces a level of threat to the system – as bit exposes the electronics the system to attack which may provide access to the lock switching or egress button wiring.

Which Technology

Standalone systems are generally split into PIN numeric keypads, Proximity or maybe biometric systems have their benefits – PIN, no credential for the user to remember to bring with them – but can be passed easily to someone else-or written on the wall adjacent to the keypad. By having individual PINs for each user it does cause general wear over all of the keys BUT, the more PINs on a system-the better opportunity to hit the keys and find a PIN.

Changing the common PIN code system on a regular basis has issues. Users forgetting the new code or not being advised of the change before they next try to gain access. Standalone Proximity readers overcome the PIN issues – but tags can be loaned or given to others for access to the secured area.

Many biometrics can also be used in a standalone mode. Instead of being connected to the networked controller and managed by the systems PC. The biometric instead makes the access decision. Often with reduced access features AND requiring the system administrator to carry a laptop with the readers management software and database.

As with all access solutions. Two factor – card + PIN is better than one.

Functionality

Often standalone systems allow any authorised user access on a 24/7 basis, applying no time schedules to the access rights to stop users entering the area out of hours. When a controller can manage more than one access point, the designer should also check that there is facility to provide access groups – so that all users do not have access to all areas simply by being added to the system.

Report/Audit trails

Standalone systems will often provide limited or no audit trail of who went where or when. This may be acceptable to the user as the benefits over a key only lock may be all that is required.

Product Selection Guide

<table>
<thead>
<tr>
<th>Product</th>
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<th>Internal</th>
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<td>Y</td>
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<td>DG-180-SET</td>
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<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td>SA-550</td>
<td>1</td>
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<td>Sentinel</td>
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</table>

*SA-550 is suitable for external environments only with the addition of an ioProx reader in W26 format
The new StrikeMaster ES is a robust and reliable Keypad Access Control System for installations requiring elevated security levels.

Constructed to survive in exposed, outdoor or unsupervised environments these systems combine the field proven durability of the StrikeMaster keypad with a separate, remotely secured electronic control module. The control module along with a dedicated high spec power supply is contained within a tamper alarmed steel enclosure.

This enclosure is located within the secured building, protected from criminal attempts to breach or disable building security systems. The control module supports both IN and OUT functionality of either one or two keypads (one or two doors). Available in vandal resistant or robust illuminated versions.

Features:
- Keypad controller with power supply for location in secure area. Controller and keypads have tamper monitoring
- Choice of:
  - Vandal resistant, IP65 rated, secure keypad or
  - Backlight keypad for aesthetics and or ease of use
- Audible and visual confirmation of code acceptance and code denied (at the keypad).
- Up to 100 programmable user codes can be stored for either keypad.
- 4, 5 and 6 digit PINs can be programmed.
- Door latched or door locked mode.
- Entry under duress alarm feature with relay output.
- Door contact monitoring for door forced or held event output
- Door bell feature with unique tone for each door.
- Anti tamper switch on keypad to detect removal from back box.
- Back box suitable for surface fixing or mounting on UK electrical flush installed back box

Order Codes:
- **DXPS1W10-ADT** StrikeMaster ES single door kit. Comprises of 3 x 4 Keypad (Illuminated) with back box and fittings and Power supply with controller electronics. Quick Start guide included in kit. Full installation manual on web site. The controller can manage two doors/keypads with egress button, door monitor contacts etc. Requires a 12 Vdc 7Ah battery
- **DX1KT20-ADT** StrikeMaster ES Metal keypad only. For use with StrikeMaster ES kit only - not as a standalone keypad.
- **DX2KW20-ADT** StrikeMaster ES Illuminated keypad only. For use with StrikeMaster ES kit only - not as a standalone keypad.
- **STI-1KFS0201** StrikeMaster ES Keypad shield. For use with StrikeMaster ES keypads.
DG-180 Keypad

Features:
- Split off controller and keypad for high security
- Epoxy sealed
- Aluminum alloy casing design with vandal resistant screws for enhanced safety and durability
- Memory volume up to 1000+ PINs
- Invalid PIN lock-out
- 2 LED indicator and buzzer for status indication, keypad with beep sound
- Additional input for anti tailgating function
- Non-volatile memory
- Dual relay outputs for multi-control
- Touch panel
- Extremely slim body and narrow faceplate suitable for all types of door/frames

The DG-180 is a more aesthetically pleasing keypad with the control electronics housed in the power supply included in the kit. The pigtail lead from the keypad makes for a more secure installation than the DG-25. The power supply will require a 12Vdc 7Ah battery (not included in the JDE kit part code) to support the system under mains fail conditions.

Although the unit will support up to 1,000 PIN codes this is NOT recommended due to the likelihood of someone guessing a code.

Technical Specifications:

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</table>

Order Code:
DG-180-SET

ICS DG-180-SET keypad kit. Includes mullion style keypad with separate PSU. PSU houses control PCB with relay output. PSU supports 12Vdc up to 500mA for locking. Requires a 12Vdc 7Ah battery – not included (PS-1270)
The DG-25 is a surface mounted stainless steel unit designed for both internal and external applications. The unit is not IP rated but will withstand general wear and tear in both commercial and industrial applications. The unit is programmed via the keypad and all wiring for monitoring and locking is terminated in the keypad enclosure (which means outside of the secure area). The keypad will require a battery backed power Supply Unit capable of supporting

**Features:**
- Stainless steel
- Surface mount
- Operating voltage: 12˜24 Vdc
- 5 digit codes programmable
- Allows up to 100 PIN codes
- Dual relays output for multi-control
- Door reed switch input for anti-trailing
- Fully programmable via keypad and master code
- 3 LED displays with audible indication

**Technical Specifications:**

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<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td>80</td>
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</table>

**Order Code:**
DG25WP

ICS DG25WP stainless steel keypad. Up to 100 users with 5 digit code. Keypad requires 12Vdc power supply (we recommend with battery back up)
Standalone Solutions

**Sentinel Standalone Two Reader Controller**

The Sentinel is a feature rich 2 door stand alone controller offering exceptional user benefits. Sentinel is easy to install and maintenance friendly, housed in an aesthetically appealing and durable housing for guaranteed quality and appeal. Sentinel allows users to programme tokens for an individual or both doors on the controller. The door group programming is simple and easy to implement.

Sentinel can be programmed via the password protected controller keypad. Cards may be added or deleted via the keypad or directly at a reader, using a Master card. In every event the 4 digit LED display provided in each Sentinel gives a clear, concise indication of controller programme and operational status.

**Features:**
- 2 Door stand alone controller
- 4 digit LED | programme & status display
- 16 Key keypad
- Card entry & deletion via Master card or Keypad
- 4 user programmable inputs
- 4 user programmable 1A relay outputs
- Up to a maximum of 1,000 users
- Door open & door forced monitoring

**Technical Specifications:**

**Processor:** Siemens type 164, 16 bit running @ 20MHz

**Memory:** 128K bytes of random access memory giving 1,000 cardholders capacity.

**Battery Backup:** NiCad cell RAM backup.

**Power:** 12Vdc ± 10%

**Current:** 240mA

**Physical Specification**

Wall mount housing: 150W X 110H X 32D (mm)

**Order Codes:**

**101013ADT** Morley Sentinel 2 reader controller. Configured for ADT to read HIDs 37bit tracked format H10302 only. Use iCLASS readers (including Morley’s Mv-1 unit) and H10302 format cards only. Requires reader(s), credentials, 12Vdc power supply and standby battery.

**ICLASSALONEKIT1** Morley Sentinel 2 reader controller in H10302 format. Supplied with 1 x R10 iCLASS reader, 50 x iCLASS ISO cards in H10302 format, Eimdene 12Vdc 2Amp PSU and 12Vdc 7Ah battery.

**105068ADT** Morley Mv-1 iCLASS Vandal Resistant Reader

**109018ADT** Morley MV spacer for Mv-1 reader. Required when this reader is to be mounted on to metal surfaces

**6100CKN0000ADT1** HID R10 iCLASS reader – ADT branded.

**2000PGGMN-H10302** HID iCLASS 2K2 ISO card - 37 bit tracked format

**2002PGGMN-H10302** HID iCLASS 16K16 ISO card - 37 bit tracked format

**2050PKMN-H10302** HID iCLASS 2K2 Key - 37 bit tracked format

**2052PKMN-H10302** HID iCLASS 16K16 Key - 37 bit tracked format

**2060PSSMN-H10302** HID iCLASS 2k2 smart key – 37 bit tracked format

**2062PSSMN-H10302** HID iCLASS 16k16 smart key - 37 b tracked format
Standalone Solutions

Standalone Proximity

**ioPass™ Stand Alone Door Controller**

Stands Alone In The Field
Perfect for smaller applications such as convenience stores, storage rooms or parking lots, the SA-550 is a fully self-contained stand-alone controller with an integrated ioProx 26-bit Wiegand proximity card reader. It can store up to 1,000 users and is programmed directly from the keypad.

The controller can define access levels, unlock schedules and holidays. Audit trail with time stamp is also available for up to 3,500 transactions. All commands are displayed on the 16-character, 2-line LCD.

Upload, Download And Backup
The door configuration, card database and events can be downloaded to a USB key for backup.

The SA-550 controllers can support up to 8 different door configurations (door access schedules, door unlock schedules, etc.). The door configuration data can be transferred to any number of SA-550 controllers via a USB key.

Optional External Reader
For added convenience and security, the SA-550 may be integrated with an external ioProx reader. This will allow the controller to remain on the secure side of door. Or it allows the weather-resistant external reader to be used outside, even in cold environments. Invalid Password Lockout To prevent unauthorized persons from gaining password entry by trial and error the system activates an alarm relay and/or automatically deletes the card number after five tries once the option is selected in the system.

Features:
- Simple and convenient
- Save up to 8 configurations (door access schedule, door unlock schedules, etc.) on a USB to load on other ioPass SA-550 units
- Use card, PIN or both
- Program controller from the keypad
- Integrates with an optional external ioProx reader
- Store up to 1,000 users
- Audit trail on last 3,500 transactions with time stamp
- 6 language selectable user interface: English, French, Spanish, German, Dutch and Italian
- Program 24 recurring holidays (January 1 and December 25 pre-set) per controller
- 24 non-recurring holidays per controller
- 4 door access schedules and 1 door unlock schedule per controller
### Standalone Proximity

#### Technical Specifications:
- **Typical Read Range:** Up to 10 cm (4 in)
- **Input Voltage:** 12 VDC
- **Current DC Maximum:** 300mA
- **Display:** 16 characters, 2 lines, LCD with backlight
- **Languages Programmable:**
  - from Keypad: English, French, Spanish, German, Dutch, Italian
- **Dimensions (H x W x D):** 15 x 9.5 x 4 cm
- **Weight:** 380 g
- **Colour:** Black
- **Case Material:** ABS (UL 94V-0)
- **LED Indicator:** Bicolour (green/red)
- **Sounder:** Piezoelectric
- **Operating Temperature:** 0°C to 50°C
- **Operating Humidity:** 5% to 95% (relative humidity: non-condensing)
- **Maximum Distance Between:**
  - Controller and Proximity Reader: 150 m, 2 twisted pairs, solid conductor #22AWG unshielded
  - Controller and Relay Module: 150 m, 2 twisted pairs, solid conductor #22AWG unshielded:
  - Relay Module and Power Supply: 150 m, 1 pair, solid conductor #18AWG unshielded
- **Recommended Power Supply:** 12 VDC, 1A
- **Door Contact:** Input NO or NC selectable
- **Request-to-Exit Input:** NO or NC selectable
- **Relay Output:** (Strike Relay, Alarm Relay, Relay-1)
  - Form C, NO and NC, 3A, 24 VDC
- **Strike Relay Timer:** 1 to 255 sec
- **Alarm Relay Timer:** 1 to 255 sec
- **Relay-1 Timer:** 1 to 255 sec
- **Door Ajar Timer:** 1 to 255 sec
- **Audit Trail:** Last 3,500 transactions with time stamp
- **Compatible Cards:** ioProx cards P10SHL, P20DYE, P30DMG, P40KEY and P50TAG
- **User Capacity:** Store up to 1,000 user records
- **Certifications:** CE, FCC, UL294 and ICES-003

#### Order Codes:
- **SA-550**
  - Standalone controller with integral ioProx reader and separate relay module and 10 x P40KEY ioProx key fobs
- **P225W26**, **P225KPW26**
  - ioProx mullion reader
  - ioProx combined reader and PIN
- **P10SHL**
  - ioProx dual format Clamshell tag (priced each but must be ordered in multiples of 50)
- **P20DYE**
  - ioProx dual format ISO card (priced each but must be ordered in multiples of 50)
- **P40KEY**
  - ioProx dual format key fob (priced each but must be ordered in multiples of 10)
Non PC Based Networked Access Control

This chapter contains information about the Dimension Non PC Based Networked Access Control Solution

• Introduction
• Door Control Module
• Non PC Networked Access Control Solution
• Control Panels and Associated Products
For many sites, the administration burden of standalone solutions is not acceptable, but there is no specific need for a PC based solution as regular reports etc are not required. For these, the ability to add access control to their intruder alarm panel either as a dedicated non PC based but Network/centralised access control system or as part of an integrated package is an ideal solution for their requirements. Offering card holder administration, and management of access groups to controlled areas and features such as on screen reporting for historical review of events.

The Galaxy Dimension intruder panel with keyprox and Door Control Modules providing a single credential for both intruder and access control is a cost effective answer to two security needs. Intruder for out of hours monitoring of the premises, access control for open hours restriction of who goes where and when.

Galaxy Dimension combines the best intrusion features with advanced Access Control functions in a single, integrated system. Installing and programming a full security system becomes easier, quicker and more efficient. With only one system to install and maintain, one point of contact for Technical Support and one training session for the complete system, there are savings in both time and money.

Offering the non PC based Access Control system for small industrial and commercial premises provides a user friendly system with upgrade facility to integrated Intruder and Access Control at a later date. The combined Intrusion and Access System offers the end user a system which retains maximum convenience whilst maintaining the highest level of security at all times.

Galaxy Dimension Features:
- Up to 64 doors controlled.
- Area based integrated access and intrusion control. No access if area is set. Prevents false alarms.
- Up to 1000 users.
- Access event log with 1000 events recorded in panel (separate intruder log).
- Fully customisable weekly schedules to control access, autosetting and output functions.
- Up to 32 yearly holiday schedules each with 20 periods.
- User’s access controlled by access templates and group set status.
- Area behind a door is unset automatically upon access if user has authority. This prevents false alarms due to failure to unset.

Additional Features
- Groups can be set by pressing the Menu Recall button before card swipe, or by triple swipe.
- A system keypad can be linked to each reader for Menu Recall function control.
- Evacuation control will allow doors to unlock in the event of fire.
- Wiegand compatibility - gives the flexibility to work with a huge range of reader and card technologies up to 40 Bits.
- Allows compatibility to retrofit existing installations.
- Compatible with Wiegand keypads that use 8-bit Burst mode.
- DCM modules available in compact plastic box or combined with a PSU and RIO expansion module in a Metal box for installation convenience.

New Innovative User Interface
The Galaxy colour TouchCentre facilitates easy user operation. An intuitive menu gives clear options, and event logs are displayed as a scroll list for easier comprehension. Users can customise the screen background with their own images and logos. Enhanced controls allow simple centralised operation of electrical appliances such as lights, heating or window blinds either manually using the touchscreen or automatically via timer control.

Programming Software Compatibility
The new Remote Servicing Suite uses a common database to communicate with all Galaxy panels from one program. A networked version of the Remote Servicing Suite is also available to allow access to up to date records for all users. It guarantees secure management of information in one central location.
The Galaxy Dimension Door Control Module (DCM) connects to the RS485 data line along with standard RIO and MAX devices. The DCM is available with or without an internal 12Vd.c. 2.75Amp PSU.

The DCM allows for two connection of two Wiegand output access control card readers, and has the necessary inputs and outputs for the door monitoring contact, egress device and lock output. The Power DCM provides up to 750mA at 12Vd.c. per lock output.

Both versions of the DCM are provided in an enclosure. The Power DCM also has a RIO and Smart PSU mounted in the enclosure.

Each DCM (the number of DCMs per system is subject to the panel type - see chart below) will provide a networked Access Control solution that integrates into the Intruder panel and can be used for secure Access Control and/or alarm set/unset subject to local Intruder policies. Whilst on line the DCM will support via the control panel up to 1,000 users and in off-line/standalone mode up to 100 individual user tokens.

* Subject to devices, Reader & RIO Intruder items etc.

**Galaxy Dimension Door Control Module**

**Features:**
- Up to 64 doors controlled.
- Up to 1000 users.
- Access event log with 1000 events recorded in panel (separate intruder log).
- Fully customisable weekly schedules to control access, auto-setting and output functions.
- Up to 32 yearly holiday schedules each with 20 periods.
- User’s access controlled by access templates and group set status.
- Evacuation control will allow doors to unlock in the event of fire.
- Wiegand compatibility - gives the flexibility to work with a huge range of reader and card technologies up to 40 Bits.
- Allows compatibility to retrofit existing installations. Compatible with Wiegand keypads that use 8-bit Burst mode.
- DCM modules available in compact plastic box or combined with a PSU and RIO expansion module in a Metal box for installation convenience.
Colour graphical touch screen for Galaxy Dimension. Highly practical state of the art technology at your finger tips. With its large, customisable colour touch screen, Honeywell’s Galaxy Dimension TouchCenter is a new and modern user interface offering end-users the simplest operation and providing installers with a key differentiator to help retain and grow their business. Installers can increase their advertising exposure by displaying their company name or logo on the home screen and add value to an installation by putting a picture and name of the end-user’s company on a bright colourful interface.

The Galaxy Dimension TouchCenter makes it easier than ever for end-users to take advantage of their security system features. Even the most advanced functions are simple, with graphics and menu driven prompts guiding the user every step of the way.

There is no reader integrated into the TouchCenter. To provide set/unset capability by either card reader or biometric a Door Control Module (DCM) should be provided and a reader sited next to the TouchCenter.

Galaxy Dimension TouchCenter

Features:
- Customisable homescreen via external SD card slot
- Large, bright colourful display
- Intuitive touch-screen display with icons and menu driven prompts
- Simple setting and unset feature for systems with multiple areas
- Entry/Exit Delay countdown displayed
- Add, delete or edit users and codes
- View entire zone list with status of each zone
- Overview of system status display
- Event log display
- Engineer console mode with full MK7 keypad display emulator for programming
- Building control feature allows the user to control outputs to operate systems such as lighting and airconditioning.

The schematics below show typical solutions.
Typical Solution Schematic HID 125kHz Proximity

Using Keyprox with integral HID Reader

TouchCentre plus door control module
## Control Panels

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Codes</th>
</tr>
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<tbody>
<tr>
<td>Galaxy Dimension 48 UK - intruder panel with integral 2.5 Amp PSU. 16 zones and 8 trigger outputs on-board. Can be expanded by RIO to 48 zones. Will support 4 DCMs - 8 Wiegand card readers</td>
<td>C048-D-C1</td>
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<tr>
<td>Galaxy Dimension 96 UK - intruder panel with integral 2.5 Amp PSU. 16 zones and 8 trigger outputs on-board. Can be expanded by RIO to 96 zones. Will support 16 DCMs - 32 Wiegand card readers</td>
<td>C096-D-C1</td>
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<td>Galaxy Dimension 264 UK - intruder panel with integral 2.5 Amp PSU. 16 zones and 8 trigger outputs on-board. Can be expanded by RIO to 264 zones. Will support 16 DCMs - 32 Wiegand card readers</td>
<td>C264-D-C1</td>
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<td>Galaxy Dimension 520 UK - intruder panel with integral 2.5 Amp PSU. 16 zones and 8 trigger outputs on-board. Can be expanded by RIO to 520 zones. Will support 32 DCMs - 64 Wiegand card readers</td>
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## User Interface Modules

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<td>Galaxy Keyprox ADT branded with integral HID reader. The Galaxy Keyprox is a standard MK7 keypad and a proximity card reader combined into one housing. This allows dual function setting/unsetting ability from the one unit without the need for a separate card reader. It is primarily intended for use in situations where a PIN and/or card are needed to set/unset the Intruder Alarm System. It is not intended to be used for door control as it does not contain a door strike relay. However, limited door function can be programmed using programming links in the Galaxy Control Panels.</td>
<td>CP038-36-H</td>
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<tr>
<td>Galaxy TouchCentre - unbranded. For use with Dimension Control Panels only. Simple to use graphical display for system administration and management.</td>
<td>CP040-00</td>
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<tr>
<td>Galaxy TouchCentre - ADT branded. For use with Dimension Control Panels only. Simple to use graphical display for system administration and management.</td>
<td>CP040-36</td>
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## Access Control

<table>
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<td>Honeywell Dimension Door Control Module DCM. Supports up to 2 x Wiegand readers and necessary i/o for Access Control</td>
<td>C080</td>
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<tr>
<td>Honeywell Dimension Door Control Module DCM with integral PSU. Supports up to 2 x Wiegand readers and necessary i/o for Access Control</td>
<td>C081</td>
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## Card Readers & Tokens

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<tr>
<td>HID Proxpoint Plus in grey with 18” (45.7 cm) pigtail cable. Reader is configured with Beep on, LED normally red, reader flashes green on card read</td>
<td>60058BG00</td>
</tr>
<tr>
<td>HID Miniprox in grey with hazardous area backbox. Reader is configured with Beep on, LED normally red, reader flashes green on card read. The hazardous location Miniprox provides the same features and dimensions as the Miniprox reader, with a junction box incorporated for use in hazardous locations.</td>
<td>5365EGH00</td>
</tr>
<tr>
<td>HID Miniprox in grey with 18” (45.7 cm) pigtail cable. Reader is configured with Beep on, LED normally red, reader flashes green on card read</td>
<td>5365EGP00</td>
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## Preferred 37bit Tracked Format

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<th>Description</th>
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<tr>
<td>HID: 1346LSSM Format: H10302 ProxKey II Keyfob programmed for HIDs tracked 37bit Wiegand format. Supplied with HID logo on the front, back is standard finish. Numbering is sequential internal &amp; external. Order in multiples of 100</td>
<td>1346LSSMH10302</td>
</tr>
<tr>
<td>HID: 1346LSSM Format: H10302 ProxKey II Keyfob programmed for HIDs tracked 37bit Wiegand format. Supplied with HID logo on the front, back is standard finish. Numbering is sequential internal &amp; external. These can be ordered individually</td>
<td>1346LSSMH10302.1</td>
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Galaxy Dimension Panels & Peripherals

### Preferred 37bit Tracked Format

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<tr>
<td>As above, these can be ordered individually</td>
<td>1326LMSMV-H10302.1</td>
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### 26bit Format - Open Protocol

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Codes</th>
</tr>
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<tbody>
<tr>
<td>HID: 1346LSSM Format: H10301 ProxKey II keyfob programmed for 26bit Wiegand. Supplied with HID logo on the front, back is standard finish. Numbering is sequential internal &amp; external. Order in multiples of 100</td>
<td>1346LSSM-H10301</td>
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## Technical Specifications:

<table>
<thead>
<tr>
<th>Description</th>
<th>GD-48</th>
<th>GD-96</th>
<th>GD-264</th>
<th>GD-520</th>
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<tr>
<td>Zones On-board (max)</td>
<td>16 - (48)</td>
<td>16 - (96)</td>
<td>16 - (264)</td>
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<td>Outputs (400mA) On-board</td>
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<td>8</td>
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<td>Trigger Outputs on Flying Lead (10mA)</td>
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<tr>
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<td>2.5A</td>
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<td>2</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Keypads (KeyProx)</td>
<td>8(3)</td>
<td>16 (7)</td>
<td>16 (7)</td>
<td>32 (24)</td>
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<td>Graphics Keypad Galaxy TouchCentre</td>
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<td>2</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Bus Mounted Prox Readers (MAX)</td>
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<td>16</td>
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<tr>
<td>DCMs with 2 x Wiegand Interfaces</td>
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<td>DCM Controlled Doors</td>
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<td>Wireless</td>
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<td>5800H Series via RF RIOs</td>
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<td>7 Day Timer Schedules</td>
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<td>Zone Types</td>
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<td>O/P Types</td>
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<td>Event Log</td>
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<td>Pre-Check</td>
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<td>Timed Lockout</td>
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<td>Part Set</td>
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<td>Silent Part Set</td>
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<td>Via RS232</td>
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</table>
Comelit

This chapter contains information about Comelit VIP Audio Video Entry Solution

- Introduction
- VIP Solution
Introduction

The Pc/Mac-Based Door Entry Monitor

This innovative Kit from Comelit, consisting of an iKall colour external unit, a power supply unit and software loaded onto a mini USB device, can be used to fully manage video entry phone calls via a computer. Simply plug the USB device into the computer and install the software to receive calls and communicate with the external unit.
Virtual Monitor Kit

The kit can be used immediately, because all elements are pre-programmed. The Kit comprises Comelit ViP products and can be expanded with any of the items that are compatible with this system (listed in the ViP general catalogue). The ViP Manager configuration software (art. 1449) is required to program additional products.

This software comes complete with a user license and is available for both PC and MAC systems. The key must always be plugged into the computer to ensure correct operation.

Order Codes:
IPVVIDKIT1

Comelit VIP surface mount kit - made up of two Comelit parts: 8501I PC Intercom kit with Ikall panel 3316/1 Ikall/ Pcom 1 module surface box This is a surface mounted video entry system using IP network to connect to a virtual monitor - provided on any PC on that network by means of the USB dongle. This kit will support additional virtual, wall or desk mounted monitors. These is no limit to the number of monitors or door stations that can be added to the system. Comelit software (Part code 1449 - NSL) is required for configuration.

IPSSVVIDKIT1

Comelit VIP surface mounted stainless steel entrance panel kit - made up of the following Comelit parts: 8501I PC Intercom kit with Ikall panel 1250IV Ikall holder for Video unit SSV/1 Single button stainless steel face plate with name window SUR/2 Stainless steel surface mount box - 254 x 140 x 85 mm This kit will support additional virtual, wall or desk mounted monitors. There is no limit to the number of monitors or door stations that can be added to the system. Comelit software (Part code 1449 - NSL) is required for system configuration.
8501I PC Intercom Kit with Ikall Entrance Panel - Single User

Single user colour video IP kit. This comes complete with an Ikall entrance panel and 1454 Virtual monitor. The kit can be used on a Dedicated Comelit Network or any existing local area network. The kit is fully compatible with all other ViP system devices and comes pre-programmed as standard. Compatible with Comelit’s Intercall App - available on Android and IOS.

Technical Specifications:
- Vip system: Yes
- Intrastat code: 8517709000
- Single pack height: 205 mm
- Single pack width: 270 mm
- Single pack depth: 255 mm

Order Code: 8501I

PC Intercom kit with Ikall panel. Kit includes flush mount Ikall panel and USB dongle for virtual monitor.

1454 PC Intercom

Software allowing for a PC or Mac to be used as a video intercom. To be installed and used on a PC or Mac connected to the system. Compatible from Snow Leopard version 10.6 or higher.

Technical Specifications:
- Video door entry family: Yes
- Vip system: Yes
- EAN product code: 8023903228342
- Intrastat code: 85176910
- Single pack weight (g): 25

Order Code: 1454

PC Intercom. This is for use with the Ikall VIP door entry solution and provides an additional virtual monitor.

1449 VIP System Configuration Software

CD-ROM software for PC installation, used to program and configure all devices wired to the system. Can also be used to program buttons and manage names in external unit directories. Includes a special cable for connecting switch 1440 to the PC.

Order Code: 1449

VIP System Configuration Software
**6304 Smart Series Vip System Hands-Free Colour Monitor**

Colour monitor with 3.5" screen and Full-Duplex hands-free audio. Allows audio volume adjustment, ringtone volume adjustment with privacy activation indicator light and brightness control.

Fitted with key button, audio enabling/disabling button with corresponding indication LEDs and 2 other buttons pre-set for self-ignition and switchboard call (these can, however, be programmed for various uses).

It is normally used for door bell management and call repetition. Inclusion of the button card part. 6332 enables access to On-Screen Display functions. The monitor is compatible with all ViP products. Dimensions 138 x 138 x 24 mm.

**Technical Specifications:**
- Backlighting colour: LED Blue
- Video door entry family: Yes
- Vip system: Yes
- Flush-mounted: Yes
- Wall-mounted: Yes
- Desk base-mounted: Yes
- Display size (inches): 3.5
- B/W or colour display: Colour
- Display resolution (H x V): 320x240 PIXEL
- Audio/video system: Yes
- Type of display: LCD
- Additional buttons: 5
- Total buttons: 9
- IP assignment: AUTO IP
- Automatic gain control (AGC): Yes

**Order Code:**

6304

Comelit smart VIP monitor for use with kits IPVVID KIT1 or IPSSVVIDKIT1

---

**6312 Smart Desk Base for Smart Monitor**

Order Code:

6312

Comelit Smart monitor desk top base for use with 6304

**Technical Specifications:**
- Simplebus Top system: Yes
- Simplebus Colour system: Yes
- Audio system: No
- Audio/video system: Yes
- Intrastat code: 85176910
- Product height (mm): 190
- Product width (mm): 145
- Product depth (mm): 120
- Product colour: Grey RAL9006
- Single pack height: 155 mm
- Single pack width: 245 mm
- Single pack weight (g): 826
- Single pack depth: 160 mm
- Single pack volume (dm³): 6,076
1250IV Ikall Bracket for Video Units

Accessory allowing the installation and use of Ikall audio/video modules part. 4680, 4680C, 4680K, 4680KC, 4675 and 4673 on single-plate entrance panels.

Fitted with a voltage reducer for powering festoon lamps if used with power supply unit 1595 or 1207.

Order Code:
1250IV       Ikall holder for video unit

Technical Specifications:
Vip system: Yes
Traditional system: Yes
Couleur: Blanc
Audio system: No
Audio/video system: Yes
EAN product code: 8023903223620
Intrastat code: 85176920
Packaging
Single pack height : 95 mm
Single pack width : 111 mm
Single pack weight (g): 125
Single pack depth (mm): 50
Single pack volume (dm3): 0.527
This chapter contains information about Kantech Access Control and Security Management Solutions

- Introduction
- EntraPass Special Edition
- EntraPass Corporate Edition
- EntraPass Global Edition
- EntraPass go
- Kantech Advantage Program (KAP)
- Intevo (Integration Evolution)
- Communication Devices
- Door Controllers
Kantech offers a full suite of feature rich and cost effective access control products that are reliable, easy to install and fully scalable. This chapter covers Kantech PC based solutions – EntraPass software which is available in three versions – Special Edition, Corporate Edition and Global Edition. Each offering in addition to their access control features ID badging, integration with American Dynamics Video solutions and intruder integration from DSC and Honeywell (Dimension) Kantech's customers include single site single door start up organisations and multi site estates through to corporations spanning the globe – such is the simplicity, power and flexibility of EntraPass. With the latest product releases of:

Intevo – a powerful integration solution for access control and Video in one appliance PLUS the capability of and EntraPass go - a solution for ios and Android mobile devices allowing administration and management to authorised users at any time from any location.

Kantech's range of door controllers are compatible with all of the software Editions. From the cost effective, small footprint single door KT-1, the two readers KT-300 with integrated power supply of standby battery compatibility and the 4 reader KT-400 with network ready features.
**Simplified System Management**

EntraPass workspaces provide customised views of the EntraPass system based on an operator’s access privileges. Each workspace is created and defined in terms of devices – gateways, sites, doors, relays, etc. – and is configured to identify what areas of the EntraPass system the operator can access and view, such as desktop display, card fields, etc. Workspaces let you create different views of the EntraPass system that can be saved and applied to any operator. An operator can further create and refine views to filter additional components that are not necessary for day-to-day operation. The operator can create, save, and reuse temporary workspaces. This is useful whenever a recurring operation is needed on the system such as creating reports.

You can assign up to five cards to any employee to avoid having to create five different entries in EntraPass. Access levels can also be applied at this time to ensure cardholders have access only to authorised areas.

**Remote System Management Tools**

EmtraPass web is a web application that allows security administrators to access the EntraPass system using a standard web browser. It offers real-time administration of various security tasks including telephone entry, card management, door control, live video, maps, alarm management and much more. EntraPass Web also enhances the managed access control experience by ensuring portability and ease of use through its user friendly, intuitive, next generation interface. EntraPass Go puts you in control of your security and enables you to interact with the EntraPass security management software using only a few taps on your mobile device. The easy-to-use mobile app gives you anytime, anywhere real-time management for over 20 security tasks. Manage/create cards, lock/unlock doors, request reports and much more. Download EntraPass Go from the App Store or Google Play to get security on the go!

With the SmartLink Task Builder, EntraPass reaches new levels in task automation. A series of tasks, similar to macros, can be created and triggered on any event and component in the system. When an event occurs, the tasks are then executed by the system. You can manually activate these specific tasks directly from the interactive floor plans in EntraPass.

Advanced system integration can be accomplished by using the bi-directional SmartLink library to communicate with software applications such as time and attendance systems, badging systems, human resource management systems, student registration systems, etc. This allows complete and real-time data exchanges between systems, eliminating redundant data entry.

**Kantech Advantage Program**

An optional Kantech Advantage Program (KAP) program provides 12 months of updates and end user online training. As EntraPass continues to deliver new features and enhancements, it is more important than ever that you have the education and tools necessary to effectively use this solution. These optional KAP’s ensure that you receive new functionalities and end user online training with software updates. Purchase the number of tokens required for your EntraPass installation and then enter the token license in the EntraPass server software. To access the end user online training available through the Kantech Advantage Program, simply complete the registration form available on our web site, www.kantech.com.

**Video Integration**

Real-time monitoring capability is a response to the growing importance of video in access control systems series, Intellex Digital Video Management Systems and third party DVR/NVR systems provide real-time video monitoring as well as video playback. Video can be linked to access events (such as “door forced open”) and recorded from one to sixteen cameras from different American Dynamics recorders simultaneously. Presets, sequences, dome control and 1x1, 2x2, 3x3, and 4x4 views are available through the EntraPass software. All cameras can be called up directly from a floor plan simply by double-clicking on the camera or dome icon. Operators can configure viewing parameters for digital video applications through an EntraPass user interface.
**EntraPass Video Vault**

EntraPass Video Vault offers an easy way for preserving important video data for future reference. Since video recordings require a great amount of disk space, using an archive management tool such as EntraPass Video Vault enables organisations to better manage and easily retrieve video contents. EntraPass Video Vault enables all video clips from an Intellex alarm or an EntraPass video alarm to be automatically stored as Audio Video Interlaced format (.AVI) files or Kantech Video Intellex (.KVI), Kantech Video Archive (.KVA) and American Dynamics Network Client video format (.IMG) which can be password protected. Each EntraPass Video Vault may be connected to as many American Dynamics HDVR, TVR Series and Intellex units as defined within the EntraPass software. Video may be saved to up to 24 pre-programmed hard drive locations. A .bmp image may be associated automatically with each video clip, and a thumbnail image may be created on the first frame of the video clip.

**Alarm Panel Integration**

Alarm panel integration can be accomplished with the use of the Multi-Site Gateway in one of two ways. The first way is to connect the Multi-Site Gateway directly to the DSC PowerSeries, MAXSYS or Honeywell Galaxy Dimension alarm panels. Alternatively the KT-400 can be connected to the Multi-Site Gateway which, in turn, is connected to the DSC PowerSeries, MAXSYS or Honeywell Galaxy Dimension alarm panels. Either connection method allows the alarm panels to receive intrusion events, view the status of zones, and manage partitions and user codes. In addition the system can be armed/disarmed (single or multiple partitions) via reader (KT-400 only) or manual operation.

A variety of video products have been tested successfully using WebViews. For a complete list, contact your local Tyco Security Products Regional Manager.

1. Direct: using RS-232 or RS-485 with USB-485 or VC-485 converter, KT-1 using RS-485 with converter
2. IP using Kantech IP Link or KT-400 Ethernet controller
3. Dial-up: KT-300 only, using RS-232 serial modem at remote site
4. See Integration Capabilities (in the “Specifications” section on the next page) for more information

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**Diagram:**

- Printers (optional)
- Web-Browser
- Webserver
- American Dynamics HDVR, TVR Series and Intellex Digital Video Management Systems2 (optional)
- Workstations (up to 128)
- KT-1, KT-300, KT-400, and Kantech Telephone Entry System
- Multi-Site Gateway6
- DSC PowerSeries or MAXSYS Honeywell Galaxy Dimension Panels
- KT-400
- WebViews (IP Cameras and DVR web pages)3
- 1 to 16 Cameras or Domes
- KT-1, KT-300 and KT-400
- DSC PowerSeries Alarm or Honeywell Galaxy Dimension Panels6
- Global Gateway or KT-NCC Network Communication Controller
Choose the Access Control Software

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<thead>
<tr>
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<tbody>
<tr>
<td>Operator Workstations</td>
<td>1</td>
<td>2 + 1 (up to 20+1)</td>
<td>4 + 1 (up to 128+1)</td>
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<tr>
<td># of Gateways</td>
<td>on System</td>
<td>1 (up to 41)</td>
<td>1 (up to 128)</td>
</tr>
<tr>
<td># of Cards</td>
<td>Unlimited Database*</td>
<td>Unlimited Database*</td>
<td>Unlimited Database*</td>
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<tr>
<td>Maximum # Readers/Keypads</td>
<td>128 (KT-100/KT-300), 256 (KT-400)</td>
<td>34,816 per Multi-Site Gateway (KT-300) 69,632 per Multi-Site Gateway (KT-400)</td>
<td>Per Global Gateway: 2,048 (KT-300), 4,096 (KT-400) Per Multi-Site Gateway: 34,816 (KT-300), 69,632 (KT-400)</td>
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<tr>
<td>Maximum # Controllers</td>
<td>64 per System</td>
<td>17,408 per Multi-Site Gateway</td>
<td>4,096 per Global Gateway 512 per KT-NCC, 69,932 per Multi-Site Gateway</td>
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<tr>
<td>Sites (loops) per Gateway</td>
<td>64 (Serial, RS-485, TCP/IP &amp; Dial-up)</td>
<td>32 Local (Serial, RS-485, TCP/IP) &amp; 512 Remote (Dial-up, Kantech IP Link or KT-400)</td>
<td>32 Local (Serial, RS-485, TCP/IP) 7 with KT-NCC (3 local &amp; 4 TCP/IP) 512 Remote (Dial-up, Kantech IP Link or KT-400) per Multi-Site Gateway</td>
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<td>EntraPass WebStation</td>
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<td>Yes, 21 Concurrent Connections</td>
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<td>Yes</td>
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<td>Maximum # Remote Dial-up Sites/IP-link/ KT-400</td>
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<td>512 per Multi-Site Gateway</td>
<td>512 per Multi-Site Gateway</td>
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<td>Maximum # Online Local Sites/UDS-1100)</td>
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<td>32 per Multi-Site Gateway</td>
<td>32 per Global Gateway, 32 per Multi-Site Gateway, 2 RS-485, 1 RS-232, 4 UDS-10 per KT-NCC</td>
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<td>Elevator Floors per Car</td>
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<td>64</td>
<td>64</td>
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<tr>
<td>Access Levels per Site</td>
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### Kantech Introduction

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<tr>
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<td>2</td>
<td>1 per Workstation</td>
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<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Windows 7 Pro/Enterprise/Ultimate, Windows 8 and 8.1 Enterprise, Windows Server 2008 R2</td>
<td>No</td>
<td>Yes, 100 per Global Gateway &amp; KT-NCC</td>
<td>Yes</td>
<td>PC1616, PC1832, PC1864, PC4020</td>
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<td>1 per Workstation</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Windows 7 Pro/Enterprise/Ultimate, Windows 8 and 8.1 Enterprise, Windows Server 2008 R2</td>
<td>No</td>
<td>Yes, using Corporate Gateway</td>
<td>Yes</td>
<td>PC1616, PC1832, PC1864, PC4020</td>
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<td>Unlimited</td>
<td>Unlimited, Pre-defined</td>
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<td>1 per Workstation</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Windows 7 Pro/Enterprise/Ultimate, Windows 8 and 8.1 Enterprise, Windows Server 2008 R2</td>
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<td>Yes, 100 per Global Gateway &amp; KT-NCC</td>
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# Kantech Introduction

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- **Intruder Integration**: Galaxy by addition of E-SPE-GLY, Galaxy by addition of E-GLO-GLY, Galaxy by addition of E-COR-GLY
- **Video Integration**: ✓
- **IP Video**: Hybrid DVR (HDVR)
- **Analogue Video**: ADTVR
- **Mobile app**: X
- **Web Client**: X
- **Fire Door release**: X
- **Global Anti-Pass-Back**: X

* In stand-alone mode: 100,000 (KT-1); 8,000 (KT-300/128k); 56,000 (KT-300/512k)

Note: Consult with Kantech sales or Kantech Website for the complete compatibility chart.

---

* Fire door release can be configured on site using SmartLink
Kantech  Access Control and Security Management System

EntraPass Special Edition

Single Workstation Security Management Software

Single Workstation System
EntraPass Special Edition is a single workstation security software. It controls up to 64 Kantech door controllers (consisting of the KT-400 and the KT-1 controller). The software is comprehensive and menu-driven. It is easy to learn and operate. Administrators can define or modify parameters such as schedules or access levels, generate reports and activate controlled devices (i.e. locking/unlocking doors, or activating relays for lighting or air conditioning). EntraPass offers full integration with Exacq video management systems, American Dynamics DVRs/NVRs (HDVR, ADTVR and Intellex), and DSC PowerSeries, PowerSeries Neo and MAXSYS intrusion alarm panels.

Express Setup
Express Setup allows you to configure system components such as sites and controllers, as well as devices associated with these components such as doors and inputs. This utility reduces programming to a minimum, allowing the installer to test the installation and system components.

Site Architecture
A site within EntraPass represents a customer’s building, campus, etc. and is composed of many different connections, which have multiple door controllers attached. EntraPass supports the use of third party readers as well as Kantech’s renowned ioProx card readers. ioProx readers feature a highly secure 39-bit XSF format and can be connected using existing CAT5e cabling for installation cost savings. EntraPass software is highly scalable and can seamlessly expand as the security requirements of your business grow.

Features:
- Fast/user-friendly installation/operation
- Integrates with Kantech telephone entry systems
- Built-in e-mail reporting capability
- Integrates with Exacq video management systems and American Dynamics DVRs/NVRs (HDVR, ADTVR and Intellex)
- Integrates with DSC PowerSeries, PowerSeries Neo and MAXSYS intrusion alarm panels
- Double and triple swipe card at reader (with KT-1 & KT-400 controller) to activate such features as activate relay, arm alarm system and lock/unlock doors
- Cost effective, yet feature rich access control starter & expansion kits available
- Easily add ASSA ABLOY Aperio wireless locks to

1 All of the features listed are available with the latest build of EntraPass v7.0 and higher

Video Integration
Real-time monitoring capability is a response to the growing importance of integrated access control and security management systems. Integration with Exacq video management systems and American Dynamics DVRs/NVRs (HDVR, ADTVR, Intellex and INTEVO) provides real-time video monitoring as well as video playback. Video can be linked to access events (such as “door forced open”) and recorded from one to sixteen cameras from compatible DVRs/NVRs simultaneously. All cameras can be called up directly from a floor plan simply by double-clicking on the camera or dome icon.

Telephone Entry Integration
Apartment, condominium and office buildings are just a few of the applications where security and communications are required for controlling resident and visitor traffic. The Kantech Telephone Entry System (KTES) delivers a fully integrated telephone entry and access control solution. The KTES provides visitor/resident entry, tracking and reporting. It also features two-way built-in audio and a touch-tone phone style keypad that offers both familiarity and ease of use.
## Technical Specifications:

**Processor (without video integration):**
- Intel® Core™ 2 Duo 2.6 GHz or more

**Processor (with video integration):**
- Quad Core

**RAM:**
- 2GB or more
- (4GB with video integration)

**Free Hard Disk Space for Software:**
- 50GB

**Screen Resolution:**
- 1024 x 768

**Graphic Adapter Card:**
- PCI Express graphics card with 512MB memory and DirectX 9.0 support
- (1GB with video integration

**Colour Depth:**
- 24-bit (16 million colors), required for video integration

**Network Interface Card:**
- 10/100 Base-T network adapter (Gigabit or greater with video integration)

---

## Operating System Compatibility

Windows 10 Enterprise, Windows 7 Pro/Enterprise/Ultimate, Windows 8 and 8.1 Enterprise, Windows Server 2008 R2 Standard/Enterprise, Windows Server 2012 Data Center. All operating systems are supported in 32 and 64-bit version. All operating systems should have their latest Service Packs and updates.

For integrations, validate specifications of products used.

**Virtual Environment Supported:**
- VMware Workstation v7 & higher

---

## System Capacities

**Cards:**
- Unlimited

**Cards per Controller in Stand-Alone Mode**
- KT-1 (100,000), KT-200 (3,000), KT-300/128K (8,000), KT-300/512K (56,000), KT-400 (100,000)

**Card Families or Site Codes:**
- Unlimited

**Number of Sites:**
- Up to 64 (Max. 64 controllers)

**Door Controllers per Site:**
- 32

## Card Readers/Keypads:
- KT-1, KT-300 (128 per system), KT-400 (256 per system)

## Monitored Points (Input):
- KT-1 (128 per site), KT-300 (512 per site), KT-400 (8,192 per site)

## Card User Access Levels:
- 250 per site

## Access Level Combinations:
- Unlimited

## Schedules:
- 100

## Time Intervals per Schedule:
- 4

## Holidays:
- 366 per system

## Holiday Types:
- 4

## System Operator Passwords:
- Unlimited

## Operator Security Levels:
- Unlimited, pre-defined (3)

## Concurrent System Languages:
- Two

## Number of Printers:
- One log printer; one report printer; optional badging printer

---

## Order Codes:

### Software

- **E-SPE-V7-LIC**
  - EntraPass Special Edition software license

- **E-SPE-V7**
  - EntraPass Special Edition software

### Optional Kantech Advantage Program (KAP) Token

- **E-SPE-KTK-1**
  - 1 Kantech token

### Wireless Locks

- **E-SPE-DOOR-X**
  - Wireless lock integration license for additional doors for EntraPass 7.0 and higher
  - (X = 1, 4, 8, 24, 48, 96)
Integration Capabilities

Intrusion
DSC PowerSeries (PC1616, PC1832, PC1864, PC4020), Power-Series NEO (HS2016, HS2032, HS2064, HS2128) and MAXSYS (PC4020) Alarm Panels

Video
Exacq video management systems v7.2 and American Dynamics DVRs/NVRs including HDVR (1.6), ADTVR (v2.20.05), Intellex & the INTEVO platform). Intellex Ultra, DVMS and IP all require EntraPass software v3.1 or higher, Intellex LT requires software v2.6 or higher. Panasonic video recorders (requiring option E-COR-DVR-1): WJ-HD309A/316A/616/716, WJ-ND200/300/400.

System Schematic
Kantech Access Control and Security Management System

EntraPass Corporate Edition

Multiple Workstation Security Management Software

Network-Ready
EntraPass Corporate Edition is a proven platform that offers the ultimate balance between power and affordability in a network environment. EntraPass offers the flexibility to securely connect controllers directly on the network, as well as over RS-485. EntraPass software is compatible with Kantech IP devices such as KT-400/KT-1 controllers and Kantech IP Link (KT-IP) which all utilise highly secure 128-bit AES encryption to ensure communication is not compromised. KT-IP is an RS-232 to TCP/IP interface that connects the KT-300 door controller to a network and the KT-400 controller is a high proven IP controller that supports up to 8 ioProx readers (4 doors IN/OUT control using ioProx XSF readers). For the utmost flexibility and as a truly plug & play IP device, the KT-1 controller features a direct Ethernet port, PoE/PoE+ capabilities and can be easily surface mounted above the door, thus reducing cabling and installation time. With its innovative one-touch set-up and enrollment process, KT-1 provides integrators with the ultimate IP access control installation in minutes.

Kantech’s IP devices offer real-time access to security information and integrate seamlessly into an existing TCP/IP network; meaning no changes to existing equipment, network, or related systems. They also act as a polling device to ensure the controllers communicate with EntraPass only as required, reducing network traffic.

Features¹:
- Supports up to 20 workstations and controls hundreds of thousands of doors
- Import/synchronise EntraPass operators with Microsoft Active Directory for centralised management
- Automatically log into EntraPass with Windows credentials using Single Sign On in Microsoft Active Directory
- Integrates with EntraPass Go mobile app – interact with EntraPass with a few taps on your mobile device
- Integrates with EntraPass Web (remote user platform) to manage access control, IP video, telephone entry and/ or intrusion security assets
- Supports up to 50 concurrent logins of EntraPass Web and/or EntraPass Go First login is provided as standard
- Integrates with Exacq video management systems, American Dynamics DVRs/NVRs (VideoEdge, HDVR, ADTVR and Intellex) and Kantech INTEVO integrated security platform
- Integrates with DSC PowerSeries, PowerSeries Neo and MAXSYS intrusion alarm panels
- Double and triple swipe card at reader (with KT-1/ KT-400 controller) to activate such features as activate relay, arm alarm system and lock/unlock doors
- Easily add ASSA ABLOY Aperio wireless locks to KT-400 or KT-1-M door controllers

¹ All of the features listed are available with the latest build of EntraPass v7.0 and higher

Remote, mobile access
EntraPass Corporate Edition supports the intuitive, state-of-the-art EntraPass Web and EntraPass Go mobile applications which offer customers an unparalleled feature-rich security experience. System administrators can securely connect via the web or a dedicated app on their smart phone/tablet and manage common access control, video and intrusion functions wherever they are.
Technical Specifications:

Processor (without video integration):
   - Intel® Core™ 2 Duo 2.6 GHz or more
Processor (with video integration):
   - Quad Core
RAM:
   - 2GB or more
   - (4GB with video integration)
Free Hard Disk Space for Software:
   - 100GB
Colour Depth:
   - 24-bit (16 million colours), required for video integration
Screen Resolution:
   - 1024 x 768
Graphic Adapter Card:
   - PCI Express graphics card with 512MB (1GB with video integration) memory and DirectX 9.0 support
Network Interface Card:
   - 10/1000 Base-T network adaptor (Gigabit or Greater with Video Integration)

Operating System Compatibility

Windows 10 Enterprise, Windows 7 Pro/Enterprise/Ultimate, Window 8 and 8.1 Enterprise, Windows Server 2008 R2 Standard/Enterprise, Windows Server 2012 R2 Data Center. All operating systems are supported in 32 and 64-bit version. All operating systems should have their latest Service Packs and updates.

For integrations, validate specifications of products used.

Virtual Environment Supported:
   - VMware Workstation v7 & higher

Integration Capabilities

Intrusion
   - DSC PowerSeries (PC1616, PC1832, PC1864, PC4020), PowerSeries NEO (HS2016, HS2032, HS2064, HS2128) and MAXSYS (PC4020) Alarm Panels

Video
   - Exacq video management systems (v7.4) and American Dynamics DVRs/ NVRs (VideoEdge up to v4.8), HDVR (v1.6), ADTVR (v2.20.05), Intelllex (up to v5.0) and the INTEVO platform. Intelllex Ultra, DVMS and IP all require EntraPass software v3.1 or higher, Intelllex LT requires software v2.6 or higher. Panasonic video recorders (requiring option E-COR-DVR-1): WJ-HD309A/316A/616/716, WJ-ND200/300/400.
EntraPass Corporate Edition

Each EntraPass Corporate Edition software package includes: two additional Workstation licenses, one Server/Workstation license, one Multi-Site Gateway license and one Web license.

Order Codes:

**Software**
- **E-COR-V7-LIC**: EntraPass Corporate Edition software license
- **E-COR-V7**: EntraPass Corporate Edition software

**Additional Workstation and Gateway Licenses**
- **E-COR-WS1**: License for 1 Workstation (v3.xx and higher)
- **E-COR-WS6**: License for 6 Workstations (v3.xx and higher)
- **E-COR-COM**: License for 40 Multi-Site Gateways (v3.xx and higher)

**Options**
- **E-COR-LDAP**: License for optional LDAP integration
- **E-COR-RDN**: License for 1 Redundancy Server (v3.xx and higher)
- **E-COR-SQL**: License for 1 Card Gateway - MS SQL Database Interface (v3.xx and higher)
- **E-COR-VVM**: License for 1 EntraPass Video Vault (v3.xx and higher)
- **E-COR-WEB-X**: License for concurrent web login (v4.xx and higher) X = 1, 3, 10, 25
- **E-COR-DVR-1**: License for single 3rd party DVR (v5.02 and higher)

**Kantech Advantage Program (KAP) Tokens**
- **E-COR-KTK-X**: Kantech Token (X = 1, 2, 3, 5, 10) Wireless Locks License
- **E-COR-DOOR-X**: Wireless lock integration license for additional doors (v7.0 and higher) X = 1, 4, 8, 24, 48, 96
Basic System Diagram
Network-Ready Enterprise Level Security Management Software

Enterprise Level
EntraPass Global Edition is a powerful, network-ready enterprise level security management software that accommodates widely-dispersed applications with an unlimited number of users, controls thousands of doors and allows you to simultaneously access the system from up to 128 workstations connected to the network.

Remote, mobile access
EntraPass Global Edition supports the intuitive, state-of-the-art EntraPass Web and EntraPass Go mobile applications which offer customers an unparalleled feature-rich security experience. System administrators can securely connect via the web or a dedicated app on their smart phone/tablet and manage common access control, video and intrusion functions wherever they are.

Managing Controllers For Enterprise Solutions
The KT-NCC manages communication from the EntraPass Global Edition security management software to the door controllers. It also controls features/functions such as areas, alarm systems, global I/O, guard tours, and secondary access levels. It makes the access control system easier to manage, easier to expand, and much more reliable. The KT-NCC is in control instead of relying on a PC for controller-server communication.

Features:
- Supports up to 128 workstations and controls hundreds of thousands of doors
- Global virtual alarm system, antipassback, guard tours and muster reporting
- Import/synchronise EntraPass operators with Microsoft Active Directory for centralised management
- Automatically log into EntraPass with Windows credentials using Single Sign On in Microsoft Active Directory
- Integrates with EntraPass Go mobile app – interact with EntraPass with a few taps on your mobile device
- Integrates with EntraPass Web (remote user platform) to manage access control, IP video, telephone entry and/or intrusion security assets
- Supports up to 250 concurrent logins of EntraPass Web and/or EntraPass Go First login is provided as standard
- Integrates with Exacq video management systems, American Dynamics DVRs/NVRs (VideoEdge, HDVR, ADTVR and Intelllex), DSC PowerSeries, PowerSeries Neo and MAXSYS intrusion alarm panels, and Kantech INTEVO integrated security platform
- Double and triple swipe card at reader (with KT-1/KT-400 controller) to activate such features as activate relay, arm alarm system and lock/ unlock doors
- Easily add ASSA ABLOY Aperio wireless locks to KT-400 or KT-1-M door controllers

1 All of the features listed are available with the latest build of EntraPass v7.0 and higher

Site Architecture
A site within EntraPass represents a customer’s building, campus, etc. and is composed of many different connections, which have multiple door controllers attached. The system can manage up to 2,048 local/secure IP connections (consisting of KT-1, KT-200, KT-300 or KT-400 door controllers) per Multi-Site Gateway. Each KT-NCC supports 3 local connections (32 controllers each) and 4 remote connections (8 controllers each). The KT-NCC provides advanced cross controller communication giving customers higher flexibility and functionality.
Technical Specifications:

Processor (without video integration):
- Intel® Core™ 2Duo 2.6 GHz or more

Processor (with video integration):
- Quad Core

RAM:
- 2GB or more
- (4GB with video integration)

Free Hard Disk Space for Software:
- 100GB

Color Depth:
- 24-bit (16 million colors), required for video integration

Screen Resolution:
- 1024 x 768

Graphic Adapter Card:
- PCI Express graphics card with 512MB (1GB with video integration) memory and DirectX 9.0 support

Network Interface Card:
- 10/100 Base-T network adaptor (Gigabit or Greater with Video Integration)

Operating System Compatibility
Windows 10 Enterprise, Windows 7 Pro/Enterprise/Ultimate, Window 8 and 8.1 Enterprise, Windows Server 2008 R2 Standard/Enterprise, Windows Server 2012 R2 Data Center. All operating systems are supported in 32 and 64-bit version. All operating systems should have their latest Service Packs and updates.

For integrations, validate specifications of products used.

Virtual Environment Supported
- VMware Workstation v7 & higher

System Capacities

Cards per Gateway (Online):
- Unlimited

Card Families or Site Codes:
- Unlimited

Global Gateways:
- 128

Multi-Site Gateways:
- 40

Elevator Floors per Cab:
- 64 (KT-300 and KT-400)

Card User Access Levels:
- 250 per site/gateway

Access Level Combination:
- Unlimited

Operator Workstations:
- 128 workstations

Concurrent EntraPass Web Logins:
- 250

System Operator Passwords:
- Unlimited

Operator Security Levels:
- Unlimited, pre-defined (3)

Concurrent System Languages:
- 2

Per Global Gateway

Connections per Global Gateway:
- 32

Door Controllers:
- KT-1: 2,048
- KT-300: 2,048
- KT-400: 4,096

Monitored Points (Inputs):
- KT-1: Up to 5,120
- KT-300: Up to 16,384
- KT-400: Up to 262,144

Auxiliary Outputs for Reader LEDs and Door Alarms:
- KT-1: Up to 4,096
- KT-300: Up to 4,096
- KT-400: Up to 8,192

Schedules:
- 100/gateway

Time Intervals Per Schedule:
- 20

Holidays:
- 366/gateway

Access Level Per Card Holder:
- 13

Per Multi-Site Gateway

Connections per Multi-Site Gateway:
- Up to 2048 (IP, USB, Dial up)

Card Readers/Keypads:
- KT-400, KT-1, KT-300

Monitored Points (Inputs):
- KT-400, KT-1, KT-300

Auxiliary Outputs for Reader LEDs and Door Alarms:
- KT-400, KT-1, KT-300

Schedules:
- 100/site

Time Intervals Per Schedule:
- KT-300 (4), KT-400/KT-1 (20)

Holidays:
- 366/site

Access levels per cardholder:
- KT-300(1) KT-400/KT-1 (5) per site
Each EntraPass Global Edition software package includes: four additional Workstation licenses, one Server/Workstation license, one Global Gateway (Windows NCC) license and one Web license.

<table>
<thead>
<tr>
<th>Order Codes:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Software</strong></td>
</tr>
<tr>
<td>E-GLO-V7-LIC</td>
</tr>
<tr>
<td>E-GLO-V7</td>
</tr>
<tr>
<td><strong>Additional Workstation and Gateway Licenses</strong></td>
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<tr>
<td>E-GLO-WS1</td>
</tr>
<tr>
<td>E-GLO-WS8</td>
</tr>
<tr>
<td>E-GLO-COM-WIN</td>
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<tr>
<td>E-GLO-CORCOM</td>
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<tr>
<td>E-GLO-CORCOM-RDN</td>
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<tr>
<td><strong>Options</strong></td>
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<tr>
<td>E-GLO-LDAP</td>
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<tr>
<td>E-GLO-RDN</td>
</tr>
<tr>
<td>E-GLO-SQL</td>
</tr>
<tr>
<td>E-GLO-VVM</td>
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<tr>
<td>E-GLO-WEB-X</td>
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<tr>
<td>E-GLO-INFVID</td>
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<tr>
<td>E-GLO-DVR-1</td>
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<tr>
<td>E-GLO-DVR-UNL</td>
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<tr>
<td><strong>Kantech Advantage Program (KAP)</strong></td>
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<tr>
<td>E-GLO-KTK-X</td>
</tr>
<tr>
<td><strong>Tokens</strong></td>
</tr>
<tr>
<td>E-GLO-DOOR-X</td>
</tr>
</tbody>
</table>

Kantech Tokens (X = 1, 2, 3, 5, 10, or 20)
Basic System Diagram
EntraPass go

**Smartphone**
For iPhone, iPod Touch and Android Powered Phones. EntraPass go puts you in control of your security. It enables you to interact with the EntraPass† security management software using only a few taps on your mobile device. The easy-to-use mobile app gives you anytime, anywhere real-time management of over 20 security tasks.

Manage/create cards, lock/unlock doors, request reports and much more. Our state-of-the-art smartphone apps are designed specifically for each operating system. Download EntraPass go from the App Store or the Android Market to get security on the go!

**Executive Problem, Simple Solution**
Imagine that your company President brings an important client to the office on the weekend. He just came from a golf game and does not have his access card with him. Though the security system administrator is at the beach, it is easy to open the office door and grant the President access. It’s simply a matter of starting the EntraPass go application and unlocking the front door. Just long enough for the President and client to get inside and get down to business. While the administrator gets back to the beach. It’s that easy and that fast.

**Tablet For iPad and Android Powered Tablets.**
The EntraPass go platform is designed with scalability in mind. From 4 doors to multi-site enterprise scale applications, EntraPass go grows with your needs. And it goes where you go. It gives you the tools to monitor and control the EntraPass powered security system in realtime from anywhere. Download EntraPass go from the App Store or Android Market and put security in your hands.

**Features:**
- Manage your EntraPass software on the move
- Create card holders and upload their image from your mobile device
- Generate preconfigured reports when off site if required
- Have critical events reported through to your mobile device
- Use your EntraPass PC for configuration only
- Additional Web client licenses available for multiple mobile device access to the system*

*One web client supplied with original software license

04/17
EntraPass Go Pass Easy Access Using Your Mobile Device

Features:
- Use your mobile device to access secured areas
- Works with any Kantech reader
- Solves problems of lost cards
- Great for visitors, temporary workers or high turnover personnel populations
- Fast, easy authorization process
- Access defined by privileges in EntraPass
- Use with traditional EntraPass Corporate or Global Editions, or as part of your hattrix hosted/managed security subscription
- Support for iOS mobile devices including Apple Watch

Mobile Credentials for Access Control
Pay for coffee with your phone, board an airplane with your phone...and now access secured areas with your phone and other mobile devices. EntraPass Go Pass provides access control that allows you to enter secured areas using your iPhone and Apple Watch.

EntraPass Go Pass support for Apple Watch makes credential use as simple as possible and extremely fast. Instead of searching through a bag or pocket for a smart phone, you can push a button on your watch when you enter or exit a restricted area, which only takes a few seconds.

A leap forward in convenience, EntraPass Go Pass turns your Android or iOS mobile device into an access control credential, greatly reducing the cost of access cards and providing an ideal solution for applications with high turnover.

Cost-Effective Mobile Credential
EntraPass Go Pass works with any Kantech reader within your access control system, so you never have to rip and replace readers.

Set up Favorite Doors for Fast Access
EntraPass Go Pass allows you to save doors that you access frequently into a Favorites list for quick and easy access.

Reduce Card Spend, Provide Innovative Security Experience
Mobile credential management is an ideal solution for applications with large populations that have high turnover, such as university campuses and manufacturing plants. It is also a good solution for visitors at any facility.

EntraPass Go Pass is also a great solution for corporations seeking state-of-the-art security experiences for their C-Suite or VIPs.
Easy to Set Up and Go
EntraPass administrators enable the EntraPass Go Pass feature for cardholders with appropriate access levels by simply checking the box within the EntraPass system. This automatically sends those cardholders two links:

• The first link prompts the cardholder to download the app from the app store
• The second link allows the cardholder to register the device information necessary to utilize the application

Once completed, the app connects to the EntraPass server and presents the cardholder with a list of doors he or she is authorized to enter...just as if they had an access card. The mobile device requires network connectivity to the EntraPass server.

Suitable for Traditional or Managed Access Control Applications
EntraPass Go Pass works as part of your traditional EntraPass Corporate or Global Edition system, or with the hattrix hosted/managed access solution. By purchasing “packets” of Go Pass licenses, you have greater control of credential management. Customers can add countless EntraPass Go Pass users and, as with traditional access cards, can reassign the credential should that cardholder leave the company. EntraPass is scalable and expandable from one EntraPass Go Pass user to thousands.

Order Codes:
Corporate Edition (CE)
E-COR-PASS-50
E-COR-PASS-100
E-COR-PASS-500

Global Edition (GE)
E-GLO-PASS-50
E-GLO-PASS-100
E-GLO-PASS-500

hattrix
E-MAC-GO-PASS

Pack of 100 EP Go Pass credentials for EP CE
Pack of 500 EP Go Pass credentials for EP CE

Pack of 100 EP Go Pass credentials for EP GE
Pack of 500 EP Go Pass credentials for EP GE

A single EP Go Pass credential on hattrix (added to the billing report)

The Convenience of Mobile Devices, Now Available for Access Control.
Where do I find the information?
This is how to find the number of KAP tokens required for the system on the System Registration Page of the EntraPass Software:

Order Codes:

**EntraPass Special Edition**
- E-SPE-KTK-1  E/Pass SE License 1 token, (Free of Charge)

**EntraPass Corporate Edition**
- E-COR-KTK-1  E/Pass CE License 1 token
- E-COR-KTK-2  E/Pass CE License 2 tokens
- E-COR-KTK-3  E/Pass CE License 3 tokens
- E-COR-KTK-5  E/Pass CE License 5 tokens
- E-COR-KTK-10 E/Pass CE License 10 tokens

**EntraPass Global Edition**
- E-GLO-KTK-1  E/Pass GE License 1 tokens
- E-GLO-KTK-2  E/Pass GE License 2 tokens
- E-GLO-KTK-3  E/Pass GE License 3 tokens
- E-GLO-KTK-5  E/Pass GE License 5 tokens
- E-GLO-KTK-10 E/Pass GE License 10 tokens
- E-GLO-KTK-20 E/Pass GE License 20 tokens
The Kantech Advantage Program provides system outside of their first 12month support with a means to upgrade their software version – allowing for such instances as operating system changes etc. This also gives users access to the latest features and interfaces developed since their product was installed.

From version 4 to 5 and for all future releases after the first 12 months KAP token(s) will need to be purchased to license the system for software upgrade.

The table below provides detail on how the program works for EntraPass Special Edition, Corporate and Global Edition giving the necessary steps to upgrade your EntraPass System.

### EntraPass Special Edition Software:

<table>
<thead>
<tr>
<th>Current Version</th>
<th>Upgrade to 6.0x</th>
</tr>
</thead>
</table>
| 3.18            | • Version 3.18 required  
• Upgrade code will be provided at no extra charge. E-SPE-UPG-V6-LIC  
Please contact the EMEA license Support team tspemealicense@tycoint.com |
| 4.0 or 5.0      | If the customer requires advice on what to do before upgrading:  
• It is required 1 Token to activate the SSA or KAP which will provide a year of free of charge upgrades.  
The token will be provided at no extra charge.  
If the customer is already performing the upgrade to 5.x, then the installation software will require an upgrade code.  
• The Upgrade code will be provided at no extra charge.  
Please contact the EMEA license Support team tspemealicense@tycoint.com |

### EntraPass Corporate & Global Edition Software:

<table>
<thead>
<tr>
<th>Current Version</th>
<th>Upgrade to 6.0x</th>
</tr>
</thead>
</table>
| 3.18            | • Version required 3.18.  
• Upgrade License has to be purchased. Software downloadable from the Kantech website.  
E-COR-UPG-V6-LIC  
E-GLO-UPG-V6-LIC |
| 4.0 or 5.0      | • Verify the KAP (*) details.  
• On System registration >KAP details you will find a “free upgrade software expiration date” and if expired, then the customer will have to check how many tokens are required to purchase the KAP program (which includes software upgrades).  
• Token part numbers (this one would be for 1, but 2,3,5,10 and 20 are also available):  
E-COR-KTK-1  
E-GLO-KTK-1  
(*) KAP 4.0 and 4.01, it was called SSA |
Intevo Advanced

Features:
- Simple to configure, easy to deploy
- Supports EntraPass Corporate Edition features such as:
  - EntraPass Go mobile application
  - EntraPass Web client
  - EntraPass Workstation client
  - DSC PowerSeries alarm panel Integration
  - Bentel KYO alarm panel Integration
  - Alarm panel Integration
  - Compatible with all Kantech controllers
  - Connect up to 32 IP cameras
  - Separate Solid State Drive (SSD) for the operating system and applications
  - 3TB Drive for Video Storage
  - Optimised for use with American Dynamics Illustra Series IP Cameras
  - Supports H.264, MPEG-4, MJPEG and a wide variety of IP cameras including Megapixel
  - Seamlessly integrate American Dynamics VideoEdge NVR, Intellex, HDVR and ADTVR into one solution
  - Remote management
  - Security reports
  - Active Maps
  - Email Notification
  - Multi-Language Support

Integration Evolution
Intevo is an easy to deploy integrated security platform that is quick and easy to install. It’s simple to configure, 6 step wizard, built on Windows 7 Embedded means you can be up and running within minutes and includes a customised dashboard for easy system management. Intevo is preloaded with Kantech’s EntraPass Corporate Edition security management software, American Dynamics IP video software and an IP camera license included. This package delivers market-leading functionality and proven reliability.

The intuitive Kantech Express set-up Wizard also allows full testing of the system whilst at the same time the client can browse an array of end user functions using either EntraPass Web client or the new EntraPass Go mobile app on their phone or tablet.

Integrated Security Platform
Intevo provides an ideal platform for small to medium businesses as well as the ability to grow the system to meet organisational needs over time. Its ability to integrate with intrusion panels, monitor access control and link these events with video information allows for quick, efficient incident management of the cause of an alarm.
Video gives the “who” to go along with the “What”, “When” and “Where”

Events such as “door forced open” can be attached to the associated video for quick playback. These images and associated audio from up to 32 cameras are recorded and stored on this single appliance. Camera’s can be called up directly from a floor plan simply by double-clicking on the camera or dome icon and Intevo IP Video supports a long list of IP cameras from many brands.

Intevo is also compatible with advanced EntraPass features such as Video Vault and Redundant Server. Integration with American Dynamics HDVR, VideoEdge NVR, TVR Series and Intellex Digital Video Management Systems further enhances the video capabilities of the system and the clear IP video user interface makes it easy to find your way around so you will be confident during set-up, and when training your staff.

Monitor, Arm, Disarm, programming, viewing and one card does it all.

The integration of Intevo with a host of alarm panels sets it apart. With the right permission, a card holder can arm or disarm the connected alarm system simply by presenting their card to a reader. The level of security can be further enhanced with cards being paired with partitioned areas within a building. For ease of use a virtual alarm keypad makes it easy for you to configure the alarm panel in the same way as if it were an actual physical keypad. All this can be done from a remote or local desktop. Virtual keypad is easy to install and does not require any special alarm setting.

Information when it’s needed how it’s needed.

With a built-in report generator, reports can be either manually or automatically generated and can be sent via e-mail to and administrator to view on their desktop or on a mobile device. Even basic work time registration reports can be sent on a scheduled timeframe.

Simplified access, from anywhere.

Webclient and Mobile Application access to Intevo are pre-configured and ready to use. EntraPass Web and Entrapass Go syncs to the EntraPass software and enable users to monitor and control the security system in real-time. It is an ideal solution for situations where a security administrator needs to manage the access control system after business hours, during the weekend or traveling on a business trip. When logging into the EntraPass WebStation, the operator or end user depending upon permission levels can have access to manual operations such as elevator doors, doors, relays or inputs in order to perform tasks manually.

Features:

- Full-featured security system in a single appliance
- Windows 7 Embedded
- EntraPass Corporate Edition
- EntraPass Webstation
- EntraPass Mobile Go are pre-configured
- AD IP Video management (HDVR)
- Up to 32 IP Cameras (1 free IP Camera license incl.)

Technical Specifications:

Intel i3 Processor
32 Gb SSD for applications
3TB HDD for archives
100 Gb for Kantech
2.9TB for video storage
2 x Ethernet ports
128 Mbps throughput, 60Mbps inbound
6 x USB ports
1 x RS-232 serial port
HDMI, DVI and VGA Monitor outputs
Desktop, Wall mount and Rack mount
### Technical Specifications:

<table>
<thead>
<tr>
<th>Physical</th>
<th>Mobile Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Dimensions</td>
<td>Compatibility</td>
</tr>
<tr>
<td>(HxWxD) 5.4 x 30 x 29 cm</td>
<td>iPhone, iPod Touch, iPad and</td>
</tr>
<tr>
<td>Cabinet Weight</td>
<td>Android (phone and tablet)</td>
</tr>
<tr>
<td>Environmental Operating</td>
<td>Resolution CIF\2CIF\4CIF\1MP\720P\8MP\108</td>
</tr>
<tr>
<td>Temperature 0° to 60° C</td>
<td>0P\3MP\5MP\10MP</td>
</tr>
<tr>
<td>Humidity Maximum 93%</td>
<td>Compression (Recording)</td>
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<tr>
<td>indoor use only</td>
<td>H.264, MPEG-4, MJPEG</td>
</tr>
<tr>
<td>Environmental Humidity</td>
<td>Recommended System Capacities</td>
</tr>
<tr>
<td>Maximum 93% relative</td>
<td>Recommended maximum capacities for the Intevo</td>
</tr>
<tr>
<td>Humidity non-condensing</td>
<td>server:</td>
</tr>
<tr>
<td>Electrical Input 100-240</td>
<td>Card Readers 256</td>
</tr>
<tr>
<td>VAC, 50-50 Hz, 2.0 A</td>
<td>Card Users 10,000</td>
</tr>
<tr>
<td>Output 12 VDC, 80 W maximum</td>
<td>Card User Access Levels</td>
</tr>
<tr>
<td>Power Consumption 60 W</td>
<td>250 (per site)</td>
</tr>
<tr>
<td>General Features</td>
<td>Access Level</td>
</tr>
<tr>
<td>Processor Intel Core i3-2330E</td>
<td>Combinations Unlimited</td>
</tr>
<tr>
<td>Processor</td>
<td>Schedules 100 (per site)</td>
</tr>
<tr>
<td>Memory 4GB, Non-ECC, 800MHz</td>
<td>Holidays 366</td>
</tr>
<tr>
<td>DDR3 SODIMM</td>
<td>System Operator Unlimited</td>
</tr>
<tr>
<td>Video Card Integrated Intel</td>
<td>Operator Security Levels</td>
</tr>
<tr>
<td>GMA HD Graphics</td>
<td>Unlimited (pre-defined)</td>
</tr>
<tr>
<td>Hard Drive 1 32GB SSD Boot</td>
<td>Concurrent System Languages</td>
</tr>
<tr>
<td>Drive (24/7 DVR Grade)</td>
<td>2</td>
</tr>
<tr>
<td>Hard Drive 2 3TB 3.5in Audio</td>
<td>Multi-Site Gateways 1</td>
</tr>
<tr>
<td>Video SATA (3Gb/s)</td>
<td>Serial /USB Sites 32</td>
</tr>
<tr>
<td>Operating System Windows</td>
<td>Remote IP Sites 64</td>
</tr>
<tr>
<td>Embedded Standard 7</td>
<td>Concurrent EntraPass Webstation Logins 4 (1 included with Intevo)</td>
</tr>
<tr>
<td>Network Dual gigabit Ethernet</td>
<td>Concurrent EntraPass Workstation Logins (with live video capability)</td>
</tr>
<tr>
<td>10/100/1000 Base-T, RJ45</td>
<td>10 (2 +1 included with Intevo)</td>
</tr>
<tr>
<td>USB 6 USB 2.0 connectivity</td>
<td>IP Cameras 32</td>
</tr>
<tr>
<td>ports, two front/four rear</td>
<td>For more information on supported IP video devices, visit: <a href="http://www.americandynamics.net/Products/Hybrid_Digital_Video_Recorders.aspx">www.americandynamics.net/Products/Hybrid_Digital_Video_Recorders.aspx</a></td>
</tr>
<tr>
<td>Serial Port 1 RS-232 serial</td>
<td>Integration Capabilities</td>
</tr>
<tr>
<td>port</td>
<td>Intrusion</td>
</tr>
<tr>
<td>eSATA Dual eSATA storage</td>
<td>DSC Alarm Panels (PC1616, PC1832, PC1864, PC4020), Bentel Alarm Panels KYO 320</td>
</tr>
<tr>
<td>expansion port</td>
<td>Honeywell Dimension by adding the software module E/CORE/GLY and providing the Honeywell Ethernet module Video American Dynamics HDVR.</td>
</tr>
<tr>
<td>Display Dual high definition</td>
<td>VideoEdge</td>
</tr>
<tr>
<td>display outputs (VGA, DVI and</td>
<td>NVR, TVR Series, Intellex Digital Video Management</td>
</tr>
<tr>
<td>HDMI)</td>
<td>Systems and more.</td>
</tr>
<tr>
<td>Video streaming Throughput</td>
<td></td>
</tr>
<tr>
<td>128 Mbps (Input 50 Mbps)</td>
<td></td>
</tr>
<tr>
<td>Fans Temperature controlled</td>
<td></td>
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<tr>
<td>Software EntraPass Corporate</td>
<td></td>
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<tr>
<td>Edition and American Dynamics</td>
<td></td>
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<tr>
<td>HDVR (IP cameras only)</td>
<td></td>
</tr>
<tr>
<td>Monitoring Watchdog timer,</td>
<td></td>
</tr>
<tr>
<td>CPU voltage monitoring,</td>
<td></td>
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<tr>
<td>CPU temperature monitoring,</td>
<td></td>
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<tr>
<td>Smart Fan control, System</td>
<td></td>
</tr>
<tr>
<td>power management</td>
<td></td>
</tr>
<tr>
<td>Warranty 3-year warranty</td>
<td></td>
</tr>
</tbody>
</table>
Order Codes:

INTEVO-ADV-3T-EU  INTEVO-IPCAM08  Additional 8 IP Camera License for INTEVO for cameras other than American Dynamics Illustra range. Provides a single license for 8 additional IP Camera for a single INTEVO. Licenses can be ordered in multiple quantities and are not linked to the INTEVO until online registered via Kantech registration website.

INTEVO-IPCAM01  INTEVO-IPCAM16  Additional 16 IP Camera License for INTEVO for cameras other than American Dynamics Illustra range. Provides a single license for 16 additional IP Camera for a single INTEVO. Licenses can be ordered in multiple quantities and are not linked to the INTEVO until online registered via Kantech registration website.

INTEVO-IPCAM04  INTEVO-ADV-RM  Additional 8 IP Camera License for INTEVO for cameras other than American Dynamics Illustra range. Provides a single license for 8 additional IP Camera for a single INTEVO. Licenses can be ordered in multiple quantities and are not linked to the INTEVO until online registered via Kantech registration website.

INTEVO-IPCAM08  VWWQ326616  Additional 16 IP Camera License for INTEVO for cameras other than American Dynamics Illustra range. Provides a single license for 16 additional IP Camera for a single INTEVO. Licenses can be ordered in multiple quantities and are not linked to the INTEVO until online registered via Kantech registration website.

INTEVO-IPCAM16  INTEVO-ADV-SSA  INTEVO optional brackets for 19” rack mount. INTEVO one year Support Software Agreement (SSA) Freecom eSATA 3TB external drive.
Intevo Compact

Integration Evolution
Intevo is an easy to deploy integrated security platform that is quick and easy to install. It’s simple to configure, 6 step wizard, built on Windows 7 Embedded means you can be up and running within minutes and includes a customised dashboard for easy system management. Intevo is preloaded with Kantech’s EntraPass Corporate Edition security management software, American Dynamics IP video software and an IP camera license included.

This package delivers market-leading functionality and proven reliability. Intevo Compact comes preloaded with Kantech’s EntraPass Corporate Edition security management software, including connectivity with the EntraPass Go mobile application and EntraPass Web.

The Intevo Compact also seamlessly integrates into a single solution the DSC PowerSeries and other alarm panels as well as a full line of American Dynamics video recording platforms, including the VideoEdge NVR, Intellex digital video management systems, HDVR and ADTVR.

Video gives the “who” to go along with the “What”, “Where” and “When”
Events such as “door forced open” can be attached to the associated video for quick playback. These images and associated audio from up to 16 cameras are recorded and stored on this single appliance. Camera’s can be called up directly from a floor plan simply by double-clicking on the camera or dome icon and Intevo IP Video supports a long list of IP cameras from many brands.

Features:
• Simple to configure, easy to deploy
• Supports EntraPass Corporate Edition features such as:
  • EntraPass Go mobile application
  • EntraPass Web client
  • EntraPass Workstation client
  • DSC PowerSeries alarm panel Integration
  • DSC MAXSYS alarm panel Integration
  • Bentel KYO alarm panel Integration
  • Honeywell Dimension Intruder Alarm integration with additional software module
• Compatible with all Kantech controllers
• Connect up to 16 IP cameras
• Optimised for use with American Dynamics Illustra Series IP Cameras
• Supports H.264, MPEG-4, MJPEG and a wide variety of IP cameras including Megapixel
• Seamlessly integrate American Dynamics VideoEdge NVR, Intellex,
• HDVR and ADTVR into one solution
• Video storage

Order Codes:
INTEVO-CMP-1T-EU  Kantech INTEVO Integrated Security Platform with single
INTEVO-IPCAM01  IP camera license included
INTEVO-IPCAM04  Additional 4 IP Camera License for INTEVO for cameras other than American Dynamics Illustra range.
INTEVO-IPCAM08  Additional 8 IP Camera License for INTEVO for cameras other than American Dynamics Illustra range.
INTEVO-IPCAM16  Additional 16 IP Camera License for INTEVO for cameras other than American Dynamics Illustra range.
INTEVO-CMP-SSA  INTEVO one year Support Software Agreement (SSA)
WWQ326616  Freecom 3TB eSATA external drive
### Technical Specifications:

#### Recommended System Capacities

Recommended maximum capacities for the Intevo server:

<table>
<thead>
<tr>
<th>Category</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card Readers</td>
<td>256</td>
</tr>
<tr>
<td>Card Users</td>
<td>10,000</td>
</tr>
<tr>
<td>Card User Access Levels</td>
<td>250 (per site)</td>
</tr>
<tr>
<td>Access Level Combinations</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Schedules</td>
<td>100 (per site)</td>
</tr>
<tr>
<td>Holidays</td>
<td>366</td>
</tr>
<tr>
<td>System Operator Passwords</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Operator Security Levels</td>
<td>Unlimited (pre-defined)</td>
</tr>
<tr>
<td>Concurrent System Languages</td>
<td>2</td>
</tr>
<tr>
<td>Multi-Site Gateways</td>
<td>1</td>
</tr>
<tr>
<td>Serial /USB Sites</td>
<td>32</td>
</tr>
<tr>
<td>Remote IP Sites</td>
<td>64</td>
</tr>
<tr>
<td>Concurrent EntraPass Webstation Logins</td>
<td>4 (1 included with Intevo)</td>
</tr>
<tr>
<td>Concurrent EntraPass Workstation Logins (with live video capability)</td>
<td>10 (2 +1 included with Intevo)</td>
</tr>
<tr>
<td>IP Cameras</td>
<td>16</td>
</tr>
</tbody>
</table>

For more information on supported IP video devices, visit: www.americandynamics.net/Products/Hybrid_Digital_Video_Recorders.aspx

#### Integration Capabilities

- Intrusion: DSC Alarm Panels (PC1616, PC1832, PC1864, PC4020), Bentel Alarm Panels KYO 320
- Honeywell Dimension by adding the software module E-COR/GLY and providing the honeywell ethernet module
These days it’s all about speed, reliability and flexibility. More and more people work with large files such as DTP/graphical files and uncompressed video and audio. The need for an external hard drive with top speed and top reliability is more present than ever. The new Freecom Hard Drive Quattro provides it all. The new USB 3.0 interface provides you with the fastest data transfer speed to date for a single external hard drive. Connected to eSATA, the Hard Drive Quattro performs up to 6x times faster than a standard USB 2.0 hard drive.

The FireWire800 & FireWire400 interfaces have been the standard for years in the Mac-world when it comes to external storage, providing a reliable and fast data transfer. Since USB 3.0 is fully downwards compatible with USB 2.0 you have the ultimate flexibility- you can connect the drive to any modern computer that does not have an eSATA or FireWire interface. The Hard Drive Quattro comes in a stylish aluminium enclosure which will compliment the design of your PC or Mac, with the possibility to position it horizontally or vertically on your desk. The Freecom Hard Drive Quattro is pre-formatted so you’re ready to use your drive seconds after connecting it to your PC or Mac. At Freecom we create storage solutions from a consumer’s perspective, where convenience and quality are key factors.

The Flexible Hard Drive For Professionals
The Hard Drive Quattro is Freecom’s most versatile hard drive. With four interfaces (USB 3.0, FireWire800, FireWire400, eSATA) this hard drive connects to any computer or Mac.

Features:
- External, no nonsense hard drive for professional and home use
- 4 interfaces in one drive, provides optimal flexibility, connects to any computer!
- FireWire800 and FireWire400, ideally suited for Mac users, ideal for reliable external storage and Audio/Video editing
- eSATA – ideal for professional Audio/Video editing and authoring of large, uncompressed files
- USB 3.0 – the fastest available interface to date, and thanks to the downwards compatibility you can also connect it to USB 2.0, still the most commonly used interface, connects to any modern computer
- High quality aluminium enclosure, recyclable material, puts less strain on the environment
- Optimal internal airflow management
- No cooling fan – no noise!
- Compact design, only 5.5 x14.8 x 4.3 cm, saves space on your desk
- Includes 2 rubber footstands for positioning the drive upright, taking up even less space on your desk
- Two years manufacturer’s warranty and unlimited free helpdesk support

The FireWire interface makes it the ideal hard drive for Mac users who require a fast and reliable drive for storing and editing large audio, video and or graphical files.

Enjoy The Silence
The Hard Drive Quattro has been designed in such a way that a noisy cooling fan is obsolete. The heat-absorbing aluminium enclosure always ensures a silent operation. Quattro interfaces and Quattro reasons to buy this hard drive: it’s silent, cool, robust and recyclable.

Design
One of the most striking aspects of the Hard Drive Quattro is its minimalistic, state of the art design. Made from cool aluminium with a glossy black front finished with the chrome Freecom logo, this drive stands out from the crowd and looks stunning on your desk.
**Minimum System Requirements**

PC: Intel Pentium III / AMD Duron 900 MHz or higher, 256MB RAM (Vista: 512MB RAM) or higher, available USB 3.0, USB 2.0**, Fire-Wire800, FireWire400 or eSATA port, Windows XP* / Vista / 7 / 8 MAC: PowerPC G3/G4/G5, Power Book G3/G4 or Intel Mac, 256MB RAM or higher, available USB 2.0**, FireWire800 or FireWire400 port, Mac OS X v10.4.8 or higher

* The Hard Drive Quattro is pre-formatted in FAT-32, for immediate use on both Windows and Mac computers. Due to limitations of the FAT-32 file format system, the 3TB version is NTFS formatted (Windows). Mac users need to reformat the drive to HFS+ file system (see addendum in retail box). PLEASE NOTE: The 3TB version does not support Windows XP.

** When connected to USB 2.0, the data transfer speed will be according to USB 2.0 specification.

---

<table>
<thead>
<tr>
<th>HARD DRIVE QUATTRO 3.0</th>
<th>3TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art.-Nr.</td>
<td>56068</td>
</tr>
<tr>
<td>EAN-Code</td>
<td>4021801560681</td>
</tr>
<tr>
<td>Colour</td>
<td>Silver</td>
</tr>
</tbody>
</table>

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**Technical Specifications:**

**Capacity:** 1Tb, 2Tb, 3Tb*

**Interface:** Usb 3.0, Can Also Be Connected To Usb 2.0 Port**, Esata, Firewire800 / 400

**Hard Drive Type:** 3.5” Sata, Low Noise, Low Power Consumption

**Data Transfer Speed:** Max. 5000 Mbit/S (Usb 3.0), Max. 3000 Mbit/S (Esata), Max. 800 Mbit/S (Firewire800), Max. 400 Mbit/S (Firewire400), Theoretical Maximum Data Transfer Speeds

**Power Requirements:** Ac Adapter 12V / Min. 1.5A

**Mtbf:** 50.000 Poh

**Enclosure:** Aluminium

**Dimensions:** 15.5 X 14.8 X 4.3 Cm / Weight: 1400 G

**Environmental Specifications:**

**Operating Temperature:** 10° C - 35° C

**Storage Temperature:** -20° C - 70° C

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**Order Code:** WWQ326616 Freecom 3TB eSATA external drive
INTEVO System Schematic
Frequently Asked Questions

Q. Which languages are supported by Intevo?
A. English, French, German, Spanish, Italian, Dutch, Portuguese, Turkish

Q. Do I need to register the EntraPass software on the Intevo?
A. The EntraPass portion of Intevo does not need to be registered. It does a self registration at the end of the first boot wizard.

Q. How do I add EntraPass Options?
A. EntraPass options, such as Video Vault, must be registered in the same way as presently, through the Kantech website.

Q. Can I access the Intevo with EntraPass Mobile go?
A. EntraPass go Mobile is preconfigured and ready to use, enter the IP address and the default login is: intevo1 (username and password)

Q. How are SSAs handled with Intevo?
A. The SSA date in effect in IP Video will be reflected in EntraPass so that the SSA renewals are at the same time. IP video and EntraPass have a one year SSA included and starts from the moment that IP Channels are registered.

Q. Can I still add IP Channels to the Intevo unit when my SSA is expired?
A. If the SSA expires, the Intevo will still allow the user to add additional IP Channels without SSA renewal. We however recommend to renew yearly the Security Platform to make sure your equipment is protected by latest security treats and you have access to Kantech technical support center.

Q. What if I want to use the Intevo only for CCTV as an NVR?
A. The INTEVO can be used as an NVR only if desired by simply not using the EntraPass software.

Q. Can I connect Intevo to other DVR’s and NVR’s than the build-in IP video?
A. Intevo can be connected to other Video DVR’s and NVR’s using EntraPass software integration options

Q. Can I connect to other Intevo units if I need to monitor more than 32 IP Channels?
A. Intevo can be connected to other Intevo IP Video units using the Client workstation Setup on the Intevo IP Video side.

Q. How can I connect Intrusion panels to the Intevo?
A. Intevo’s EntraPass software have the DSC and Bentel Kyo Intrusion panel’s support integrated

Q. Can I connect Intrusion panels other than DSC or Bentel to the Intevo?
A. Intevo can be connected to the Honeywell Galaxy Dimension panel range using EntraPass software integration options (part code E-COR-GLY).

Q. Can I still provide a door release facility using Corporate software?
A. Although this would not meet fire officer requirements, as a local agreement with the end user in addition to the correctly designed door release facilities, the engineer can configure this feature on site. It as always depends on the Intevo being operational and the smartlink program running.

A document explaining how the engineer configures this operation is available on the secure side of our website.
Kantech™ KT-NCC-EU makes your access control system easier to manage, easier to expand, and much more reliable. Now, instead of relying on a PC for communication between the controllers and server, the dependable KT-NCC is in control. There are fewer PCs to maintain, operating systems to upgrade, and security emergencies to manage.

KT-NCC includes onboard TCP/IP, a great money-saving feature, that eliminates the costs associated with buying and maintaining a third party communication device to link to the network.

Features:
- Powerful panel architecture removes a layer of PCs to improve reliability and save money
- Onboard TCP/IP eliminates the need for an external network communication device
- Supports any combination of up to 128 controllers (KT-300, KT-200, or KT-1)
- Embedded redundancy ensures critical data is always protected
- Seven LED modes provide quick assessment of system status
- Flashable firmware enables fast, convenient updates
- Battery backup provides alternative for Universal Power Supply (UPS)
- Global functionality such as anti-passback, guard tours, and alarm systems management is easier than ever to implement

Technical Specifications:

**Physical**
- Cabinet Dimensions (H x W x D) 375.9 x 304.8 x 125.7 mm
- Communication Ports
  - 2 x RS-485
  - 1 x RS-232
  - 2 x Ethernet 100Base-T

**Electrical**
- AC Power 240Vac Mains input required
- Battery Backup PS-1270 12V/7Ah battery required
- Auxiliary Power Output 12 VDC, 250 mA

**Operational**
- Loops per Gateway Seven loops (2 x RS-485, 1 x RS-232, 4 x IP)
- Controllers per KT-NCC 128 Max
- Controllers per Loop RS-485 (COM1 & COM2) = 32 each RS-232 = 32 each IP#1 to IP#4 = 8 each
- Number of Cards per KT-NCC 56,000
- Readers/Keypads per KT-NCC 256
- Controller Groups 100
- Access Level Groups 100

**Regulatory**
- Compliance FCC Part 15 Class A, CE C-Tick

Order Codes:

**KT-NCC-EU**
- Embedded Network Communication Controller (NCC), includes: black metal cabinet (KT-NCC-CAB) with transformer (240VAC/50Hz, 16.5VAC/40VA) and fuse block (315mA/240VAC) and accessory kit (KT-NCC-EU-ACC) with lock (KT-LOCK) and tamper switch (KT-TAMPER); compatible with EntraPass Global Edition v3.18 and higher.

**KT-NCC-PCB**
- Embedded NCC PCB only, includes: accessory kit (KT-NCC-ACC), ground and battery cables, hardware to affix the wire, and the PCB

**KT-NCC-ACC**
- Accessory kit for KT-NCC, includes: four 120 ohms end-of-line resistors, RS-232 to VC-485 flat cable with RJ-12 male connectors, and screwdriver

**PS-1270**
- 12 Vdc 7Ah Battery
KT-IP (IP controller module) completes the Kantech line of products providing affordable Internet connectivity for the KT-1, 200 & 300 ranges of controllers.

In the present architecture, distant sites require the installation of remote gateway computer to manage the local loop of controller. While this setup is perfect for large scale installation, smaller customers consider this setup too complex and expensive.

Currently, integrators overcome inadequately this problem by installing Lantronix UDS-100. The problem with this device is the bandwidth generated by the combined solution (UDS-10 & EntraPass gateway); polling and flooding the customer’s network with data request from the gateway. The data traffic is also secured.

Features:
- Secure communication via 128-bit AES encryption
- Configured using either a static or dynamic IP address
- Communications over the network only as required - minimal bandwidth usage
- Up to 512 IP Links can be supported per EntraPass Corporate Gateway
- Supports up to 32 controllers per IP Link
- CE certified

Technical Specifications:
- Weight: 0.6 kg
- DC Power: 12 VDC
- Dimensions: 26.7 x 9.5 x 3.12 cm
- Input Current Max: 175 mA
- Typical: 125 mA
- Communication Ports: RJ-45 Ethernet, 10/100Base-T & RS-232
- Communication Speed: Up to 115200 baud for serial communication
- Compatibility: KT-200 & KT-300 (KT-200 must always be on its own Gateway and never combined with KT-100 & KT-300 controllers)
- Maximum units: Up to 512 IP Links per Corporate Gateway / Up to 64 IP Links per Special Edition

Order Codes:
- KT-IP: IP Link Module with Wall mounted metal enclosure and accessories (ground wire, plastic stand off cable and connector)
- KT-IP-PCB: IP Link PCB only with accessories (ground wire, plastic stand off, cable and connector)
- KT-IP-CAB: Metal cabinet for KT-IP-PCB
Kantech Access Control and Security Management System

Communication Devices

System Diagram

EntraPass Software (Special, Corporate, and Global Editions with Multi-Site Gateway)

Readers

Door Locking Devices

Request to Exit Detector

RS-485

VC-485

RS-232

IP Link

KI-300 (up to 32)
RS-232 to RS-485 Converter

EntraPass Software communicates with the KT range of controllers via RS485. This is achieved via hard wire, dial up or LAN/WAN connection.

Features:
- Converts RS232 to RS485
- Extends communication up to 1,200 m
- Uses unshielded, twisted communication cable
- Supports up to 32 Kantech controllers
- Requires 5 VDC or 12 VDC power

Order Code:
VC-485 RS-232 / RS-485 protocol converter

The VC-485 Communication Interface is an RS-232/RS-485 protocol converter primarily used to connect a PC to a KT-1/KT-300 controller. The maximum bus length is 5 km, when line repeater is used and 1.2 km for EntraPass™ when using Ethernet Grade 3, unshielded, two twisted pair cable (Belden # 1227A recommended or CAT 5e UTP). Two VC-485’s may be connected back-to-back to be used as a line repeater in order to extend the RS-485 communication bus.

USB to RS-485 Converter

Features:
- Converts USB to RS485
- Extends communication up to 1,200 m
- Uses unshielded, twisted communication cable
- Supports up to 32 Kantech controllers
- Powered by USB port

Order Code:
USB-485 USB / RS-485 protocol converter

The USB-485 Communication Interface is a protocol converter used to connect a PC’s USB port to the RS-485 input on your Kantech controller KT-1/KT-300. The maximum bus length is 1.2 km when using an ethernet Grade 3, unshielded, two twisted pair cable (Belden # 1227A recommended or CAT 5e UTP).
EntraPass SE CE GE Intevo - MULTISITE GATEWAYS

- USB 485
- KT-1
- KT-300
- KT-400
- RS485 Comm LineMax 32 Controllers
- KT-1 Head Controller
- P Comm Line
- RS485 KT Comm lineMax 32 Controllers
- KT-1 IP Connected Controllers.

- KT-1
- KT-300
- KT-400
- KT-400 Head Controller
- IP Comm Line
- RS485 KT Comm lineMax 32 Controllers

- KT-400
- KT-1
- KT-300
- KT-400
- KT-1 MASTER Controller
- IP Comm Line

MAX 31 Secondary KT-1 IP Connected Controllers. MUST be on the same LAN
EntraPass GE - GLOBAL GATEWAYS

Using KT-1 or KT-400 Head Controller IP Comm Line & RS485 KT Comm line

Max 8 Controllers

It is Advisable to use the KT-NCC for remote site Global Gateway functionality
Cable Schedule

The cables detailed, are the preferred cables specified by Kantech. Alternative cables should only be used with the approval of Tyco Security Products.

Please note:
There is a difference between a LSF (Low Smoke and Fume) cable and a proper low smoke zero halogen cable (LSZH, LSNH or LS0H).

LSF cables can give off a large amount of smoke and dangerous fumes (including hydrogen chloride gas) when burnt as they are made from a modified version of PVC.

Low Smoke Zero Halogen cables will not emit more than 0.5 percent of hydrogen chloride.

When required due to standards or regulations or specified in requirement documentation, LSF should not be supplied.

For further advise or NSL quotations please contact our preferred partner:

Webro Cable and Connectors
Tel: +44 (0)115 9837207
<table>
<thead>
<tr>
<th>Bus and communications</th>
<th>Max Length</th>
<th>Beldon Ref. No.</th>
<th>JDE Ref. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-485 bus from VC-485 or USB-485 to KT-300</td>
<td>1.2 km</td>
<td>1227A CAT5 UTP</td>
<td>610.001.043</td>
<td>Ethernet category 3 cable 2KT twisted pairs, No. 22AWG 4pair UTP (unshielded Twisted Pair)</td>
</tr>
<tr>
<td>RS-485 bus from VC-485 or USB-485 to KT-300</td>
<td>1.2 km</td>
<td>1227A CAT5 UTP</td>
<td>610.001.043</td>
<td>Ethernet category 3 cable 2KT twisted pairs, No. 22AWG 4pair UTP (unshielded Twisted Pair)</td>
</tr>
<tr>
<td>RS-232 from computer to KT-300 modems</td>
<td>30 m</td>
<td>N/A</td>
<td>N/A</td>
<td>6 conductors, No. 22AWG, modems stranded.flat telephone cable</td>
</tr>
<tr>
<td>READERS AND KEYPADS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ioProx™ Readers</td>
<td>300 m</td>
<td>8742 CAT5 UTP</td>
<td>610.001.043</td>
<td>3 twisted pairs, solid No. 22 AWG, 4pair UTP (unshielded Twisted Pair)</td>
</tr>
<tr>
<td>POL-2, POL-2KP</td>
<td>150 m</td>
<td>9554 NSL</td>
<td>610.001.043</td>
<td>4 pairs, stranded No. 18 AWG shielded (foil), drawing wire</td>
</tr>
<tr>
<td>SH-2KP, SH-Y/Y2/Y4/X5, WEI-R20/R30 readers</td>
<td>150 m</td>
<td>9553 NSL</td>
<td>610.001.043</td>
<td>3 pairs stranded, No. 18 AWG shielded (foil), drain wire</td>
</tr>
<tr>
<td>BC-301 readers</td>
<td>150 m</td>
<td>9553 NSL</td>
<td>610.001.043</td>
<td>3 pairs, stranded, No. 18AWG shielded (foil), drain wire</td>
</tr>
<tr>
<td>KP-2500, ES-KTP/103SN</td>
<td>150 m</td>
<td>8466 NSL</td>
<td>610.001.043</td>
<td>12 conductors, stranded No 18AWG, unsheilded</td>
</tr>
<tr>
<td>AUXILIARY DEVICES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KT-300 inputs (zones 1 to 8)</td>
<td>600 m</td>
<td>9794/7024Y 7026Y/7028Y</td>
<td>BEQ9794 2045/2046 2047</td>
<td>4 conductors, solid No. 22 AWG unsheilded Intruder alarm 4,6 or 8 core cable 7/0.2 mm</td>
</tr>
<tr>
<td>T.Rex or PB2 cable to KT-100/KT-300</td>
<td>600 m</td>
<td>9794</td>
<td></td>
<td>4 conductors, solid No. 22 AWG unsheilded</td>
</tr>
<tr>
<td>POWER AND GROUNDING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC transformers to Kantech products</td>
<td>8 m</td>
<td>9571/7024Y 7026Y/7028Y</td>
<td>2045/2046/2047</td>
<td>2 conductors solid, No. 18AWG unsheilded intruder alarm 4,5 or 8 core cable 7/0.2 mm</td>
</tr>
<tr>
<td>Door lock power from KT-300</td>
<td>150 m</td>
<td>9571/7024Y 7026Y/7028Y</td>
<td>2045/2046/2047</td>
<td>2 conductors solid, No. 18AWG unsheilded intruder alarm 4,5 or 8 core cable 7/0.2 mm</td>
</tr>
<tr>
<td>Door lock power from KT-300</td>
<td>150 m</td>
<td>9571/7024Y 7026Y/7028Y</td>
<td>2045/2046/2047</td>
<td>2 conductors solid, No. 18AWG, unsheilded 7/0.2 mm</td>
</tr>
<tr>
<td>Door lock Power</td>
<td>7024Y/7026Y 7028Y</td>
<td>2045/2046/2047</td>
<td>Intruder Alarm 4, 6 or 8 Core Cable 7/0.2 mm</td>
<td></td>
</tr>
<tr>
<td>Door lock Power</td>
<td>7024Y/7026Y 7028Y</td>
<td>2045/2046/2047</td>
<td>Intruder Alarm 4, 6 or 8 Core Cable 7/0.2 mm</td>
<td></td>
</tr>
<tr>
<td>KT-300 grounding</td>
<td>8 m</td>
<td>N/A</td>
<td>N/A</td>
<td>1 conductor, solid No. 18AWG</td>
</tr>
</tbody>
</table>
## Door Controllers

<table>
<thead>
<tr>
<th></th>
<th>KT-1</th>
<th>KT300-EU</th>
<th>KT400-EU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readers Port</strong></td>
<td>2 (in/out)</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Power Input</strong></td>
<td>12 Vdc, PoE/PoE+, 2.2 A</td>
<td>16 VAC 100 VA, transformer</td>
<td>16 VAC 100 VA, transformer</td>
</tr>
<tr>
<td><strong>Battery Backup</strong></td>
<td>1 x 12 Vdc 7Ah battery (KT-1-M, KT-1-P only)</td>
<td>1 battery 12 V, 7 Ah</td>
<td>1 battery 12 V, 7 Ah</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>PCB = 13.8 x 12.1 x 4.8 cm</td>
<td>390 x 340 x 90 mm</td>
<td>376 x 305 x 126 mm</td>
</tr>
<tr>
<td></td>
<td>P enc = 30.9 x 27.7 x 5.2 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M enc = 29.9 x 28.8 x 7.7 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating</strong></td>
<td>2 to 40°C</td>
<td>From 2°C to 40°C</td>
<td>From 2°C to 40°C</td>
</tr>
<tr>
<td><strong>Temperatures/Humidity range</strong></td>
<td>0% to 95% non-condensing</td>
<td>0-95% (non-condensing)</td>
<td>0-95% (non-condensing)</td>
</tr>
<tr>
<td><strong>Inputs supervision</strong></td>
<td>Single EOL or Double EOL (independantly programable)</td>
<td>9 NO/NC w or w/o EOL supervision</td>
<td>16 NO/NC w or w/o EOL supervision</td>
</tr>
<tr>
<td><strong>Relays</strong></td>
<td>2 onboard form C 30Vdc, 3 A max each</td>
<td>2 relays output, 12 VDC, 25 mA max/each, Open collector to ground</td>
<td>2 relays output, 30 VDC, 34 mA max/each, Open collector to ground</td>
</tr>
<tr>
<td><strong>Lock Output</strong></td>
<td>12 Vdc, typically 750 mA supervised</td>
<td>2 x 12 VDC 500mA max/ strike, supervised (Use additional relays for barrier/twisted)</td>
<td>4 x 12 VDC 625 mA max/ strike, supervised (Use additional relays for barrier/ twisted)</td>
</tr>
<tr>
<td><strong>Auxiliary Outputs (LED, BUZZ)</strong></td>
<td>OUT3 &amp; OUT4 (25 mA max each, open collector)</td>
<td>4 outputs, open collector 25 mA, max each</td>
<td>8 outputs, open collector 25 mA, max each</td>
</tr>
<tr>
<td><strong>Reader Power Output</strong></td>
<td>12 Vdc Max 0.5 mA, typically 250 mA per reader</td>
<td>12 VDC and 5 VDC @ 175 mA total, protected and supervised</td>
<td>12 VDC and 5 VDC @ 400 mA protected and supervised</td>
</tr>
</tbody>
</table>
### Kantech Access Control and Security Management System

#### Door Controllers

<table>
<thead>
<tr>
<th>Feature</th>
<th>RS-485, Ethernet 10/100Base-T with RJ45</th>
<th>RS-232, RS 485 and combus</th>
<th>RS-232, RS 485 and combus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communication Speeds</strong></td>
<td>Up to 115.200 baud (Auto detection over RS-485); 10/100Base-T over Ethernet</td>
<td>Up to 115,200 baud (automatic detection)</td>
<td>Up to 115,200 baud (automatic detection)</td>
</tr>
<tr>
<td><strong>Firmware</strong></td>
<td>Downloadable flash</td>
<td>Downloadable flash</td>
<td>Downloadable flash</td>
</tr>
<tr>
<td><strong>RAM Memory</strong></td>
<td>128 MB</td>
<td>128K (512K unit available)</td>
<td>128K (64mb unit available)</td>
</tr>
<tr>
<td><strong>Tamper Switch</strong></td>
<td>Electronic</td>
<td>Optionally connected to an input</td>
<td>Optionally connected to an input</td>
</tr>
<tr>
<td><strong>Expansion Module</strong></td>
<td>RS-485 port</td>
<td>COMBUS EXPANSION 4-relay and COMBUS additional power supply module, 16-input module, 8-input module and a LCD time/date display module</td>
<td>Expansion port 1 x SP1 6 pin Connector bidirectional data exchange support</td>
</tr>
<tr>
<td><strong>Addressable</strong></td>
<td>Touch sensitive button</td>
<td>With serial number</td>
<td>With serial number</td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td>EN 60839-11-1 Grade 1, EN50133-1, FCC, UL294, CE</td>
<td>CE, FCC, UL294</td>
<td>CE, FCC, UL294</td>
</tr>
<tr>
<td><strong>Event Buffer</strong></td>
<td>20,000 events (5000 with the 128 K version and 18000 with the 512K)</td>
<td>(5000 with the 128 K version and 18000 with the 512 K version)</td>
<td>(5000 with the 128K version and 18000 with the 512 K version)</td>
</tr>
</tbody>
</table>
KT-1 Ethernet-Ready, One Door Controller

Features:
• Supports 2 readers (entry and exit)
• Single touch-sensitive button for fast controller enrollment
• Plug & play installation
• Interchangeable connections for easy install or replacement
• Flexible power input – Power over Ethernet (PoE), PoE+ or 12 VDC
• Compact and attractive design – install it anywhere
• Built-in electronic tamper
• Choose from single gang mount (model KT-1) or cabinet mount (KT-1-PCB) installation options
• Compatible with existing Kantech controllers including KT-300 and KT-400
• Compatible with EntraPass Security Management Software v6.02 or higher

One Touch
The KT-1 controller features a touch-sensitive button for plug and play installation. Simply provide an IP connection, push a single button and you’re done. There is no need to manually enter MAC/Serial numbers.

With its innovative single button programming, the KT-1 is automatically detected and enrolled onto the EntraPass security management software (v6.02 and higher).

With its Ethernet port for direct network connection, its Power over Ethernet capabilities and its unique single button programming, the KT-1 controller is up and running in just a few simple steps.

Head IP Controller Function
A single KT-1 can act as a ‘head IP controller’, linking together 31 additional controllers under one IP connection in EntraPass. This significantly reduces the amount of IP connections required to EntraPass and reduces programming time on the software. Thus creating installation cost benefits and a highly scalable solution.

Secure and Efficient Network Communication
The KT-1 is compatible with EntraPass software and uses 128-bit AES encryption to ensure secure communication. It also acts as a polling device to ensure the controllers communicate with EntraPass only as required, reducing network traffic. Flexible options allow KT-1 to connect to EntraPass via:

// On-board IP (Ethernet) port
// RS-485 (COM1) port for communication between the EntraPass Gateway/Kantech Network Communication Controller (KT-NCC) and KT-300/KT-400 door controllers

Combine the new KT-1 controller with EntraPass security management software and the EntraPass Web and Go mobile applications to create an innovative solution that installs quickly, can be managed remotely and provides a superior user experience.
Technical Specifications:

**Physical**
Plastic Housing Dimensions
(H x W x D) 12.9 x 8.6 x 4.6 cm
Weight 305 g

**KT-1-PCB**
Dimensions (H x W x D)
13.8 x 12.1 x 4.8 cm
Weight 395 g

**Environmental**
Operating Temperature 2° to 40°C
Operating Humidity 0% to 95% non-condensing

**Electrical**
KT-1/KT-1-PCB Power Input
12 VDC / PoE / PoE+, 2.2 A
Reader Power Output
Maximum 0.5 A @
12 VDC, typical 250 mA per reader, protected and supervised Lock Device Power
12 VDC, typical 750 mA supervised

**Operational**
One Button Enrollment
Capacitive touch-sensitive button Reader Types Wiegand, proximity, ABA clock and data, bar code, magnetic, integrated keypad, smart card, RS-485 (Kantech Protocol)

Number of Cards in Stand-Alone Mode 100,000 (KT-1 and KT-1-PCB)
Monitored Points (Inputs)
4 monitored points, single EOL, double EOL (Independently programmable)

Reader Outputs
LED and buzzer (25 mA maximum each, open collector outputs)

 Auxiliary Outputs
OUT3 and OUT4 (25 mA each, open collector outputs)

KT-1 Controlled Output Relay
2 controlled output relays,
12 VDC, 25 mA each, open collector (optional relay KT-RM1 also available)

KT-1-PCB Controlled Output Relay (R1, R2)
2 onboard form C controlled outputs relays, 30 VDC, 3 A max each Communication Ports
RS-485, Ethernet 10/100Base-T with RJ-45

Expansion Port
RS-485

Auxiliary Port
Auxiliary 12 VDC, 500 mA maximum

Communication Speed
Up to 115,200 baud (automatic detection over RS-485); 10/100 Base-T over Ethernet

Flash Memory
256 MB for application and data storage (configuration and events can reside for a minimum of 10 years without power)

RAM
128 MB for application loading and running

Network Autonomy
Distributed data and processing

**Regulatory**
EN60839-11-1 Grade 1, EN50130-4:2011, EN55022, EN60950,
FCC
UL, UL-294, UL-1076
IC, NMB-003, C-Tick
CE
Order Codes:

**KT-1-EU-PC**
KT-1-PCB One door controller PoE, PoE+ or 12 Vdc, including: Plastic Housing and 13,8 Vdc 3 A power Supply

**KT-1-EU-MET**
KT-1-PCB One door controller PoE, PoE+ or 12 Vdc, including: Metal Housing and 13,8 Vdc 3 A power Supply

**KT-1**
One KT-1, IP Controller Single gang flush Mount, PoE, PoE+ or 12 Vdc, (KT-1 only, no PSU)

**KT-1-M**
Ethernet-ready one door controller (KT-1-PCB) and metal cabinet (KT-1-CAB-M)

Accessories

**KT-1-PCB**
One Door IP Controller PCB including connector board (Compatible with KT-1-CAB-M or P)

**TSP-POE-INJ**
PoE Injector Single port without power cord

**BAQ35T12**
Switching power supply for Controllers - Max Current 3 A @ 13,8 V

**KT-1-CVR**
Black Replacement cover for KT-1/ Including back box
The KT-300 is a two-reader networkable door controller. One controller supports up to two readers, installed on two separate doors or on a single door controlling both entry and exit. Each controller is linked to the others in the system using an RS-485 communication bus providing control for up to a million doors depending on the EntraPass Edition.

**Easy Firmware Updates**
The KT-300 features flash memory for easy firmware updates. The controller’s firmware can be updated from any EntraPass workstation in just a few minutes. Flash memory saves time by allowing system updates from a PC without having to update each controller individually.

**Speed Selection and Trouble/Reporting**
KT-300 detects the system’s communication speed (set by EntraPass) and assigns the controller’s address, eliminating the need to set up DIP switches or jumpers. KT-300 also provides trouble reporting, constantly supervising locking devices for short and open circuits to detect lock failures.

It also monitors battery condition to alert the system of low battery/no battery status. All power outputs are individually protected against short circuits and surges by a self-resetting PTC.

**Scalable Two-Reader Door Controller**
The KT-300 can be expanded via Combus expansion modules allowing for relay, input and output modules, and an LCD time and date display.

**Status Indicators**
LEDs provide important controller status and diagnostic information. The KT-300 has multiple LED indicators for: communication status, troubleshooting, network activity, power status and outputs activity.

**Expandable**
The KT-300 can interface with an external intrusion alarm system. An authorised individual can arm or disarm the alarm system simply by presenting their card to a reader.

**Network Connectivity**
The KT-IP (IP controller module) provides affordable and secure LAN/WAN network connectivity for the KT-300 door controller. In this setup, the KT-300 is first connected to a VC-485 (RS-232/RS-485 interface). Then the VC-485 is connected to the KT-IP (and both devices are powered by the KT-300). The KT-IP relays information between the KT-300 and the EntraPass Multi-Site Gateway.

**Features:**
- Controls two readers and easily links to a network
- Update firmware directly from system workstation
- Interfaces with an external alarm system
- Choice of 128K or 512K memory capacities
- LEDs provide important controller status and diagnostic information
## Technical Specifications:

### Physical

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>29.9 x 28.8 x 7.7 cm</td>
</tr>
<tr>
<td>Knock Out Dimensions</td>
<td>1.9 cm</td>
</tr>
<tr>
<td>Weight (with metal cabinet)</td>
<td>2.4 kg</td>
</tr>
</tbody>
</table>

### Environmental

| Operating Temperatures      | 2° to 40°C                        |

### Electrical

| Input Power                | 16 VAC, 100 VA, Class 2 transformer |
| Battery Backup             | One battery 12 V/7Ah, supervised, provides operation for up to 12 hours |
| Auxiliary Outputs (LED, BUZ) | Four outputs, 25 mA max. each, open collector |
| Control Relay Outputs (R1, R2) | Two control relay outputs, 12 VDC, 25 mA totals each, open collector (optional relay KT-RM1 available) |
| Auxiliary Power Output     | 11.1 VDC to 13.8 VDC @175 mA maximum, protected and supervised |
| Reader Power Outputs       | 12 VDC and 5 VDC @125 mA total, protected and supervised |
| Door Strike Power          | 12 VDC, 500 mA each, supervised  |

### Operational

<p>| Compatible Reader Types    | Wiegand, proximity, bar code, magnetic, integrated keypad, and others |
| Monitored Points (Inputs)  | Eight monitored points, NO/NC, with or without end-of-line resistors (expandable to 16) |
| Max. Wiring Distance       | 600 m – (AWG #22) |
| Communication Ports        | RS-232, RS-485, and Combus |
| Communication Speed        | Up to 115,200 baud (automatic detection) |
| Firmware Flash Memory      | 128 K |
| RAM 128K or available      | 512 K, protected by a lithium battery |
| Network Autonomy           | Distributed data and processing Regulatory |
| Certifications             | UL 294, CE, FCC |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 door Door Controller (2 readers) with 128kB memory, 8000 cards, 5000 events, including metal cabinet</td>
<td>KT-300EU-8K</td>
</tr>
<tr>
<td>2 Doors Controllers (2 readers) with 512kB memory, 56,000 cards, 18,000 events, including metal cabinet</td>
<td>KT-300EU-56K</td>
</tr>
<tr>
<td>External isolation relay SPDT for KT-300 output RL 1/RL2. Put it when the locking device current is &gt; 500mA</td>
<td>808.012.510</td>
</tr>
<tr>
<td>Door Controller with 128kB memory (PCB only) and accessory kit KT-300ACC</td>
<td>KT-300PCB/128K</td>
</tr>
<tr>
<td>Door Controller with 512kB memory (PCB only) and accessory kit KT-300ACC</td>
<td>KT-300PCB/512K</td>
</tr>
<tr>
<td>KT-300EU black metal cabinet including PSU + transformer</td>
<td>TYCO-A-ACCESS</td>
</tr>
<tr>
<td>KT-300 Accessory kit including 1.0K OHM (2), 5.6K ohms (10), 120 ohms (2), PCB standoff, lock hole cover, ground wire and screwdriver.</td>
<td>KT-300ACC</td>
</tr>
<tr>
<td>12 Volt DC, 7 Ah battery</td>
<td>PS-1270</td>
</tr>
<tr>
<td>Item</td>
<td>Order Codes</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>8-Zone Input Expansion Module for KT-300</td>
<td>KT-300EU-8K</td>
</tr>
<tr>
<td>4-Relay and COMPUS additional Power Supply Module for KT-300</td>
<td>KT-PC4204</td>
</tr>
<tr>
<td>16-Output Expansion Module for KT-300</td>
<td>KT-PC4216</td>
</tr>
<tr>
<td>Standard metal cabinet for KT-PC4108, KT-PC4204 and KT-PC4216</td>
<td>KT-4051CAB</td>
</tr>
</tbody>
</table>
KT-400-EU Powerful, Ethernet-Ready Four-Door Controller

Features:
- Supports four readers
- Secure 128-bit AES encryption solution
- 100,000 cards per controller and 20,000 stored events in stand-alone mode
- Expansion flexibility - connect up to 256 inputs and 256 outputs
- Full integration with DSC PowerSeries and MAXSYS alarm panels
- LEDs provide important controller status and diagnostic information

Ethernet-Ready Encrypted 4-Door Controller
The KT-400 is a 4-door Ethernet-ready controller providing a secure (128-bit AES encryption) solution for any enterprise looking for the highest available security. It easily integrates into existing EntraPass systems and with other Kantech controllers KT-200 and KT-300). The KT-400 can also provide the foundation - with the EntraPass system - for a brand new highly scalable security installation. An onboard Ethernet port ensures quick network connectivity and eliminates the need for an external Ethernet device.

Built-In Expansion
The KT-400 allows connection to expansion modules in order to add inputs or to add outputs such as relays and drain outputs. Combining input and output expansion modules provides the flexibility to connect up to 256 inputs and 256 outputs.

Status Indicators
LEDs provide important controller status and diagnostic information. The KT-400 has multiple LED status indicators for: troubleshooting, network activity, power status and outputs activity.

Easy Network Connectivity
The auto-sensing 10/100Base-T onboard Ethernet port automatically selects compatible Ethernet speeds to provide faster network connectivity. It eliminates the need to purchase an external Ethernet device, saving time and money. The KT-400 uses secure 128-bit AES encryption to communicate with the Gateway.

Removable Terminal Blocks
In order to expedite installation and facilitate serviceability, KT-400 features removable terminal blocks that are simple to connect and are colour-coded for quick identification.

Built-in Web Configuration
The web configuration page is accessible through any browser. It can be used to verify and configure the IP settings of the KT-400. For enhanced security, once the KT-400 is configured, the web configuration page can no longer be accessed. The KT-400 can be reset to factory default in the case of a configuration error and the web configuration page will once again be accessible.
## Technical Specifications

### Physical
**Cabinet Dimensions**
(H x W x D) 376 x 30.5 x 12.6 cm  
**PCB Dimensions** 23.1 x 14.0 x 3.4 cm  
**Cabinet Weight** 4.0 kg

### Environmental
**Operating Temperature** 2° to 49°C  
**Humidity Level** Maximum 85% relative humidity noncondensing

### Electrical
**Power Input**
KT-400 16.5 VAC or 24 VAC, 75 VA, Class 2 transformer  
**Battery Backup** 12 VDC/ 7 or 12 Ah battery supervised; up to 12 hours of operation  
**Reader Power Output** Maximum 1.0A @ 5 VDC or 12 VDC, typical 250 mA per reader, protected and supervised

### Operational
**Reader Types** Wiegand, proximity, ABA clock and data, bar code, magnetic, integrated keypad, smart card  
**Monitored Points (Inputs)** 16 monitored points, single EOL, double EOL  
**Points Maximum Wiring** AWG #22 – 600 m  
**Door Strike Power** 12 VDC, maximum 3.0A typical 750mA per lock, supervised  
**Reader Outputs** 16 outputs, 25 mA maximum each, open collector outputs  
**Auxiliary Outputs** LEDs (door 1, door 2, door 3, door 4, LED, OUT1 and OUT2) and buzzers (Buz, door 1, door 2, door 3, door 4) 25mA each, open collector outputs  
**Controlled Output Relay** Four onboard Form C controlled outputs relay, 30 VDC, 3 amp max each  
**Communication** Ports RS-232 with RJ-12, RS-485, Ethernet 10/100Base-T with RJ-45

### Expansion Port
SPI 6-pin connector, bi-directional data exchange supported. Supplies 12 VDC, 500 mA maximum shared with 12VDC auxiliary port

### Auxiliary Port
Auxiliary 12 VDC, 500 mA maximum shared SPI expansion port

### Communication Speed
Up to 115,200 baud (automatic detection over RS-232 and RS-485); 10/100Base-T over Ethernet

### Flash Memory
16 MB for application storage

### RAM
64 MB for application loading and running, protected by a Lithium-Ion battery for a minimum of 75 hours

### Network Autonomy
Distributed data and processing

### External Lock Power
12 or 24 VDC (up to 28 VDC) supply up to 750 mA per lock for a total of 3 amp

### Regulatory
EN61000-6-1, EN61000-6-2, EN55022, EN60950  
FCC Class A, UL-294, UL-1076, RoHS, WEEE, CE
Kantech Access Control and Security Management System

Door Controllers

Order Codes:

**KT-400-EU**
- KT-400 four-door controller, IP-ready, accessory kit (KT-400-ACC), metal cabinet (KT-400-CAB) with lock (KT-LOCK)

**KT-400-PCB**
- KT-400 four-door controller (PCB only), and IP-ready accessory kit (KT-400-ACC)

**Expansion Modules**

**KT-MOD-INP16**
- 16-zone input expansion module with SPI cable (KT-MOD-SPI-16)

**KT-MOD-REL8**
- Eight-relay expansion module with SPI cable (KT-MOD-SPI-16)

**KT-MOD-OUT16**
- 16-zone output expansion module with SPI cable (KT-MOD-SPI-16)

**KT-MOD-CAB**
- Expansion Module cabinet, black, with 92 cm (36 in) SPI cable (KT-MOD-SPI-36) and lock (KT-LOCK)

**KT-MOD-SPI-16**
- SPI cable 41 cm

**KT-MOD-SPI-36**
- SPI cable 92 cm

**Integration Modules**

**KT-IT100**
- Kantech/DSC PowerSeries integration module. Includes: DSCIT100 integration module and CBLK-IT100 cable kit

**KT-4401VK**
- Kantech/DSC MAXSYS integration module, RS232 cable/connector, 1.8 m

**CBLK-IT100**
- Cable kit, RS-232 cable/connector set, 3 m, for integration between DSCIT110 and either KT-400 4-door controller or EntraPass software

**CBLK-4401VK**
- Cable kit, RS-232 cable/connector, 1.8 m, and EPROM set. Compatible with PC-4401 DSC MAXSYS integration module

**Accessories**

**KT-400-ACC**
- Accessory Kit includes: Four 1.0 K ohm, 32/5.6 K ohm resistors, ground wire, and screwdriver

**KT-400-CAEU**
- Black metal cabinet with lock (KT-LOCK)

**KT-400-CON**
- Removable terminal block spare kit

**KT-ACPW-LED**
- UL AC power LED indicator

**KT-3LED-PLATE**
- UL-listed alarm, three-colour LED indicator mounted on single gang plate

**KT-TAMPER**
- Tamper switch for KT-NCC-CAB, KT-300CAB, and KT-4051CAB metal cabinets

**KT-LOCK**
- Lock (and two keys) for KT-NCC-CAB, KT-300CAB, and KT-4051CAB metal cabinets
This chapter contains information about Aperio:

- Introduction
- IP Hub
- RS485 Hub
- Euro profile Escutchean
- PINpad Escutchean
- C100 Cylinder
- KS100 Server cabine lock
- L2C25 / L2C21 Mortice Sash Locks
- KUED KUOD
- 1000RRSo1 Door Handle
- 1000EE Euro Profile Escutcheon
Aperio Introduction

Aperio is the smart technology that enables mechanical locks to be wirelessly linked to a new or existing Kantech, CEM or C.Cure access control systems*. Additional doors are integrated into access control systems at a lower cost due to there being no cable installation required.

- Aperio can be combined with new and existing access control systems
- Ease of installation, less disruption and lower cost
- Standard RFID technologies supported
- Compliance with escape route regulations subject when using approved lever handle sets
- Battery-operated Aperio cylinders and escutcheons provide RFID-card reader
- Reduced overall system running costs when compared to powered locks (e.g. Mag locks)
- Reduced overall installation costs allowing more doors to be controlled for the budget
- When designed correctly in conjunction with key doors being hard wired the overall security on a site can be increased.
- Wireless communication between Aperio cylinders / escutcheons and communication hubs
- Aperio can update room access authorisations online and in real time**.

The open architecture of Aperio provides a convenient way of connecting with Kantech, CEM and C.Cure 9000 via RS485 or IP hub. The Aperio cylinders or escutcheons communicate via an encrypted wireless link to a communication hub that is wired directly to the system.

*Subject to the version of software and hardware on site
**Subject to the system being online
Aperio Wireless Locking Range

AH40 1-to-16 IP Communication Hub

The AH40 Communication Hub is the link between Aperio locks and the access control system. Up to 16 locks can be paired to one Hub and has ethernet connectivity, making it compatible with most systems.

It communicates directly with Aperio enabled locks via an encrypted 2.4GHz wireless link, and is designed to be positioned above the door within a typical range of 15-25 m.

Features:
- Connect up to 16 Aperio devices on a single hub
- IP connectivity with AES 128bit encryption
- Encrypted radio communication
- Integrated antenna
- LED status for visual indication

Applications:
- Internal doors only
- Expand existing access control systems
- New access control installations
- Doors that cant be hard wired
- The 1 to 16 Communication

Hub:
- Connect up to 16 Aperio devices on a single hub
- IP Interface
- Encrypted radio communication
- Integrated antenna
- LED status for visual indication

<table>
<thead>
<tr>
<th>Technical data - AH40 Aperio® IP communication hub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approvals</td>
</tr>
<tr>
<td>CB, CE, C-Tick, ETL, FCC, IC, ICASA</td>
</tr>
<tr>
<td>Safety and Emissions</td>
</tr>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>82 mm x 82 mm x 37 mm (H x W x D)</td>
</tr>
<tr>
<td>Power supply</td>
</tr>
<tr>
<td>PoE: IEEE 802.3af compliant class 1 Powered device (PD), External Power supply: The power supply shall be able to deliver minimum 3.5 W. The power supply shall be 3 A over current protected.</td>
</tr>
<tr>
<td>Radio standard</td>
</tr>
<tr>
<td>IEEE 802.15.4 (2400 – 2483,5MHz), 16 channels (11-26)</td>
</tr>
<tr>
<td>Encryption (radio communication)</td>
</tr>
<tr>
<td>AES 128 bits</td>
</tr>
<tr>
<td>Wireless operating range</td>
</tr>
<tr>
<td>Typical range of 15-25 m depending on building enviroments</td>
</tr>
<tr>
<td>Receiver sensitivity</td>
</tr>
<tr>
<td>-100 dBm</td>
</tr>
<tr>
<td>Wireless transmit power</td>
</tr>
<tr>
<td>10 dBm/MHz according to EN ETSI 300 328. Maximum spectral density</td>
</tr>
<tr>
<td>Internal antenna</td>
</tr>
<tr>
<td>Two port cross polarized patch antenna</td>
</tr>
<tr>
<td>Antenna external</td>
</tr>
<tr>
<td>One reverse polarity SMA external antenna connector.</td>
</tr>
<tr>
<td>Class of protection</td>
</tr>
<tr>
<td>IP 20</td>
</tr>
<tr>
<td>Operating temperature range</td>
</tr>
<tr>
<td>5°C to 35°C</td>
</tr>
<tr>
<td>Humidity</td>
</tr>
<tr>
<td>&lt; 95% (non-condensing)</td>
</tr>
<tr>
<td>Status</td>
</tr>
<tr>
<td>LED (red/green/orange)</td>
</tr>
</tbody>
</table>

Order Code:
500——80-00  1:16 communication
Connects up to 16 devices
TCP/IP interface
AH30 1-to-8 Standard Aperio® RS485 communication hub

The AH30-3-0 Communication Hub is the link between Aperio locks and the access control system. Up to 8 locks can be paired to one Hub and has a standard RS485 connection, making it compatible with most systems on the market today. It communicates directly with Aperio enabled locks via an encrypted 2.4GHz wireless link, and is designed to be positioned above the door within approximately 5 - 25 m of the lock.

Features:
- Connect up to 8 Aperio devices on a single hub
- RS485 interface
- Encrypted radio communication
- Integrated antenna
- LED status for visual indication

Applications:
- Internal doors only
- Expand existing access control systems
- New access control installations
- Doors that can’t be hard wired
- Live real-time access & audit
- Significantly reduces cost for integrated access control doors
- Reduced time and effort required for installation
- Connects up to 8 Aperio devices
- Operates on a transmission range of about 25 metres

Technical data - Aperio® RS485 communication hub

<table>
<thead>
<tr>
<th>Approvals (CERTIFICATION=)</th>
<th>CE, ETL, FCC, IC, C-Tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and Emissions</td>
<td>FCC 47CFR Part 15 subpart B and subpart C; IC RSS-210; EN ETSI 301 489-17 v2.1.1; EN ETSI 300 328 v1.7.1; EN 60950-1 ed.2 2007; UL 294-2010; C22.2</td>
</tr>
<tr>
<td>Dimensions</td>
<td>82 mm x 82 mm x 37 mm (H x W x D)</td>
</tr>
<tr>
<td>Power supply</td>
<td>8 - 24 VDC</td>
</tr>
<tr>
<td>Current</td>
<td>250 mA Minimum 80 mA at 12 V DC</td>
</tr>
<tr>
<td>Radio standard</td>
<td>IEEE 802.15.4 (2.4 GHz) - 16 channels (11-26)</td>
</tr>
<tr>
<td>Encryption (radio communication)</td>
<td>AES 128 bits</td>
</tr>
<tr>
<td>Wireless operating range</td>
<td>Typical range of 15-25 m depending on building environments</td>
</tr>
<tr>
<td>Receiver sensitivity</td>
<td>-100dBm 20% PER</td>
</tr>
<tr>
<td>Wireless transmit power</td>
<td>10 dBm/MHz</td>
</tr>
<tr>
<td>Internal antenna</td>
<td>2 cross polarized dipoles</td>
</tr>
<tr>
<td>External antenna</td>
<td>One reverse polarity SMA external antenna connector. Type (dipole) and not have larger antenna gain than 3,9dBi.</td>
</tr>
<tr>
<td>Class of protection</td>
<td>IP 20</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>5°C to 35°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>&lt; 95% (non-condensing)</td>
</tr>
<tr>
<td>Status</td>
<td>LED (red/green/orange)</td>
</tr>
</tbody>
</table>

Order Code: 500-40-00 Aperio wireless 1:8 RS485 hub
The E100 V3 Series Escutcheon is Compatible with Union 2C25 nightlatch lock case and provide a cost effective migration to an online electronic access control door. In addition to multi-format card access the external side of the door provides for key override entry, whilst the inside lever is designed for emergency egress.

With wireless locks running the V3 platform, even high frequency entrance door still operate for two years on a standard battery, maintaining remote opening functions of typically 5 seconds communication time between Aperio lock and the access control system through out the battery life. With the faster response time and more powerful electronics Aperio enables standard online access control functionality at significantly reduced costs to that of a hard wired door.

Features:

• Supports multiple RFID credentials and Seos mobile access
• Heartbeat communication: 5-10 seconds
• Remote door opening/locking functions
• Supports multiple high frequency RFID technologies and Seos mobile access
• Powerful new electronics with USB interface
• Audit trails and time zones managed through existing system
• Additional Key Override
• Emergency egress
• Lock can store up to 10 override credentials
• Store last 200 events and audit trails locally in the lock
• Increase battery performance - to 40,000 operations
• LED status
• Battery low warning sent to EAC system

Function

External lever is always locked. To unlock badge card and activate lever. Door automatically re-locks after set time. Can also be opened via Key override.

Internal lever is set to escape - free egress at all times.

Product description:

• Communication from hub via RS485 bus to the Online Access Control System (addressable) - access decision in the EAC system
• Can be used with all European (DIN) mortise locks - in wooden, steel and tubular-frame doors
• Main electronics (RFID + radio) outside - security-relevant electronics inside
• Outside handle rotates freely - inside handle always engaged
• Possibility to store up to 10 emergency cards (only used in case of disconnection from the hub)
• LED for status visualisation
## Technical Specifications

### Standard escutcheons

<table>
<thead>
<tr>
<th>Authentication</th>
<th>Three levels of authentication (PIN only, CARD only, PIN &amp; CARD combined)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN code</td>
<td>PIN code - 4 up to 8 digits</td>
</tr>
<tr>
<td>Approvals (CERTIFICATION=)</td>
<td>CE</td>
</tr>
<tr>
<td>Dimensions</td>
<td>312 x 41 x 10/20 mm (H x W x D)</td>
</tr>
<tr>
<td>Application versions (VERSION=)</td>
<td>Basic = interior and exterior doors up to grade 2</td>
</tr>
<tr>
<td>Handle versions (HANDLE=)</td>
<td>L-Shape, U-Shape</td>
</tr>
<tr>
<td>Escutcheon finish (FINISH=)</td>
<td>Stainless steel brushed (ST)</td>
</tr>
<tr>
<td>Distance/ Spindle (DISTANCE=)</td>
<td>Distance 72 mm, 92 mm; Spindle 8 mm, 9 mm, 10 mm</td>
</tr>
<tr>
<td>Door Thickness (DOOR THICKNESS=)</td>
<td>Door leaf between 40 and 100 mm thick, in 10 mm increments</td>
</tr>
<tr>
<td>Backset</td>
<td>&gt; 40 mm</td>
</tr>
<tr>
<td>Battery</td>
<td>1 x Lithium CR123A</td>
</tr>
<tr>
<td>Battery life</td>
<td>&gt; 40,000 cycles (for max. 3 years)</td>
</tr>
<tr>
<td>Radio standard</td>
<td>IEEE 802.15.4 (2.4 GHz)</td>
</tr>
<tr>
<td>Encryption (radio communication)</td>
<td>AES 128 bits</td>
</tr>
<tr>
<td>Distance between the RFID-Reader and hub</td>
<td>Typical range of 5 m or 25 m depending on the hub type and building environments</td>
</tr>
<tr>
<td>Class of protection</td>
<td>IP 52</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>0°C to 60°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>&lt; 85% (condensation-free)</td>
</tr>
<tr>
<td>Status</td>
<td>LED (red/green/orange)</td>
</tr>
<tr>
<td>RFID Technology</td>
<td>iCLASS®/ISO 14443B; MIFARE™ classic; MIFARE™ plus; MIFARE™ DESFire™ EV1; EM410x</td>
</tr>
<tr>
<td>RFID reading</td>
<td>UID / Sektor / Block / Application / File</td>
</tr>
<tr>
<td>Scanning range</td>
<td>&lt; 4 cm</td>
</tr>
</tbody>
</table>
Aperio® PINpad Escutcheon

The perfect solution for doors requiring multiple authentication levels.

With the new Aperio® escutcheon with PIN code, ASSA ABLOY adds another innovation to its range of products allowing Access Control Systems to be extended to doors requiring increased security at the door without the need for wiring: The Aperio® PINpad device provides up to two factor authentication door security.

The wireless Aperio® PINpad escutcheon allows access to rooms simply by entering a PIN, via a card reader or with a combination or both. The user code to be entered can have four to eight digits.

Depending on the integration in the Access Control System, the escutcheon supports the integrated Duress Code function to provide increased security. Depending on the integration level of the device, a silent hold-up alarm can be triggered in the security centre if, in a dangerous situation, the user enters the duress code instead of their own PIN.

The Aperio® PINpad escutcheon is available for conventional RFID technologies: iCLASS, MIFARE classic/plus and MIFARE DESFire as well as for existing 125 kHz access control systems based on EM410x

**Applications**

- Internal doors only
- Expand existing access control systems
- New access control installations
- Doors that cannot be hard wired

**Features:**

- Wireless Online access control
- Authorisation changes in real time
- Audit trails and time zones managed through existing system
- 2c25 compatible lockcase.
- Cylinder can store up to 10 override credentials
- Stores last 200 events and audit trails locally in the cylinder
- LED status indication
- Battery powered 40,000 operations
- Battery low warning sent to EAC system
- Available in Stainless Steel Knob
# Aperio Wireless Locking Range

## Technical Specifications

<table>
<thead>
<tr>
<th>Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Subject to the version of software and hardware on site</em>* <em>subject to the system being online</em></td>
</tr>
<tr>
<td>312 x 41 x 10/20 mm (H x W x D)</td>
</tr>
<tr>
<td>Available profiles: EURO, SWISS, BLIND, SCAND</td>
</tr>
<tr>
<td>U-Shape, L-Shape handles, Stainless steel brushed surface</td>
</tr>
<tr>
<td>Distance 72 mm /92 mm /74 mm / 94 mm, Spindle 7 mm, 8 mm, 9 mm</td>
</tr>
<tr>
<td>Door leaf between 40 and 100 mm thick, in 5 mm increments</td>
</tr>
<tr>
<td>Backset &gt;40 mm</td>
</tr>
<tr>
<td>1 x Lithium CR123A (inside)</td>
</tr>
<tr>
<td>Approx. &gt; 40,000 cycles (for max. 3 years)</td>
</tr>
<tr>
<td>IEEE 802.15.4 (2.4 GHz) AES 128 Bit Encryption</td>
</tr>
<tr>
<td>Typical range of 5 m or 25 m depending on the hub type and building environments</td>
</tr>
<tr>
<td>IP52 (Basic version)/ IP54** (Premium version)</td>
</tr>
<tr>
<td>-25°C to +60°C, humidity: &lt;85% (condensation free)</td>
</tr>
<tr>
<td>LED (red/green/orange)</td>
</tr>
<tr>
<td>UID / sector/block or application/file</td>
</tr>
<tr>
<td>&lt; 4 cm scanning range</td>
</tr>
</tbody>
</table>

* * The certification for fire-rated door is only valid, if all other relevant door components are tested together with the E100 Premium.
** ** The protection class IP54 and the temperature range is only valid for the outside part of the escutcheon.

## Order Codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Kit contains</th>
</tr>
</thead>
<tbody>
<tr>
<td>5001-398A60212</td>
<td>Aperio V3 E100 HF Keypad 40-50 EURO 72 I/S Blind</td>
<td><strong>Kit contains:</strong>&lt;br&gt;5001-398A60212</td>
</tr>
<tr>
<td>5001-398B60212</td>
<td>Aperio V3 E100 HF Keypad 50-60 EURO 72 I/S Blind</td>
<td><strong>Kit contains:</strong>&lt;br&gt;5001-398B60212</td>
</tr>
<tr>
<td>5011-D99K60212</td>
<td>Aperio V3 E100 HF Premium Keypad 40-45 EURO 72 I/S Blind</td>
<td><strong>Kit contains:</strong>&lt;br&gt;JL2C25R-SS55</td>
</tr>
<tr>
<td>5011-D99L60212</td>
<td>Aperio V3 E100 HF Premium Keypad 45-50 EURO 72 I/S Blind</td>
<td><strong>Kit contains:</strong>&lt;br&gt;JL2C25R-SS55</td>
</tr>
</tbody>
</table>

**Special Tyco kits for the Aperio PINpad for Tyco**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Kit contains</th>
</tr>
</thead>
<tbody>
<tr>
<td>E100KP-KIT40-50</td>
<td>E100 Keypad 40-50 single cut out includes lockase and cylinder</td>
<td><strong>Kit contains:</strong>&lt;br&gt;E100KP-KIT40-50NC</td>
</tr>
<tr>
<td>5001-398A60212</td>
<td>APERIO V3 E100 HF 40-50 EURO 72 I/S BLIND&lt;br&gt;5001-398A60212</td>
<td><strong>Kit contains:</strong>&lt;br&gt;5001-398A60212</td>
</tr>
<tr>
<td>JL2C25R-SS55</td>
<td>Union 2C25 Nightlatch&lt;br&gt;JL2C25R-SS55</td>
<td><strong>Kit contains:</strong>&lt;br&gt;JL2C25R-SS55</td>
</tr>
</tbody>
</table>
# Aperio Wireless Locking Range

**Order Codes:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Kit contains:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5001-198A60212</td>
<td>Aperio V3 E100 HF 40-50 Euro 72 I/S Blind</td>
<td>E100-KIT50-60</td>
</tr>
<tr>
<td></td>
<td>Premium 50-60 EURO 72 I/S Blind</td>
<td>E100 50-60 single cut out includes lockcase and cylinder</td>
</tr>
<tr>
<td>5001-198B60212</td>
<td>Aperio V3 E100 HF Premium 50-60 EURO 72 I/S Blind</td>
<td>5001-198B60212</td>
</tr>
<tr>
<td></td>
<td></td>
<td>APERIO V3 E100 HF 40-50 EURO 72 I/S BLIND</td>
</tr>
<tr>
<td>5011-B99K60212</td>
<td>Aperio V3 E100 HF Premium 40-45 EURO 72 I/S Blind</td>
<td>JL2C25R-SS55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Union 2C25 Nightlatch Lockcase</td>
</tr>
<tr>
<td>5011-B99L60212</td>
<td>Aperio V3 E100 HF Premium 45-50 EURO 72 I/S Blind</td>
<td>JKUES4010SC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4010 single cylinder</td>
</tr>
</tbody>
</table>

**Special Tyco kits for the E100**

<table>
<thead>
<tr>
<th>Kit</th>
<th>Description</th>
<th>Kit contains:</th>
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</thead>
<tbody>
<tr>
<td>E100-KIT40-50</td>
<td>E100 Kit 40-50 single cut out includes lockcase and cylinder</td>
<td>E100-KIT40-50NC</td>
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<tr>
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<td></td>
<td>E100 40-50 no cut out includes lockcase No Cylinder</td>
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<tr>
<td>JL2C25R-SS55</td>
<td>Union 2C25 Nightlatch Lockcase</td>
<td>5001-198A-212</td>
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<tr>
<td>JKUES3510SC</td>
<td>3510 single cylinder</td>
<td>JL2C25R-SS55</td>
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<tr>
<td></td>
<td></td>
<td>APERIO V3 E100 HF KEYPAD 40-50 NOCYL</td>
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<td></td>
<td></td>
<td>Union 2C25 Nightlatch Lockcase</td>
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<tr>
<td>E100KP-KIT5-6NC</td>
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<td>E100 50-60 no cut out includes lockcase no cylinder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>APERIO V3 E100 HF KEYPAD 50-60 NOCYL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Union 2C25 Nightlatch Lockcase</td>
</tr>
</tbody>
</table>
Aperio C100 Euro Profile Cylinder

Compatible with Union 2c21 sashlock lockcase.

The external housing contains a sophisticated battery powered proximity reader that communicates wirelessly to a hub. The hub is then wired directly to the access control system and enables standard on line access control features at significantly reduced costs than that of a hard wired door.

Features:
- Wireless Online access control
- Authorisation changes in real time
- Audit trails and time zones managed through existing system
- Cylinder can store up to 10 override credentials
- Stores last 200 events and audit trails locally in the cylinder
- LED status indication
- Battery powered 40,000 operations
- Battery low warning sent to EAC system
- Available in Stainless Steel Knob

Applications
- Internal doors only
- Expand existing access control systems
- New access control installations
- Doors that cannot be hard wired
- Heritage listed buildings

Accessories/Individual parts
- Programming application tool
- Battery
- Knob Cover

Scope for delivery-Single
- 1 single knob cylinder with battery (Lithium CR2) and installation instructions
- Screws and fixing material

Scope for delivery-Double
- 1 double knob cylinder with battery (Lithium CR2) and installation instructions
- Screws and fixing material

Product description:
- Communication from hub via RS485 bus to the Online Access Control System (addressable) - access decision in the EAC system
- Compatible with all DIN mortice locks, suitable for locks on glass door wings and walls
- Main electronics (RFID + radio) in the outside knob - secure electronics inside cylinder core
- Freely rotating lock cam
- Possibility to store up to 10 emergency cards (only used in case of disconnection from the hub)
- LED for status visualisation

Suitable ASSA ABLOY products
- AH13 1-to-1 Standard Aperio® RS485 communication hub
- AH30 1-to-8 Standard Aperio® RS485 communication hub
- AH15 1-to-1 Standard Wiegand Aperio® Wiegand interface communication hub
- AH20 1-to-1 Advanced Wiegand Aperio® Wiegand interface communication hub
- AH40 Aperio® IP communication hub
## Technical Specifications

<table>
<thead>
<tr>
<th>Metal single and Double knob cylinder</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Approvals (CERTIFICATION=)</td>
<td>CE; fire door up to T90</td>
</tr>
<tr>
<td>Knob versions (VERSION=)</td>
<td>Fix or demountable knob versions with or without RFID-Reader</td>
</tr>
<tr>
<td>Knob dimensions</td>
<td>43 x 33 mm (L x Ø)</td>
</tr>
<tr>
<td>Knob surface</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Cylinder finish (FINISH=)</td>
<td>Brass cylinder with standard finish satin nickel-plated (NP)</td>
</tr>
<tr>
<td>Length A</td>
<td>Basic length 30 mm, extendable in 5 mm increments up to 60 mm</td>
</tr>
<tr>
<td>Fixing screw (SCREW LENGTH=)</td>
<td>60 or 85 mm</td>
</tr>
<tr>
<td>Battery</td>
<td>1 x Lithium CR2</td>
</tr>
<tr>
<td>Battery life</td>
<td>&gt; 40,000 cycles (for max. 3 years)</td>
</tr>
<tr>
<td>Radio standard</td>
<td>IEEE 802.15.4 (2.4 GHz)</td>
</tr>
<tr>
<td>Encryption (radio communication)</td>
<td>AES 128 bits</td>
</tr>
<tr>
<td>Distance between the RFID-Reader and hub</td>
<td>Typical range of 5 m or 25 m depending on the hub type and building environments</td>
</tr>
<tr>
<td>Class of protection</td>
<td>IP 55</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>0°C to 50°C</td>
</tr>
<tr>
<td>Status</td>
<td>LED (red/green/orange)</td>
</tr>
<tr>
<td>RFID Technology</td>
<td>iCLASS®/ISO 14443B; MIFARE™ classic; MIFARE™ plus; MIFARE™ DESFire™ EV1; EM410x</td>
</tr>
<tr>
<td>RFID reading</td>
<td>UID / Sektor / Block / Application / File</td>
</tr>
<tr>
<td>Scanning range</td>
<td>&lt; 4 cm</td>
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### Order Codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>50520190-0001</td>
<td>Aperio C100 V3 HF 30/30</td>
</tr>
<tr>
<td></td>
<td>Euro 60 mm Screw</td>
</tr>
<tr>
<td>50520190-1101</td>
<td>Aperio C100 V3 HF 35/35</td>
</tr>
<tr>
<td></td>
<td>Euro 60 mm Screw</td>
</tr>
<tr>
<td>50720190-0-01</td>
<td>Aperio C100 V3 HF 30/</td>
</tr>
<tr>
<td></td>
<td>Single Euro 60 mm Screw</td>
</tr>
<tr>
<td>50720190-1-01</td>
<td>Aperio C100 V3 HF 35/</td>
</tr>
<tr>
<td></td>
<td>Single Euro 60 mm Screw</td>
</tr>
</tbody>
</table>
Real-time communication to the access control system ensures easy management of access rights. Designed for standard 25 mm x 150 mm server lock cabinet door openings ideal for collocation data centers with multiple companies requiring access to equipment.

Designed for use on left or right hand doors with standard server cabinet “Swing-handle” design. The Aperio KS100 is simple to integrate because it works with both new and existing access control systems subject to the version of software and the hardware on site.

Order Code:
KS100-640-SE-EU Union sashlock case with mortice. Supplied in stainless steel finish

Features:
- The KS100 can store up to 10 emergency cards (only used in case of disconnection from the hub)
- Powered by PoE or external power supply
- Input for Door Position Sensor (for door status monitoring)
- LED for status visualisation (easily identify rack doors that are not secure)
- Mechanical override possibility (in case of emergency)
- Easy to integrate and install with your new or existing access control system (subject to the version of software and hardware on site)

Scope of delivery
- KS100
- Handle
- Mounting plate
- SFIC Cam
- Handling selector
- Cam (x3)
- Mounting screws
- DPS (Door Position Sensor Cable, 24 VDC Cable)

Suitable ASSA ABLOY products
- Suitable ASSA ABLOY products
- AH30 1-to-8 Standard Aperio® RS485 communication hub
- AH20 1-to-1 (Advanced) Wiegand Aperio® (Advanced) Wiegand interface communication hub
- AH40 1-to-16 IP AH40 Aperio® IP communication hub

Server cabinet electronic lock with RFID-Reader

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approvals</td>
<td>CE; FCC Part 15</td>
</tr>
<tr>
<td>Dimensions</td>
<td>222 x 42 x 33.5 mm (HxWxD)</td>
</tr>
<tr>
<td>Power supply</td>
<td>48VDC Power over Ethernet (PoE) 802.3af compliant oder 24VDC Power Supply</td>
</tr>
<tr>
<td>Wireless operating range</td>
<td>2.4 GHz, IEEE 802.15.4, using AES 128bit encryption</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>-10°C to 50°C</td>
</tr>
<tr>
<td>RFID Technology</td>
<td>iCLASS™/ISO ISO1443B; iCLASS™ SEOS, iCLASS™ SE, MIFARE™ classic, MIFARE™ plus, DESFire™ EV1, and NFC</td>
</tr>
</tbody>
</table>
L2C21 Euro Profile Mortice Sash Lock

Application
For timber doors hinged on the left or right. Also suitable for steel & composite doors - special fixings required.

Specification
- Modular case range
- European style casing with 72 mm centres which accommodates most euro profile cylinders
- Double throw - 20 mm deadbolt throw when key is turned twice
- Easily reversible latch bolt
- Pierced to accept bolt through furniture and security rose
- Suitable for unsprung lever furniture up to a maximum weight of 0.75 kg
- Easily reversible stainless steel latch bolt
- Available with radiused or square forend and strike
- Case Size: 83 mm
- Backset: 55 mm
- Case: Steel, black powder coat
- Outer Forend: See finishes below
- Striking Plate: Finished to match outer forend
- Deadbolt: Stainless steel
- Latch Bolt: Stainless steel
- Follower: Zinc, 8 mm
- Rebate Kit: J2C2-REB (13 & 25 mm sizes)
- Cylinder Type: Euro profile (not supplied)
- Available in SS finish as standard
- Available in PS and PB finishes upon request

Finish
- SS - Stainless Steel
- PS - Polished Stainless Steel
- PB - Polished Brass finish

Standards
Tested to BS EN 12209 : 2003 3 M 4 1 0 F 2 B A 2 0
EN 1634-1 assessed for use on 60 minutes timber fire doors
EC Certificate number: 0832-CPD-6045
Assists in fulfilling duties required under the Equality Act (EA)
Satisfies recommendations of BS8300 and Approved Document M (ADM))

Order Code:
AP-JL2C21R-SS55 Union sashlock case with mortice. Supplied in stainless steel finish
L2C25 Euro Profile Deadlocking Mortice Night Latch

Application

For timber doors hinged on the left or right. Also suitable for steel & composite doors - special fixings required.

Specification

- Modular case range
- European style casing with 72 mm centres which accommodates most euro profile cylinders
- Key operation from outside of the door and single handle operation from inside
- Pierced to accept bolt through furniture and security rose
- Latch bolt is automatically locked against end pressure by the anti-thrust bolt
- Suitable for unsprung lever furniture up to a maximum weight of 0.75 kg
- Easily reversible stainless steel latch bolt
- Available with radiused or square forend and strike
- Case Size: 83 mm
- Backset: 55 mm
- Case: Steel, black powder coat
- Outer Forend: See finishes below
- Striking Plate: Finished to match outer forend
- Deadbolt: n/a
- Latch Bolt: Stainless steel
- Follower: n/a
- Cylinder Type: Euro profile (not supplied)
- Available in SS finish as standard
- Also available in PS and PB finishes upon request

Finish

- SS - Stainless Steel
- PS - Polished Stainless Steel
- PB - Polished Brass finish

Standards

Tested to BS EN 12209 : 2003
3 M 4 1 0 F 1 B B 2 0
EN 1634-1 assessed for use on 60 minute timber fire doors
EC Certificate number: 0832-CPD-6046
Assists in fulfilling duties required under the Equality Act (EA)
Satisfies recommendations of BS8300 and Approved Document M (ADM)

Order Code:
AP-JL2C25R-SS55 Union deadlocking nightlatch case
Aperio Locking Accessories

KUED / KUOD KeyULTRA Double Cylinder Euro or Oval

Application

KeyULTRA has a long patent providing peace of mind that cylinder keys cannot be copied. KeyULTRA benefits from DuraPIN patented key cutting, bump resistant technology, together with anti-drill and anti-pick features.

Specification

- Key operated to lock or unlock
- Patented until 2028 (GB2453625 and GB2453624)
- Suitable for fire doors
- Bump resistant pin technology
- Drill resistant
- Plug extraction resistant
- Chisel and twist resistant - when used with appropriate security escutcheon
- Pick resistant: Paracentric keyway Mushroom drivers Antipick notches in the differ pins
- Wear resistance: Nickel silver differ pins
- Extensive master keying capability - available key differs in excess of half a million
- Supplied with 2 oversized solid nickel silver keys as standard
- Extra keys available upon request
- Manufactured in UK

Finish

- SC - Satin Chrome
- PL - Polished Brass

Standards

Cycle tested to 500,000 cycles
BS EN 1303:2005
1 6 0 1 0 C 6 2*
*When used with appropriate security escutcheon
EN 1634-1 assessed for use on 60 minutes timber fire doors

Order Codes:

AP-J-KUES3510SC  Union single cylinder 35 mm (UK) in satin chrome finish
AP-J-KUES4010SC  Union single cylinder 40 mm (UK) in satin chrome finish
1000RRS01 Tubular Stainless Steel Door Handle

Application

- For wooden doors between 32-50 mm thick
- 19 mm diameter handle
- Sprung
- Supplied with bolt-through fixings
- Concealed fixings
- Non-handed

Specification

- Manufactured from Grade 304 stainless steel
- Handle Length: 140 mm
- Handle Projection: 55 mm
- Rose Diameter: 54 mm
- Rose Projection: 8 mm
- Please refer to separate page for accessories
- Supplied with push-on rose as standard
- Available with screw-on rose upon request

Finish

- SS - Satin Stainless Steel

Standards

BS EN 1634 Part 1: 2000 assessed for use on 60 minute timber fire doors
Assists in fulfilling duties required under the Equality Act (EA)
Satisfies recommendations of BS8300 and Approved Document M (ADM) - subject to use on a contrasting background
Cycle tested to 200,000 cycles
Corrosion testing - 480 hours - EN 1670 Grade 4

Order Code:
AP-J-1000RRS01SS  Union lever handle in stainless steel finish
1000EE Euro Profile Escutcheon

Application
- Suitable for use with euro profile locks
- Concealed fixings
- Sold as singles

Specification
- Manufactured from Grade 304 steel
- Diameter: 54 mm
- Projection: 8 mm

Finish
- SS - Satin Stainless Steel

Standards
BS EN 1634 Part 1 : 2000 assessed for use on 60 minute timber fire doors

Order Code:
J-1000EESS Union Escutcheon Ring (Single) stainless steel finish
Software House

This chapter contains information about C·Cure 9000 Software House Range

- Introduction
- C·Cure 9000 Software
- C·Cure 9000 Migration Utility
- C·Cure Software Support Agreements
- C·Cure 9000 Software Enhancements
- System Redundancy
- C·Cure 9000 Site Server
- Door Controllers & Power Centres - EMEA only
- Door Controllers
- Personality Modules and I/O Devices
Deep at its C•CURE roots, C•CURE 9000 is about protecting people and assets. Breaking through the long-standing perception of security as simply a deterrent to criminal activity, C•CURE 9000 provides the standard IT tools and innovative distributed architecture that will elevate the security system as an important enabler to your business' success. It brings data management to a completely new level, where dynamic views let you decide what data you want to see and how you want to see it.

C•CURE 9000 is available as a software-only product, in a bundled package with a Dell PC, or, it is available pre-loaded on the C•CURE 9000 SiteServer.

From Entry Level to Enterprise Level
Through its access control software and hardware lines, Software House provides customers with complete, real-time control over their security systems whether large or small. All new business opportunities for Software House product starwill be addressed by the scalable C•CURE 9000 security management platform which allows users to meet security needs from entry to enterprise level. Installations range from simple door control to enterprise integrations with thousands of doors spanning many geographical areas around the world. Software House offers a complete solution, providing products that increase efficiency and fit any budget while maintaining the same high standards for performance, quality and security.

Seamless Integration
With an open architecture and unsurpassed integration platform, Software House C•CURE solutions allows customers to integrate seamlessly with critical security and business applications giving users full control through a single user interface. Whether your business calls for highly elaborate integration between multiple systems, or a simple connection between an alarm and a camera, Software House delivers the right systems and the right level of integration. C•CURE can be integrated a variety of third-party products from video and intercom to intrusion and fire detection. Software House continues its commitment to expanding these products and services to meet the diverse and growing needs of its customers.
C•CURE 9000 Security and Event Management System

Features:

• Area Control and Occupancy Management allow you to enforce global anti-passback, define occupancy restrictions and lock down procedures in sensitive or classified areas
• Intrusion Zones and Keypad Commands provide additional verification requirements and duress triggers
• Dynamic Views and Editable Maps serve up critical information in a customizable way, all while allowing you to find, manage, and acknowledge significant incidents on user-defined floor plans
• Intuitive Badging and Smart Card Enrollment
• Richer integration with victor Unifying Client improved – access, video, and intrusion Administer and monitor C•CURE 9000 remotely with C•CURE Go mobile app
• Advanced Door Monitoring for up to 14 inputs (i.e. bond sensor, fire alarm lock release, etc.)
• Guard Tour capability allows security personnel to patrol predetermined checkpoints within a time frame, or by event or email notification
• Assign role-based privileges through groups to save time
• Validate user name and password with email authentication
• Enable enterprise scalability and independent location control
• With C•CURE 9000 distributed architecture
• Full database synchronized across all servers
• Track consolidated data efficiently with global journal, audit, and configuration reporting Assign application layouts to specific events
• Supports extended card numbers addressing the U.S. Government’s HSPD-12 and its requirement for multi-field Cardholder Unique Identifiers (CHUID)
• Supports TWIC (Transportation Worker Identification Credential) to protect secure areas of U.S. maritime transportation systems

Powerful and Flexible Security Management

C•CURE 9000 is one of the industry’s most powerful and flexible security management systems. Monitor events, manage personnel, create reports, display dynamic views, and monitor system activity anywhere in the world directly from your PC using the full C•CURE client, the web client, or on the move with C•CURE Go mobile app.

Information and Event Management at its Best

Describing C•CURE 9000 as an access control system is an enormous understatement. The way in which you are able to manage credentials and privileges is what sets C•CURE 9000 apart.

Unified Access Control and Video Experience

As an option, you can take a holistic video perspective of managing access control, video, and intrusion with a deeply embedded victor unifying client. This flexibility, coupled with the system’s powerful distributed architecture, makes C•CURE 9000 the leader in providing solutions to some of the most complex security challenges in mid to large enterprise applications.
Mastering Scalability for Enterprise Implementations

C•CURE 9000 provides an advanced distributed architecture for a robust enterprise solution that supports master and satellite application servers. Corporate security personnel and IT managers receive central control over the entire system, while each local facility maintains control of its individual operation. Whether your organization consists of a few facilities that are locally dispersed or many that span the globe, this solution scales as your company grows.

Industry’s Most Robust Integrations

C•CURE 9000 brings you myriad integrated solutions including video, intrusion, intercom, fire alarm management, PSIMs and more. The integrations are thoroughly tested and delivered to you through the intuitive C•CURE 9000 interface.

Enterprise Architecture

The C•CURE 9000 Enterprise architecture supports one master application server (MAS) and up to 20 satellite application servers (SAS) for enterprise scalability. Each SAS may be positioned close to its relevant field hardware – limiting traffic to the MAS and optimising performance. Each facility maintains a local SQL database which is synchronized with the MAS for global control and reporting.

The MAS distributes these changes globally from each independent SAS, which ensures all servers are equipped and operating with up-to-date information.

By connecting a SAS to the LAN with local access control hardware, alarm monitoring and badging workstations, local performance is optimized versus the latency you may experience from the WAN. Local performance is further optimized since the MAS performs all global reporting across all SASs, thus allowing each SAS to allocate its resources solely to important access control functions.

Independent Control

Each SAS communicates directly with the MAS but is not dependent on the MAS for access control. Each satellite system administrator has total control over all access control field hardware and system information related to his/her respective location. This gives regional system administrators autonomous control over their individual regions independent of the MAS and corporate WAN.

Central Alarm Monitoring and Management

C•CURE 9000 Enterprise allows you to simultaneously monitor alarms from multiple locations at one convenient workstation. Viewing all data across all SASs gives you a full view of your entire operation. Monitoring of alarms from multiple sites means operators may rotate the responsibility whether from different buildings at a campus to different locations across the globe.

Global Reporting

With C•CURE 9000 Enterprise’s global reporting functionality, you can retrieve personnel, configuration, hardware, journal, audit and more data from all facilities within the organization. This saves valuable time searching for data and compiling critical reports since all global information is replicated on the MAS.
# C•CURE 9000 Standalone and Enterprise System Capacities

<table>
<thead>
<tr>
<th>C•CURE 9000 MAS Values (Default/Maximum)¹</th>
<th>M¹</th>
<th>M²</th>
<th>M³</th>
<th>M⁴</th>
<th>M⁵</th>
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<tbody>
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<td>10,000</td>
<td>25,000</td>
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<td>250,000</td>
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<td>5/100</td>
<td>5/100</td>
<td>10/100</td>
<td>10/100</td>
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<tr>
<td># of Badging Clients</td>
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<td>1/100</td>
<td>1/100</td>
<td>2/100</td>
<td>2/100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C•CURE 9000 Standalone and SAS Values (Default/Maximum)⁴</th>
<th>Series L⁵</th>
<th>Series M⁵</th>
<th>Series N⁵</th>
<th>Series p⁶</th>
<th>Series q⁶</th>
<th>Series r Plus⁶</th>
<th>Series S⁶</th>
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</thead>
<tbody>
<tr>
<td># of Online Readers</td>
<td>16</td>
<td>32</td>
<td>64</td>
<td>128</td>
<td>256</td>
<td>1,000</td>
<td>2,500</td>
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<td># of Online Inputs</td>
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<td>1,000</td>
<td>5,000/10,000</td>
<td>5,000/10,000</td>
<td>7,500/10,000</td>
<td>10,000</td>
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<td># of Online Outputs</td>
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<td>1,000</td>
<td>1,000</td>
<td>5,000/10,000</td>
<td>5,000/10,000</td>
<td>5,000/10,000</td>
<td>10,000</td>
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<td># of Enabled Local Personnel Records</td>
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<td>40,000</td>
<td>250,000</td>
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<td>250,000</td>
<td>500,000</td>
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<td>10/30</td>
<td>10/30</td>
<td>10/30</td>
<td>20/256</td>
<td>40/256</td>
<td>80/256</td>
<td>100/256</td>
</tr>
<tr>
<td># of Badging Clients</td>
<td>1/30</td>
<td>1/30</td>
<td>1/30</td>
<td>2/256</td>
<td>3/256</td>
<td>5/256</td>
<td>10/256</td>
</tr>
</tbody>
</table>

(1) Additional clients and badging clients may be added to a system license. Simultaneous client connections are tabulated by C•CURE 9000 Administration, Alarm Monitoring, and Web Client connections. C•CURE 9000 is designed for unlimited expansion. The 100 is a design capability while the tested limit is 10. System performance will vary depending upon specific hardware configuration including number of communication lines/ports, download/upload frequency, etc.

(2) Global personnel records are the maximum supported as an aggregate across the total number of SAS servers.

(3) Client License – Single monitoring station application, administration application or web client application.

(4) Additional simultaneous clients, badging clients, inputs/outputs may be purchased separately. Simultaneous client connections are tabulated by C•CURE 9000 Administration, Alarm Monitoring, and Web Client connections. C•CURE 9000 is designed for unlimited expansion. The 256 is a design capability while the tested limit is 100. System performance will vary depending upon specific hardware configuration including number of communication lines/ports, download/upload frequency, etc.

(5) The baseline capabilities of the system are within the envelope of operation for utilization of SQL Express.

(6) (SQL and SQL Express): A SQL Express license is shipped with every system software DVD package. Series P through S require a full SQL Server 2008 R2 Standard and Enterprise (32- and 64-bit) license which may be purchased separately.
### C•CURE 9000 Client Workstation

**Recommended Hardware and Software**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel Core i5-3470 (6 MB, 3.2 GHz or greater)</td>
</tr>
<tr>
<td>Hard Disk Drive</td>
<td>500 GB or greater</td>
</tr>
<tr>
<td>Drive Speed</td>
<td>7,200 RPM or greater</td>
</tr>
<tr>
<td>Memory</td>
<td>4 GB on 32-bit OS; 8 GB on 64-bit OS dedicated to C•CURE 9000</td>
</tr>
<tr>
<td>Network Adapter Card</td>
<td>Integrated Gigabit Network Port</td>
</tr>
<tr>
<td>DVD Drive</td>
<td>Recommended</td>
</tr>
<tr>
<td>Video Card</td>
<td>1 GB NVIDIA Quadro 600</td>
</tr>
<tr>
<td>Operating System (Recommended)</td>
<td>Windows 7 SP1 or later Professional and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2012 Standard and Windows Server 2012 R2 Standard (64-bit)</td>
</tr>
<tr>
<td>Operating System (Supported)</td>
<td>Windows 8.1 Professional and Enterprise (32- and 64-bit) Windows 7 SP1 or</td>
</tr>
<tr>
<td></td>
<td>later Professional and Enterprise (32- and 64-bit) Windows Server 2012</td>
</tr>
<tr>
<td></td>
<td>R2 SP1 or later Standard and Enterprise (64-bit)</td>
</tr>
</tbody>
</table>

### C•CURE 9000 Standalone Server Series L, M, N

**Recommended Hardware and Software**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® 3rd Generation Core i7-3770 or greater (8 MB, 3.4 GHz or greater)</td>
</tr>
<tr>
<td>Hard Disk Drive</td>
<td>Dual drives: primary drive = 250 GB (9000 Runtime); secondary drive =</td>
</tr>
<tr>
<td></td>
<td>250 GB (data backups)</td>
</tr>
<tr>
<td>Drive Speed</td>
<td>7,200 RPM or greater</td>
</tr>
<tr>
<td>Memory</td>
<td>4 GB on 32-bit OS; 8 GB on 64-bit OS dedicated to C•CURE 9000</td>
</tr>
<tr>
<td>Network Adapter Card</td>
<td>Integrated Gigabit Network Port</td>
</tr>
<tr>
<td>DVD Drive</td>
<td>Recommended</td>
</tr>
<tr>
<td>Video Card</td>
<td>Integrated Video Subsystem (dedicated video accelerator recommended when used</td>
</tr>
<tr>
<td></td>
<td>as a client workstation)</td>
</tr>
<tr>
<td>Database (English only)</td>
<td>SQL Server 2012 SP1 or later Express (32- and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2012 SP1 or later Standard and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2008 R2 Express (32- and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2008 R2 Standard and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td>Operating System (Recommended)</td>
<td>Windows 7 SP1 or later Professional and Enterprise (32- and 64-bit) Windows</td>
</tr>
<tr>
<td></td>
<td>7 SP1 or later Professional and Enterprise (32- and 64-bit) Windows Server</td>
</tr>
<tr>
<td></td>
<td>2012 Standard and Windows Server 2012 R2 Standard (64-bit)</td>
</tr>
<tr>
<td>Operating System (Supported)</td>
<td>Windows 8.1 Professional and Enterprise (32- and 64-bit) Windows 7 SP1 or</td>
</tr>
<tr>
<td></td>
<td>later Professional and Enterprise (32- and 64-bit) Windows Server 2012</td>
</tr>
<tr>
<td></td>
<td>R2 Standard and Enterprise (64-bit)</td>
</tr>
<tr>
<td>Web Server</td>
<td>IIS v6.0 or higher for C•CURE 9000 Web Client, C•CURE Go, victor Web Service,</td>
</tr>
<tr>
<td></td>
<td>and C•CURE Mobile</td>
</tr>
</tbody>
</table>
## C•Cure 9000

### C•Cure 9000 Standalone Server Series P, Q, R, R+, S and SAS Server Series L, M, N

**Recommended Hardware and Software**

<table>
<thead>
<tr>
<th></th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel Xeon Quad-Core E3-1240 (3.3 GHz or greater)</td>
</tr>
<tr>
<td><strong>Hard Disk Drive</strong></td>
<td>Dual drives: primary drive = 300 GB (9000 Runtime) secondary drive = 300 GB (data backups)</td>
</tr>
<tr>
<td><strong>Drive Speed</strong></td>
<td>15,000 RPM or greater</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>16 GB dedicated to C•CURE 9000</td>
</tr>
<tr>
<td><strong>Network Adapter Card</strong></td>
<td>Intel Gigabit ET Quad Port Adapter, Gigabit Ethernet NIC, PCIe x4</td>
</tr>
<tr>
<td><strong>DVD Drive</strong></td>
<td>Recommended</td>
</tr>
<tr>
<td><strong>Video Card</strong></td>
<td>Integrated video subsystem (dedicated video accelerator recommended when used as a client workstation)</td>
</tr>
<tr>
<td><strong>Database (English only)</strong></td>
<td>SQL Server 2012 SP1 or later Standard and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2008 R2 Standard and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td><strong>Operating System</strong></td>
<td>Windows 8.1 Professional and Enterprise (32-bit and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>Windows 7 SP1 or later Professional and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td><strong>Web Server</strong></td>
<td>IIS v6.0 or higher for C•CURE 9000 Web Client, C•CURE Go, victor Web Service, and C•CURE Mobile</td>
</tr>
</tbody>
</table>

### C•Cure 9000 SAS Server Series P, Q, R, R+, S and MAS Server Series P-S

**Recommended Hardware and Software**

<table>
<thead>
<tr>
<th></th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel Xeon Quad-Core E5-2450 (2.1 GHz or greater)</td>
</tr>
<tr>
<td><strong>Hard Disk Drives</strong></td>
<td>Dual drives: primary drive = 600 GB (9000 Runtime) secondary drive = 600 GB (data backups)</td>
</tr>
<tr>
<td><strong>Drive Speed</strong></td>
<td>15,000 RPM or greater</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>16 GB dedicated to C•CURE 9000</td>
</tr>
<tr>
<td><strong>Network Adapter Card</strong></td>
<td>Intel Gigabit ET Quad Port Adapter, Gigabit Ethernet NIC, PCIe x4</td>
</tr>
<tr>
<td><strong>DVD Drive</strong></td>
<td>Recommended</td>
</tr>
<tr>
<td><strong>Video Card</strong></td>
<td>Integrated Video Subsystem</td>
</tr>
<tr>
<td><strong>SAS Series P-S Database (English only)</strong></td>
<td>SQL Server 2012 SP1 or later Standard and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2008 R2 Standard and Enterprise (32- and 64-bit)</td>
</tr>
<tr>
<td><strong>MAS Database (English only)</strong></td>
<td>SQL Server 2012 SP1 or later Standard and Enterprise (64-bit)</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2008 R2 Standard and Enterprise (64-bit)</td>
</tr>
<tr>
<td><strong>Operating System</strong></td>
<td>Windows Server 2012 Standard and Windows Server 2012 R2 Standard (64-bit)</td>
</tr>
<tr>
<td><strong>SAS Series P-S (Recommended)</strong></td>
<td>Windows Server 2012 Standard and Windows Server 2012 R2 Standard (64-bit)</td>
</tr>
<tr>
<td><strong>Operating System MAS</strong></td>
<td>Windows Server 2012 Standard and Windows Server 2012 R2 Standard (64-bit)</td>
</tr>
<tr>
<td><strong>Web Server</strong></td>
<td>IIS v6.0 or higher for C•CURE 9000 Web Client, victor Web Service, and C•CURE Mobile</td>
</tr>
</tbody>
</table>
Technical Specifications:

Maximum Concurrent SAS per MAS
20

Authentication
Windows Authentication on Domain and Trusted Domain

Supported Languages
Arabic, Brazilian Portuguese, Czech, Danish, Dutch, English, French, German, Hungarian, Italian, Japanese, Korean, Polish, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese and Turkish

6) For multiple screen display or other display applications, additional video cards required.
(7) Languages supported with English OS with language pack, not native OS.

Note: For latest supported Service Pack for OS/DB, please consult the C•CURE 9000 version specific release notes.
Full Database Synchronized across All Servers
The following pricing includes C•CURE 9000 license only. The following DOES NOT include any physical DVD media. If physical DVD media is desired with or without a license, the CC9000-KIT or the CC9000-KIT-SQL may be ordered separately from the C•CURE 9000 Software Application DVD Only section.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC9000-SL</td>
<td>C•CURE 9000 Series L System License Only</td>
</tr>
<tr>
<td></td>
<td>16 readers, 7,000 cardholders (DVD Sold Separately)</td>
</tr>
<tr>
<td>CC9000-SM</td>
<td>C•CURE 9000 Series M System License Only</td>
</tr>
<tr>
<td></td>
<td>32 readers, 12,000 cardholders (DVD Sold Separately)</td>
</tr>
<tr>
<td>CC9000-SN</td>
<td>C•CURE 9000 Series N System License Only</td>
</tr>
<tr>
<td></td>
<td>64 readers, 40,000 cardholders (DVD Sold Separately)</td>
</tr>
<tr>
<td>CC9000-SP</td>
<td>C•CURE 9000 Series P System License Only</td>
</tr>
<tr>
<td></td>
<td>128 readers, 45,000 cardholders (DVD Sold Separately)</td>
</tr>
<tr>
<td>CC9000-SQ</td>
<td>C•CURE 9000 Series Q System License Only</td>
</tr>
<tr>
<td></td>
<td>256 readers, 250,000 cardholders (DVD Sold Separately)</td>
</tr>
<tr>
<td>CC9000-SR</td>
<td>C•CURE 9000 Series R System License Only</td>
</tr>
<tr>
<td></td>
<td>512 readers, 250,000 cardholders (DVD Sold Separately)</td>
</tr>
<tr>
<td>CC9000-SRP</td>
<td>C•CURE 9000 Series R Plus System License Only</td>
</tr>
<tr>
<td></td>
<td>1,000 readers, 250,000 cardholders (DVD Sold Separately)</td>
</tr>
<tr>
<td>CC9000-SS</td>
<td>C•CURE 9000 Series S System License Only</td>
</tr>
<tr>
<td></td>
<td>2,500 readers, 500,000 cardholders (DVD Sold Separately)</td>
</tr>
</tbody>
</table>

C•CURE 9000 Software Application DVD Only
Pricing includes C•CURE 9000 Software with Microsoft SQL Express only. C•CURE 9000 licensing sold separately. Pricing does not include processor license for Microsoft SQL 2008 Server R2 Standard Edition which is required for larger systems (Series P through S). Pricing with SQL Server 2008 R2 Standard may be found in a following section.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC9000-KIT</td>
<td>C•CURE 9000 Software DVD, Quick Start Guide and Box Includes Microsoft 2008 SQL Express (C•CURE 9000 License Sold Separately)</td>
</tr>
</tbody>
</table>
C•CURE 9000 Software Application DVD with Microsoft SQL Server 2008 R2 Standard Edition DVD

C•CURE 9000 Series P through S requires a minimum of SQL Server 2008 R2 Standard Edition Database. The part number below include an embedded runtime processor license of SQL Server 2008, Standard Edition, which is for use solely with C•CURE 9000 and permits connections to an unlimited number of clients (no additional SQL CALs required). The processor license is valid for one physical processor, with one or more cores therefore redundant solutions require two copies.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC9000-KIT-SQL</td>
<td>C•CURE 9000 Software DVD, Quick Start Guide and Box and Microsoft SQL Server 2008 R2 Standard Edition Single Processor License (C•CURE 9000 License Sold Separately)</td>
</tr>
</tbody>
</table>

**Note:**
- Restricted for use with C•CURE 9000 & victor Only
- If Microsoft Clustering is being deployed, Enterprise license(s) of SQL Server 2008 may be required and should be procured directly from Microsoft or one of their approved vendors.

**Upgrades Application Licensing Only**

Note: All Software Series upgrades must include system serial number, host ID, email address to send license file, and contact name at time of order. To upgrade more than one series, add the series together and order multiple upgrades at the same time.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC9000-L-MSU</td>
<td>Upgrade Series L System License to Series M Includes new C•CURE 9000 license only</td>
</tr>
<tr>
<td>CC9000-M-NSU</td>
<td>Upgrade Series M System License to Series N Includes new C•CURE 9000 license only</td>
</tr>
<tr>
<td>CC9000-N-PSU</td>
<td>Upgrade Series N System License to Series P Includes new C•CURE 9000 license only</td>
</tr>
<tr>
<td>CC9000-P-QSU</td>
<td>Upgrade Series P System License to Series Q Includes new C•CURE 9000 license only</td>
</tr>
<tr>
<td>CC9000-Q-RSU</td>
<td>Upgrade Series Q System License to Series R Includes new C•CURE 9000 license only</td>
</tr>
<tr>
<td>CC9000-R-RPSU</td>
<td>Upgrade Series R System License to Series R Plus Includes new C•CURE 9000 license only</td>
</tr>
<tr>
<td>CC9000-RP-SSU</td>
<td>Upgrade Series R Plus System License to Series S Includes new C•CURE 9000 license only</td>
</tr>
</tbody>
</table>
C·CURE® 9000 Migration Utility

The migration utility facilitates the migration of both existing iSecure Pro and C•CURE 800/8000 systems to C•CURE 9000. C•CURE 800/8000 to C•CURE 9000 migration involves taking an existing and functional C•CURE 800/8000 database at version 9.4 or higher and converting it to C•CURE 9000 version 2.01.

The migration strategy utilises the features of the Import/Export of C•CURE 9000. The Import/Export allows the user to select the portions of the migrating system required to move to the C•CURE 9000 database.

The data must be exported from the migrating database into an XML format and imported into an empty C•CURE 9000 using the import/export facility. Records exported and converted from C•CURE 800/8000 and created in C•CURE 9000 will consist of the following:

<table>
<thead>
<tr>
<th>C•CURE 800/8000 Terminology</th>
<th>C•CURE 9000 Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timespecs</td>
<td>Schedules</td>
</tr>
<tr>
<td>iSTAR Clusters (and all associated modules and boards)</td>
<td>iSTAR Clusters</td>
</tr>
<tr>
<td>iSTAR Controllers</td>
<td>iSTAR Controllers</td>
</tr>
<tr>
<td>Inputs</td>
<td>iSTAR Inputs</td>
</tr>
<tr>
<td>Outputs</td>
<td>Outputs</td>
</tr>
<tr>
<td>Readers</td>
<td>iSTAR Readers</td>
</tr>
<tr>
<td>Doors</td>
<td>iSTAR Doors</td>
</tr>
<tr>
<td>Groups</td>
<td>Door Groups</td>
</tr>
<tr>
<td>Area Groups</td>
<td></td>
</tr>
<tr>
<td>Door Groups</td>
<td></td>
</tr>
<tr>
<td>Elevator Groups</td>
<td></td>
</tr>
<tr>
<td>Event Groups</td>
<td></td>
</tr>
<tr>
<td>Floor Groups</td>
<td></td>
</tr>
<tr>
<td>Input Groups</td>
<td></td>
</tr>
<tr>
<td>Output Groups</td>
<td></td>
</tr>
<tr>
<td>Personnel Groups</td>
<td></td>
</tr>
<tr>
<td>Reader Groups</td>
<td></td>
</tr>
<tr>
<td>Floors</td>
<td>Floors</td>
</tr>
<tr>
<td>Areas</td>
<td>Elevators</td>
</tr>
<tr>
<td>Areas</td>
<td>iSTAR Areas</td>
</tr>
</tbody>
</table>
## C•CURE 800/8000 Terminology vs. C•CURE 9000 Terminology

<table>
<thead>
<tr>
<th>C•CURE 800/8000 Terminology</th>
<th>C•CURE 9000 Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrusion Zones</td>
<td>iSTAR Intrusion Zones</td>
</tr>
<tr>
<td>Clearances (including clearance items)</td>
<td>Clearances</td>
</tr>
<tr>
<td>Person Type</td>
<td>Person Type</td>
</tr>
<tr>
<td>Personnel Including:</td>
<td>Personnel including:</td>
</tr>
<tr>
<td>Cards</td>
<td>Credentials</td>
</tr>
<tr>
<td>Person/Clearance Pairing</td>
<td>Person/Clearance Pairing</td>
</tr>
<tr>
<td>Images (optional)</td>
<td>Images</td>
</tr>
<tr>
<td>Signatures (optional)</td>
<td>Signatures</td>
</tr>
<tr>
<td>Badge Layout Names (optional)</td>
<td>Badge Layout Names</td>
</tr>
<tr>
<td>Actions</td>
<td>Action Items (either in Event Action tab or rows on Hardware Triggers tabs)</td>
</tr>
<tr>
<td>Events</td>
<td>Events</td>
</tr>
<tr>
<td>Keypad Commands</td>
<td>Keypad Commands</td>
</tr>
<tr>
<td>Elevator Outputs</td>
<td>Buttons</td>
</tr>
<tr>
<td>IO Linkages (Door Forced, etc.)</td>
<td>Event or Trigger (Action Item)</td>
</tr>
<tr>
<td>Partitions</td>
<td>Partitions</td>
</tr>
<tr>
<td>CCURE.INI (Diag System) Entries</td>
<td>System Variables</td>
</tr>
<tr>
<td>System Variables</td>
<td>System Variables</td>
</tr>
</tbody>
</table>

**Records not exported automatically from C•CURE 800/8000 to C•CURE 9000 will consist of the following:**

<table>
<thead>
<tr>
<th>C•CURE 800/8000</th>
<th>C•CURE 9000 Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies</td>
<td>Policies</td>
</tr>
<tr>
<td>Historical Logs</td>
<td>Historical Logs</td>
</tr>
<tr>
<td>Users and Privileges</td>
<td>Operators and Privileges</td>
</tr>
<tr>
<td>Video (including cameras, protocols, switchers, CCTV)</td>
<td>Video (including cameras, protocols, switchers, CCTV)</td>
</tr>
<tr>
<td>ASCII/Bidirectional</td>
<td>ASCII/Bidirectional</td>
</tr>
<tr>
<td>Reports</td>
<td>Reports</td>
</tr>
<tr>
<td>Holidays</td>
<td>Holidays</td>
</tr>
<tr>
<td>Maps</td>
<td>Maps</td>
</tr>
</tbody>
</table>
Usage of the migration utility on live installations is a licensable option to each C•CURE 800/8000 licensed site. The license cost of the option varies with the size of the target C•CURE 9000 installation.

Professional services are required when ordering the migration license!

Software House have available a Structured Professional Service program to assist with each CCure 800 to 9000 migration. Depending on the C•CURE 9000 Model number Software House defined the minimum of Professional Service days required for each integration.

This Professional service intervention covers verification of site survey findings, setup & use of the migration tool and starting to re-key items not covered by the migration tool. If extra days are required, they may be purchased at normal rates for Professional Services.

We are recommending that for each migration a pre-sale visit to site to survey the system and estimate the time to fully migrate to C•CURE 9000 occurs. The visit can be managed by either pre-sales or post-sales, depending on region and can last up to one full day & is normally free of charge although travel & expenses costs may be re-charged.

C•CURE 9000 with Migration Utility Software, with Microsoft SQL Express only

Included in this package is the C•CURE 9000 software DVD with standard 1 year SSA and the C•CURE 800 to C•CURE 9000 migration tool software DVD. Orders of this item do require an existing C•CURE 800 system serial number with active SSA to get special net price

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC9000-MTL</td>
<td>Migration of a single C•CURE 800 Model 1 to a single C•CURE 9000 Series L (Migration Tool DVD and C•CURE 9000 Series L DVD and license Included)</td>
</tr>
<tr>
<td>CC9000-MTM</td>
<td>Migration of a single C•CURE 800 Model 1 to a single C•CURE 9000 Series M (Migration Tool DVD and C•CURE 9000 Series M DVD and license Included)</td>
</tr>
<tr>
<td>CC9000-MTN</td>
<td>Migration of a single C•CURE 800 Model 5 to a single C•CURE 9000 Series N (Migration Tool DVD and C•CURE 9000 Series N DVD and license Included)</td>
</tr>
<tr>
<td>CC9000-MTP</td>
<td>Migration of a single C•CURE 800 Model 10 to a single C•CURE 9000 Series P (Migration Tool DVD and C•CURE 9000 Series P DVD and license Included)</td>
</tr>
<tr>
<td>CC9000-MTQ</td>
<td>Migration of a single C•CURE 800 Model 20 to a single C•CURE 9000 Series Q (Migration Tool DVD and C•CURE 9000 Series Q DVD and license Included)</td>
</tr>
<tr>
<td>CC9000-MTR</td>
<td>Migration of a single C•CURE 800 Model 30 to a single C•CURE 9000 Series R (Migration Tool DVD and C•CURE 9000 Series R DVD and license Included)</td>
</tr>
<tr>
<td>CC9000-MTRP</td>
<td>Migration of a single C•CURE 800 Model 40 to a single C•CURE 9000 Series R+ (Migration Tool DVD and C•CURE 9000 Series R+ DVD and license Included)</td>
</tr>
<tr>
<td>CC9000-MTS</td>
<td>Migration of a single C•CURE 8000 to a single C•CURE 9000 Series S (Migration Tool DVD and C•CURE 9000 Series S DVD and license Included)</td>
</tr>
</tbody>
</table>
C•CURE 9000 with Migration Utility Software and Full Microsoft SQL Server 2008 R2 Standard Edition

C•CURE 9000 Series P through S requires a minimum of SQL Server 2008 R2 Standard Edition Database. If SQL Server 2008 R2 is required then order it separately with the part number CC9000-KIT-SQL. The part number below include an embedded runtime processor license of SQL Server 2008 R2, Standard Edition, which is for use solely with C•CURE 9000 and permits connections to an unlimited number of clients (no additional SQL CALs required). The processor license is valid for one physical processor, with one or more cores.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
</table>
| CC9000-KIT-SQL | C•CURE 9000 Software DVD, Quick Start Guide and Box and Microsoft SQL Server 2008 R2 Standard Edition Single Processor License  
|               | C•CURE 9000 License Sold Separately                                          |

C•CURE 9000 with Migration Utility Software and Full Microsoft SQL Server 2008 R2 Standard Edition

C•CURE 9000 Series P through S requires a minimum of SQL Server 2008 R2 Standard Edition Database. If SQL Server 2008 R2 is required then order it separately with the part number CC9000-KIT-SQL. The part number below include an embedded runtime processor license of SQL Server 2008 R2, Standard Edition, which is for use solely with C•CURE 9000 and permits connections to an unlimited number of clients (no additional SQL CALs required). The processor license is valid for one physical processor, with one or more cores.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSM81RR-1-5</td>
<td>Reinstatement fee for lapsed coverage Model 1, 5</td>
</tr>
<tr>
<td>CCSM81RR10-20-30</td>
<td>Reinstatement fee for lapsed coverage Model 10, 20, 30</td>
</tr>
<tr>
<td>CCSM81RR40-8000</td>
<td>Reinstatement fee for lapsed coverage Model 40, 8000</td>
</tr>
</tbody>
</table>

Professional services will provide services to migrate an existing C•CURE 800 database to a new C•CURE 9000 platform. This service can be a on site intervention or remote service. All work must be qualified by professional services before commencement.

**Professional Services for C•CURE 800/8000 to C•CURE 9000 Migration**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMSERVICE-One Day</td>
<td>COMMSERVICE-One Day Professional Migration Services Series L, M and N</td>
</tr>
</tbody>
</table>
## C•CURE Software Support Agreement (SSA) for EMEA Region

### C•CURE Software Support Agreements (SSA)

EMEA Software House Software Support Agreements are offered exclusively to our Authorized Integrator Network Partners which includes ADT. The value of mission critical backline software support for enterprise access control systems is of the highest importance to our best-of-breed security system sales and delivery partners.

The EMEA Software House Software Support Agreement provides best-in-class coverage and response across our customer’s integrated solutions and boasts the highest customer satisfaction in the industry. Authorized Integrators are confident that Software House Technical Support Specialists can reactively troubleshoot system problems across hardware, operating system, database, C•CURE application, and solution peripheral devices in analogue and IP networks as their single-point-of-contact. This provides our partners with the foundation they need to offer enterprise end-users with mission critical highly available networks.

<table>
<thead>
<tr>
<th>Service</th>
<th>Coverage Period*</th>
<th>Firmware Maintenance</th>
<th>Level Software Maintenance and/or Enhancement Release Updates**</th>
<th>Product Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard SSA</td>
<td>“5x12,&quot;Telephone Support provided to Certified Technicians Mon-Fri, 9am-5pm CET</td>
<td>Flashable and Non-Flashable (Chips) Firmware &amp; Documentation is provided to customers with SSA coverage, upon request</td>
<td>Access to C•CURE Patches and Software Release Updates are provided.</td>
<td>For English Versions of C-CURE 800/8000 and C-CURE 9000</td>
</tr>
<tr>
<td>Enhanced SSA</td>
<td>“7x24” Standby Telephone Support (emergency) provided to Certified Technicians</td>
<td>Access to C•CURE Patches and Software Release Updates are provided.</td>
<td>For English Versions of C-CURE 800/8000 and C-CURE 9000</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**:

*Depending on the product, separate charges may be applicable to enhancements or major version upgrades.

** For customers purchasing C•CURE 9000 software and having an existing C•CURE 800/8000 SSA, a credit for remaining months of SSA coverage will be added to the warranty period of C•CURE 9000 upon the return of the C•CURE 800/8000 sentinel.

EMEA Software House offers two (2) tiers of software system support coverage for all C•CURE Systems

### Standard SSA

The EMEA Software House Standard SSA is the foundational support offering to provide enterprise-class technical support for C•CURE solutions. Tyco Security Products C•CURE Technical Support Specialists have extensive experience and training to troubleshoot complex problems where knowledge of access control, network & peripheral hardware, Microsoft Operating Systems, and C•CURE databases and applications is crucial.

Their quick response and time to resolution along with knowledge of access control solutions and third party options ensures that your service level agreements (SLAs) to your end-user customers can successfully be met with consistency through a single-point-of-contact into our technical support organization. EMEA Software House also offers additional for-fee 3rd Party Software Support Agreements so that if the C•CURE Third Party Application is the source of the problem their technical support specialists will be contacted to jointly resolve problems and close the case. During the Agreement, EMEA Software House will only accept service calls from employees of the Systems Integrator of Record for the specific installation to which the support inquiry relates. This caller must have taken and passed EMEA Software House certified L1 and L2 courses in the product they are servicing and must be Enterprise L3 or Redundancy L4 certified if support is required for those platforms. If remote desktop control use is permitted and available, technical support specialists can resolve problems more efficiently.
Software Support Agreements

Enhanced SSA
EMEA Software House’s Enhanced SSA is our premium level software technical support program meant to meet critical customer needs with around-the-clock 24/7 mission critical services. Enhanced SSA offers the benefits of Standard SSA plus provides emergency standby coverage and assistance beyond normal support hours, also covering weekends and holidays. ADT’s product certified technician may leave an emergency message, outside the normal coverage hours, in the technical support emergency mailbox by calling the standard technical support telephone number (+31 (0) 475 352 722) and leaving a message. If the system the caller is servicing has a valid Enhanced SSA and the call is an emergency, there will be no charge for the afterhours or holiday telephone technical support provided. Sites that do not have a valid Enhanced SSA will not be called back and are recommended to call during normal business hours.

Software House Software Support Policy
For all English language versions of C•CURE 800/8000 and C•CURE 9000:

1) EMEA Software House will provide telephone technical support for all versions of the C•CURE 800/8000 provided:
   a) the technician or certified caller is qualified on the product
   b) the site is covered under an active Service Support Agreement (SSA)
   c) ADT is listed as a “dealer of record” for this system serial number by the end user.

2) It is very highly recommended that the end-user site should be running a version of C•CURE 800/8000, C•CURE 9000, or C•CURE Central which conforms to the EMEA Software House Software version of the Support Policy outlined below. The required solution to alleviate an on-site problem might involve updating the system to a more recently released version (refer to item 3).

3) Software Version Support Policy for C•CURE 9000 and C•CURE 800/8000 provides engineering fixes to identified field issues on the current shipping software general release version and one general release version back. A full version is delineated by the first digit after the decimal point. Additionally, Software House provides patches and engineering fixes to the second general release version back for a period of six months after a new version of the software goes into general release in the marketplace.

For example:
1) C•CURE 800/8000 v9.1 is released in September 2006
2) The versions of C•CURE 800/8000 that will be patched are:
   a. Version 9.1
   b. Version 9.0
   c. Version 8.3 until March 2007-09-23

For C•CURE Central and connected C•CURE 800/8000 systems

1) C•CURE Central follows the same support paradigm as above. However, to maintain the integrity of support for versions of C•CURE 800/8000 the policy is modified slightly. For C•CURE Central, we support the current release and one release back, in addition, the underlying C•CURE 800/8000 version is also under the engineering umbrella for patches and hot fixes. All nodes of C•CURE Central Network must be under a current SSA.

For example:
1) C•CURE Central v3.0 is the current release and is supported.
2) C•CURE Central v2.2 is one release back and is supported.
3) C•CURE 800/8000 v8.3.2, which is the only version of C•CURE 800/8000 supported by C•CURE Central v2.2, also remains under the engineering support umbrella.

For International Language versions of C•CURE 800/8000 and C•CURE 9000, Software House supports the current localized version of both C•CURE 800/8000 and C•CURE 9000.
Multi-Year Software Support Agreements
Software House offers multi-year Software Support Agreements in addition to annual SSAs for each service. This provides ADT with the ability to lock in pricing for the duration of their contract with their end-user customer and ensures that they’re not exposed to yearly price increases. This price protection is also coupled with simplified contract management where the labour associated with annual renewals is eliminated. Multi-year agreements may be purchased at point-of-sale to extend the support after the initial warranty period (12 months from registration, 14 months from ship date) or at time of renewal.

Pricing
Enhanced support agreement quotations can be obtained by contacting the EMEA C•CURE Licensing team:

Email: tspemalicense@tycoint.com
Phone: +31 475 352 722 Option 8

Access to the Member Centre
The Member Centre provides convenient access to Architectural & Engineering (A&E) specifications, Technical Advisory Bulletins (TABs), Technical Drawings, Manuals, and Sales Presentations. This also provides on known limitations to specific products or solutions and given access to pertinent notes.

ADT Responsibilities
Access to technical support is permitted to only product-certified technicians properly trained on C•CURE and related topics as defined in our Authorised Integrator Certification Programs. ADT are also responsible for renewing SSA yearly or at the end of a multi-year agreement’s term. Notification to end-users regarding renewal should start at least 60 days prior to the agreement’s lapse and ADT are responsible for contacting EMEA Software House sales with payment prior to the expiration date of the agreement with EMEA Software House. It is Tyco Safety Products policy to support the current version of each software version and one full version back. All support calls for products not under Warranty or SSA will not be excepted.
C·CURE 9000 Web Client

Features:

- Provides remote access to C·CURE® 9000 from virtually any computer with an Internet browser
- Manage personnel, display dynamic views, and monitor system activity
- Lock/unlock doors and activate events using manual actions
- Show journal history and audit trail activity through pre-configured dynamic views
- Intuitive graphical-user interface
- Easy deployment and installation
- Share a single database while retaining security and privacy of data through database partitioning
- Simple management of access-level permissions
- 128-bit AES encryption using SSL for secure communication between server and clients
- Single sign-on utilizes Microsoft Windows Authentication to maintain integrity of IT security
- Up to 50 simultaneous clients
- Built using the latest Microsoft standards and platforms

C·CURE® 9000 Web Client provides simplicity and accessibility of your C·CURE 9000 Security and Event Management System by giving you remote access to C·CURE 9000 using an Internet browser. With C·CURE 9000 Web Client you can manage personnel records, display dynamic views of doors, readers, inputs/outputs, and controllers, and monitor system activity from within a facility or anywhere in the world. You can perform a wide-range of tasks such as creating/modifying cardholders and monitoring alarms/events while away from your workstation.

It's a simple and secure way to deploy, monitor, and control the C·CURE 9000 system from any location.

Built using the latest Microsoft standard tools and platforms,

C·CURE 9000 Web Client is easy to administer and navigate with an intuitive layout and clear, consistent navigation panes. There is no need to install additional software.

You can log on to the Web Client using the same unique logon/password you already use for C·CURE 9000, which reduces management of user accounts. You can add, delete, and modify personnel records, clearances, and credentials, as well as enable and disable cards. Validating whether an individual has or does not have access to a facility, a particular area within a facility, or a particular door has never been easier.

To streamline productivity and balance both responsibility and workload, corporate security administrators can disseminate control to individual department managers, allowing them to grant access to the physical areas for which they are responsible wherever they may reside. This saves time by eliminating the need for intervention by security administration in order to assign or remove access privileges for each employee. C·CURE 9000 Web Client is fast and easy, and it’s reassuring knowing that you can connect to C·CURE 9000 from anywhere and at anytime..
C-Cure 9000 Software Enhancements

Order Codes:
- CC9000-ADDCLI: Additional Client Workstation Admin, Monitoring or Web Client
- CC9000-ADD5CLI: Additional 5 Client Workstations Admin, Monitoring or Web Client
- CC9000-ADDCLIB: Additional Client of C-CURE ID - Badging Workstation license
- CC9000-ADDIO: Additional software input/output points Increments of 256 inputs and outputs per each unit purchased
- CC9000-LANGTL: C-CURE 9000 Language Translation Tool Allows the end user to translate all strings and fields of C-CURE 9000 Graphical User Interface (GUI) into other languages

Technical Specifications:

**C-CURE 9000 Web Client**
Minimum System Requirements
- Supported Browsers: Microsoft Internet Explorer 7, 8, and 9 (32- and 64-bit)
- Mozilla® Firefox® (32- and 64-bit)
- Google™ Chrome (32- and 64-bit)

- Supported Client Operating System: Windows 7 (32- and 64-bit); any client that supports Silverlight™ 4.0 or 5.01
- Windows XP SP2; Windows Vista;

**C-CURE 9000 Server**
Minimum System Requirements
- MS IIS v5.10, v6.0, v7.0 version 1.92 and higher

**C-CURE 9000**
- Maximum Simultaneous Client Connections to Server: Up to 50 (C-CURE 9000 license must include the same number of simultaneous Web Clients)
- Maximum Number of Configured Users: Unlimited
- Client to Server Encryption: SSL, 128-bit AES
- Authentication: Single Sign-on using Windows Authentication
- Audit Trail: User activities logged in central C-CURE 9000 database
- Database Partitioning: Yes

**Activity Viewer**

**Personnel Management**
Options for the C•CURE 9000 include the integration of both DVMS and NVR systems as well as alarm, fire, and intercom panels. These integrations are undertaken by partner vendors through the “Software House Connected” Platform Integration Program.

Up-to-date details for each integration including how to download driver files, C•CURE 9000 compatibility, and OS compatibility are posted on the Software House Connected Program Compatibility Matrix website: http://www.swhouse.com/support/SWH_Connected_Compatibility_Matrix.aspx

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>American Dynamics Intellex Digital Video Management System integration option for C•CURE 9000 Included by default with each new system; please contact customer service if you need to enable the feature on an older system that does not have it enabled.</td>
</tr>
<tr>
<td>CC9000-VEDGE</td>
<td>American Dynamics VideoEdge NVR integration option for C•CURE 9000 Included by default with each new system; use this part number if you need to enable the feature on an older system that does not have it enabled.</td>
</tr>
<tr>
<td>CC9000-HDVR</td>
<td>American Dynamics HDVR integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-VICTOR</td>
<td>C•CURE 9000 Unification with victor Site manager: Includes two new license options: One victor option for a C•CURE 9000 license and one C•CURE 9000 option for a victor license. Must provide C•CURE 9000 and victor license number to add option to at time or order.</td>
</tr>
<tr>
<td>CC9000-3VR</td>
<td>3VR VIP integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-SONY</td>
<td>Sony NSR video integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-VERINT</td>
<td>Verint Nextiva NVR v5.1 integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-ONSSI</td>
<td>OnSSI Ocularis integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-GENETEC</td>
<td>Genetec Omnicast integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-NICE</td>
<td>Nice NiceVision integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-DVTEL</td>
<td>DVTEL Latitude integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-SALIENT</td>
<td>Salient Systems CompleteView integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-BOSCHVRM</td>
<td>Bosch DVR/NVR integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-ENDURA</td>
<td>Pelco Endura DVR/NVR integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-DFORT</td>
<td>Digifort NVR Enterprise/Explorer integration option for C•CURE 9000 (US Only)</td>
</tr>
<tr>
<td>CC9000-AVIGILON</td>
<td>Avigilon Control Center NVR integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-PELCO</td>
<td>Pelco Endura DVR/NVR integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-VIDEOIQ</td>
<td>VideoIQ integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-MILESTONE</td>
<td>Milestone XProtect Corporate integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-ONSSI</td>
<td>OnSSI Ocularis integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-MILESTONE</td>
<td>Milestone video integration with C•CURE 9000</td>
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# Additional Integration options

<table>
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<tr>
<th>Model Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>CC9000-BIDI</td>
<td>General purpose bi-directional integration option for C•CURE 9000. Allows connection via serial port or via TCP/IP.</td>
</tr>
<tr>
<td>CC9000-AEROSCOU T</td>
<td>AeroScout MobileView integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-APHONE</td>
<td>Aiphone integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-ASSAABLOY</td>
<td>Assa Abloy integration option for C•CURE 9000 (US Only)</td>
</tr>
<tr>
<td>CC9000-CODEB</td>
<td>Codebench journaling integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-CMMND</td>
<td>Commend Intercom integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-ELPAS</td>
<td>Elpas Realtime Location and alarming integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-GUARDRFID</td>
<td>GuardRFID Realtime Location integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-LIGHTH</td>
<td>Network Harbor LightHouse PSIM integration option for C•CURE 9000 (US Only)</td>
</tr>
<tr>
<td>CC9000-OMNI3D</td>
<td>Feeling Software Omnipresence 3D integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-OTIS</td>
<td>Otis Elevator Compass™ Destination Entry</td>
</tr>
<tr>
<td>CC9000-IV</td>
<td>Indigo Vision Alarm integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-4100U</td>
<td>Simplex® 4100U fire alarm panel integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-MZX</td>
<td>Tyco Fire Protection, MZX Technology Fire alarm panel integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-PROXIMEX</td>
<td>Proximex Surveillent v4.0 integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-DSC</td>
<td>DSC PowerSeries intrusion alarm panel integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-DMP</td>
<td>DMP XR500, XR100 intrusion panel integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-GXY</td>
<td>Honeywell Galaxy Dimension panels GD-48/96/264/520 integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-HIDEDGE</td>
<td>HID Edge integration option for C•CURE 9000</td>
</tr>
<tr>
<td>CC9000-PROXSAFE</td>
<td>Deister proxSafe key management integration option for C•CURE 9000</td>
</tr>
<tr>
<td>N/A</td>
<td>Quantum Secure SAFE integration with C•CURE 9000 Quantum Secure integration is via Import. This integration has been certified by Software House.</td>
</tr>
</tbody>
</table>

**NOTE:** Integration driver version must be identical to the core C•CURE 9000 version. For example, CC9000-4100U v1.93 must be used with C•CURE 9000 v1.93. Consult the up-to-date SDK compatibility matrix for all available released drivers: [http://www.swhouse.com/support/SWH_Connected_Compatibility_Matrix.aspx](http://www.swhouse.com/support/SWH_Connected_Compatibility_Matrix.aspx)

**NOTE:** OnSSI Ocularis integration requires a video card with greater specifications than those listed in the C•CURE 9000 minimum specifications. Recommended and tested cards are either Radeon X1300/1550 series or Radeon HD 2400 Pro.

**NOTE:** You cannot enable other “Software House Connected” Program drivers on the C•CURE SiteServer at this time, except for CC9000-HIDEDGE.
C•CURE 9000 lets you connect to LDAP-compliant data sources including industry-leading Microsoft® Active Directory® for Windows 2003. This connection occurs within the C•CURE 9000 application without an add-on toolkit or middleware adapter. This new functionality allows you to pull existing entries such as personnel information, credentials, and clearances from an external data source and import the information directly into C•CURE 9000 as new or modified personnel records within seconds. Special Microsoft functionality has also been added to this LDAP feature to enhance performance for those utilizing the Microsoft Active Directory.

You can easily link to an outside directory using an IP address. New employees will no longer have to wait long periods of time for all systems to be updated and clearances granted to applicable areas. Updating one database rather than synchronizing two or more systems saves time and costs associated with employing disparate systems. Overall security is enhanced when identity information in C•CURE 9000 is updated within seconds. In addition, you can assign clearance privileges, both physical and logical, to a cardholder based on role assignments.

Order Code:
CC9000-LDAP
C•CURE 9000, LDAP option
C•CURE 9000 is a powerful security and event management system that provides IT standard tools and innovative architecture. This allows users to manage and monitor multiple security and emergency applications from one integrated security system.

This integrated C•CURE 9000 security system built on Microsoft’s sophisticated .NET v4 technology offers security staff a flexible, efficient, fast and secure working environment, both locally and remotely.

C•CURE 9000 provides unsurpassed integration capabilities, advanced alarm routing, remote access for administration and monitoring. C•CURE 9000 supports multiple layouts and monitoring station screens in the same window. This enables you to focus on system activity, while another screen displays your live video.

C•CURE 9000 offers preconfigured layouts or an empty palette for each administrator to customise. Drag and drop different viewers – some that represent objects like fire detection points or intrusion zones, live video tours and specific types of activities, live camera views, dynamic views of system activity or configuration data. The most powerful thing about the monitoring station is that each screen is live and interactive. With appropriate permissions, you can manipulate data fields, change views, navigate around maps, launch a video tour, and perform quick searches and queries –all from the same interface in real time. Import CAD (.dwg, .dxf) or raster files (.bmp, .jpg, etc.) and populate complex floor plans with your security objects. All original CAD layers are immediately visible or can be hidden for easy viewing.

Features:

- Utilises BACnet, the industry-standard communications protocol for building automation and control networks
- Seamless integration of C•CURE 9000 with the Tyco MZX Range of Fire Panels
- Fire alarms are reported instantly on the C•CURE 9000 Event Monitoring station
- Easily produce status reports on your system and fire detection points
- Object icons on the graphical CAD-based maps like fire panels, points and zones give the operator a complete overview
- Fire alarm events can trigger Audio-visual notifications send out information Email
- Flexible reporting tools with pre-defined reports, email on event, launch on schedule
- MZX Fire detection panels are approved in more than 17 EMEA Countries
- Simplified configuration through automatic import of Fire panel configurations
- Trigger CCTV and video recording upon the activation of a fire alarm device
- One Security Management Platform for Fire, Burglar Alarm system, Video Integration, Access Control and many more
- Automated reporting of object status, for example Smoke detector dirtiness

Create new layers, and drag and drop security objects such as cameras, tours, inputs/outputs and more directly to your drawing with scalable icons. One-click magnification and tracking views provide the ability to manage and navigate around your floor plans. For expansion projects, easily update or replace your CAD drawings without having to add security icons again.

Speed and accuracy in alarm handling is of paramount importance, C•CURE 9000 provides a clear view of events and alarms, allowing the operator to take appropriate actions. All instructions can be stored in C•CURE 9000 and called-up when an alarm event occurs. The operator can attach action log messages to the events.

Order Code:
CC9000-MZX MZX Technology® Fire Panels integration option for C•CURE 9000
Different notifications can be defined for events or incidents. These notifications are sent via email to a person or predefined group of people when an event occurs. In the case of a fire alarm event, a roll call report can be printed and or emailed. Run predefined reports by an event or by schedule and automatically send via email. These reports can be various subjects, historical alarm notifications, system object status, detector dirtiness notifications to name but a few.

Expand the security management system as your business grows. C•CURE 9000 is totally scaleable from a single site, single workstation solution up to an Enterprise Security management system with multiple workstations and remote central monitoring. Software House connected program provides integration to various security or building facility products and is continuing to expand. For a complete list of available integrations please visit www.swhouse.com

How does C•CURE 9000 MZX Fire Detection Interface work?
The C•CURE 9000 and MZX fire panel system integration supports the secondary annunciation of the devices, panel events and panel health status data. The integration into C•CURE 9000 is based on the BACnet protocol.

Data coming from the MZX fire panels is passed through a BACnet converter. The integration establishes and maintains the connection to the BACnet converter. Connection type, panel and point data (inclusive, name, model, status) will be acquired into C•CURE 9000.

The MZX fire interface support multiple device types connected to the MZX fire detection panels such as fire sensors, fire zones, call points and their corresponding statuses include:

- Zone alarms, point alarms from fire inputs
  - Normal
  - Alarm
  - Isolation-Bypass
  - Fault
  - Dirtiness
- MZX panel faults, faults from zones and points
  - Normal
  - Alarm
  - Isolation-Bypass
  - Fault
  - Dirtiness
- Mains fault, system faults
- Pre-alarms and alarm warnings
- Isolations of zones, loop points, R-Bus and local I/O points
- Day mode
- Analogue values of automatic detectors
- Sound silence
The MZX integration is free of charge. Once the feature is enabled and the driver installed the administration menu shows the MZX BACnet converter configuration in the hardware folder. The configuration is easy and straightforward, once the connection type and IP address is entered, C•CURE 9000 is ready to acquire the object data from the MZX BACnet converter. Fire alarms are sent to C•CURE 9000 where they can be acknowledged, fire icons can be placed onto the graphical maps next to the access control readers and camera locations. Fire alarms can be configured to activate other system components such as CCTV Matrix, NVRs or DVRs.

**Technical Specifications:**

**System Software Requirements**

**C•CURE 9000 Server Recommended Software**

|------------------|------------------------|--------------------------------------------|------------------------------------------|-------------------------------------------|

(2) Refer to the “Software House Connected” Compatibility Matrix on www.swhouse.com to confirm the supported versions of C•CURE 9000.
C-Cure 9000 Software Enhancements

Schematic

Single Panel Configuration

Multiple Panel Configuration
Integration with C•CURE 9000 for Instant and Accurate Confirmation of Identity

The Stone Lock Pro Biometric Facial Recognition reader from CoprometroUSA® has been integrated with C•CURE 9000 security and event management solution (v 2.20 and higher). Stone Lock Pro is an extremely fast and accurate infrared biometric facial recognition device, designed for access control applications that require instant, easy, and reliable confirmation of identity.

The combined solution is the ideal application for critical security situations where a PIN or password alone isn’t enough. Through the deep integration with C•CURE 9000, users have only one personnel database to manage, saving time and reducing problems with duplicate entries, errors, and inefficiency.

This will be Ideal for critical security access applications such as enterprise operations, educational institutions, correctional facilities, military, financial, data, etc.

Features:

- Extreme rapid biometric authentication, scanning over 2,000 facial points in less than a second
- All users, permissions, and schedules managed by C•CURE 9000 for truly integrated operation
- Stable, high performance proprietary biometric system with low power consumption
- Modular unit design with built-in keypad and HID iCLASS® SE reader
- Wide variety of intelligent recognition modes possible

Using the C•CURE 9000 interface, security personnel can create a Stone Lock Pro user, pair it with a personnel record and credential, and capture facial data remotely from any Stone Lock Pro device within the network. Once enrolled, users just need to present their credential and face the device for quick scanning and authentication.

Stone Lock Pro, a modular unit with a built-in keypad and HID iCLASS® SE reader, can scan and plot more than 2,000 facial points in less than a second.
C·Cure 9000 Software Enhancements

- The Stone Lock® Passive Interface
- Authentication with no contact.
- Users merely approach facing the unit and it authenticates you
- High level of convenience and assurance.
- A subject, once detected, is flooded with near infrared light
- Less than a second, measures the wavelengths reflections on the face

Stone Lock®, Fast
- High through-put ~1 second per user authentication
- Stone Lock® Pro scans a user multiple times a second working to eliminate false rejections
- Initial enrolment of the biometric profile takes less than 15 seconds and you only have to enroll once
- Provides instant, highly accurate authentication

Stone Lock®, Accurate
- FAR 1/250 k (0.0004%)
- Stone Lock® Pro measures and maps 2155 points on a users face
- Proprietary algorithm, firmware and hardware
- Easily distinguishes between facial expressions
- Correctly identifies identical twins

Stone Lock®, Field proven!
- Over 2000 installations in 6 years
- Field proven as a reliable solution for the most critical access control demands including:
  - Data centres
  - Biotech/Pharmaceutical Labs
  - Bank cash vaults
  - Commercial/Industrial Facilities
  - Healthcare
  - Luxury apartments / smart homes

Order Codes:

CC9000-STLOCK  C·CURE 9000 integration license for Stone Lock Pro face Recognition
STL-PRO-ES-W  Stone Lock Pro face plate, control box, enrolment station, integration driver
STL-PRO-FP-W  Lock Pro face plate only for dual apps
STL-PRO-U-W  Stone Lock Pro face plate, control box, Stonelock integration driver
Marathon Fault Tolerant Solutions for C•CURE

When systems are down, security monitoring operations stop and this can have a huge impact on a company’s employees and assets. Sometimes data can be lost – forever. Marathon Technologies’ everRun® fault tolerant redundancy solutions; deliver a robust and reliable fault tolerant solution to growing businesses that require zero downtime. Marathon Technologies’ everRun MX and SplitSite provide a high-availability, fault tolerant business continuity solution for C•CURE 9000 and C•CURE 800/8000 systems.

Marathon’s everRun fault tolerant redundancy platforms offer additional reliability to the industry-leading reliability of C•CURE access control systems. While some redundancy platforms run on a recovery-based model in the event of failures, everRun platforms utilise a new preventative-based model which allows organisations to continue to compute through failures. everRun Snapshots provide information rollback of the C•CURE database at a single point in time to assist with the recovery of data loss or system corruption.

everRun MX utilises patented technology, combining the physical resources of two standard Windows servers into a single, unified operating environment. This provides complete redundancy of all underlying data and hardware.

By keeping the operating environment in the single, unified system you are able to keep applications up and running in the event of a system or component failure. everRun MX is the first software-based, fault tolerant solution that supports symmetric multiprocessing and multi-core environments, allowing businesses to have an affordable, continuous security solution during component system failures.

everRun SplitSite

everRun SplitSite delivers fault tolerance between systems located in a campus type of environment. Utilising a LAN, everRun SplitSite links geographically separated systems with the same core capabilities of everRun MX software. If a system is down in one location, C•CURE will remain available and fully operational at the other location.

Businesses that are in heavily-regulated industries such as pharmaceutical, manufacturing, and financial services rely on SplitSite to ensure that all of their data is replicated and remains available in the case of a system failure at one location.
Before ordering a Marathon redundancy solution, please contact Software House pre-sales application engineering or professional service for assistance on design. At least one day Professional Services per site for set up and installation must be included in any quotation. Technical Support Echt: +31 475 352 722 or 00800 CALL TYCO (00800 2255 8926) When an order is placed at our customer service following information should be provided on the “Marathon everRun MX user registration form”:

- Integrator: company name and address, contact person, email, phone number
- End User: company name and address, contact person, email, phone number
- Product being installed on C•CURE 800/8000 or C•CURE 9000?
- C•CURE system serial number

Order Codes:
- L-MXELRG-V61
- L-MXEMED-V61
- L-MXESML-V61

Marathon everRun MX LRG, C•Cure 800 models 40, 8000 Enterprise, 8000pls or C•Cure 9000 models Rpls or S Marathon everRun MX MED, C•Cure 800 models 20, 30 or C•Cure 9000 models Q, R Marathon everRun MX SML, C•Cure 800 models 1, 5, 10 or C•Cure 9000 models L, M, N, P

Notes:
- Only one Management Console needed
- Switch/Gateway between A-links and Quorum
- Multiple Production networks are supported
The C•CURE 9000 SiteServer is an affordable and powerful access control solution with an embedded OS providing webbased security and event management. By eliminating the need for a standard PC and with its associated costs, C•CURE 9000 SiteServer provides a cost-effective access control solution for smaller sites, up to 32 readers, and can be used as a satellite application server in a robust enterprise environment. C•CURE 9000 SiteServer is pre-installed with everything you need to get up and running quickly, including the latest version of C•CURE 9000 and a pre-configured database. An IP network connection is all you need to harness the power of C•CURE 9000. Use Microsoft® Internet Explorer, Mozilla® Firefox®, or Google™ Chrome to logon to the system from virtually any location.

C•CURE 9000 SiteServer is ideal for schools, commercial offices, healthcare facilities, and smaller sites that are part of a larger enterprise environment and do not want to spend time configuring doors, clearances, schedules, alarms, and other system objects. Pre-installed software lets you spend less time installing and configuring applications, gathering license data, and installing service packs. Add the fact that the software is user-friendly with an intuitive set-up wizard and health dashboard, and operator training is greatly simplified.

A 240 GB SSD has no moving parts, which makes it less fragile than hard disks which can wear out with repetitive use. Access time and latency are low as there are no mechanical delays.

C•CURE 9000 SiteServer is compatible with a variety of Software House door controllers and readers providing a complete access control solution.

Additionally, it can be deployed in a desktop, rack-mount, or wall-mount configuration.

Features:
- Cost-effective access control solution up to 32 readers
- Reduces total installation costs with pre-installed OS and software
- Ready-to-go with pre-installed C•CURE 9000 software and intuitive start-up wizard for easy configuration
- Includes pre-configured database of readers, doors, controllers, and other standard objects to reduce setup time
- Can operate as a satellite application server (SAS) in an enterprise environment
- Compatible with a wide range of Software House controllers and readers
- 240 GB solid state drive (SSD) provides enhanced system reliability
- Intuitive C•CURE 9000 Web Client simplifies operator training
- Health dashboard to monitor network bandwidth, memory and other important system functionality
- Two independent Ethernet LAN ports allow for flexible network configuration
- Flexible mounting options – desktop, wall-mount, or 19-inch rack
- Integrates with American Dynamics and Exacq video solutions

Order Codes:
- SSVR2-08-CE
- SSVR2-16-CE
- SSVR2-32-CE
- SSVR2-BR
- SSVR2-08-16UP
- SSVR2-16-32UP

C•CURE 9000 SiteServer, supports eight readers
C•CURE 9000 SiteServer, supports 16 readers
C•CURE 9000 SiteServer, supports 32 readers
C•CURE 9000 SiteServer mounting brackets, 19-inch rack-mount
C•CURE 9000 SiteServer 2nd Gen Software Upgrade, 8 readers to 16 readers.
C•CURE 9000 SiteServer 2nd Gen Software Upgrade, 16 readers to 32 readers.
Customisable Monitoring Station

C•CURE 9000 SiteServer offers pre-configured layouts or an empty palette for each administrator to customize.

Drag and drop different views – some that represent objects like video tours and specific types of activities, live camera views, dynamic views of system activity, or configuration data, even the Windows Explorer bar – to make navigation very easy. The most powerful aspect of the monitoring station is that each pane is live and interactive. Users with appropriate permissions can manipulate data fields, change views, navigate around maps, launch video tours, and perform quick searches and queries – all from the same interface in real time.

Highly Secure Database Partitioning

Independent companies can share a single database while, at the same time, partitioning that database to maintain the security and privacy of their individual organization. Users can specify to which multiple partitions they share privileges – doors, clearances, etc. The partitioning of information includes everything from personnel to video and hardware configuration.

Area Control with Anti-Passback

With anti-passback, you can enhance security by preventing cardholders from passing their credentials back to others to gain access to secured areas. You can further configure the system with time restrictions and to activate events such as sounding an alarm for anti-passback entry and exit violations.

Intrusion Zones and Keypad Commands

Grouping inputs and doors into intrusion zones allows you to arm/disarm alarm inputs as well as lock/unlock groups of doors in a defined area. An entire facility or a portion thereof may comprise an intrusion zone.

Keypad commands leverage the intrusion zone feature and give you the ability to remotely activate cameras, doors and other events as well as trigger a duress call right from a reader keypad. Keypad commands may be configured to require card presentation and/or a PIN to validate the command.

Exceptionally Reliable Security

C•CURE 9000 provides FIPS 197-approved encrypted communication between both the C•CURE 9000 SiteServer (appliance and clients), and iSTAR Edge and iSTAR eX controllers.

Microsoft Windows single sign-on, fieldlevel audit, and authentication of historical log content features a digital signature on each event. This allows administrators to detect additions, modifications, or deletions of data which is critical in order to maintain compliance with regulations, such as Sarbanes-Oxley, HIPAA, and 21-CFR Part 11.

Additionally, C•CURE 9000 supports the U.S. Federal Government’s HSPD-12 program, and is listed on the GSAs Physical Access Control System (PACS) APL for PACS Infrastructure. The C•CURE 9000 SiteServer supports the full range of HSPD-12 credentials including PIV, TWIC, CAC, and PIV-I credentials through the use of extended card formats and long multi-field CHUIDs.

Intuitive Badging

Leveraging a “What You See is What You Get” (WYSIWYG) badge designer within C•CURE ID offers superior control over colour and easy manipulation of graphics. You can use a powerful Expression Builder to easily create expressions that simplify badge creation. Uncomplicated query features allow you to query a common field and then print those cards found in one batch.

With the smart card enrollment solution, you can read and/or reprogram multiple smart card formats such as MIFARE® (1K & 4K cards), iCLASS®, and DESFire®. These cards can be programmed with a wide range of data depending on the protocol of each card type for critical security purposes and/or value add-ons such as vending, parking, etc. Refer to the C•CURE ID data sheet on www.swhouse.com for more detailed information.
Remote Web Capabilities

Remote connection to C•CURE 9000 SiteServer is effortless using C•CURE 9000 Web Client. Using an Internet browser, you can manage personnel records, display dynamic views of doors, readers, inputs/outputs, and controllers, and monitor system activity anywhere in the world directly from your PC with a web browser. C•CURE 9000 Web Client allows you to easily perform tasks such as editing personnel records, running activity reports and viewing system transactions. It’s a simple and secure way to deploy, monitor, and control the C•CURE 9000 system from any location.

Robust Enterprise Solution

C•CURE 9000 SiteServer can be used as a satellite application server (SAS) communicating directly with a master application server (MAS) as part of a robust enterprise.

Network Architecture

Corporate security personnel can be authorized for central control over the entire system using the MAS, while each local facility maintains control of its individual operation using a SAS. Each SAS communicates directly with the MAS for global personnel record updates, alarms and central journaling and reporting, but is not dependent on the MAS for real-time access control operation.

Each satellite system administrator has total control over all access control field hardware and system information related to his/her respective location. All access control information from the MAS is synchronised to each SAS in real time. The MAS distributes these changes globally to each independent SAS, which ensures all servers are equipped and operating with up-to-date information. Synchronization of all complete databases gives security personnel the power they need to compile global personnel and configuration reports quickly and efficiently.

Enterprise Architecture
### Technical Specifications:

#### C•Cure SiteServer®

- **Dimensions (H x W x D)**: 39.62 x 10.9 x 34.9 cm
- **Weight**: 4.6 kg
- **Chassis Material**: Steel
- **Form Factor**: Desktop
- **Mounting Options**: 19-inch rack-mount and wall-mount (brackets available)
- **LED Indicators**: Power, SDD, Ethernet link/act with transfer rate

#### Operational

- **CPU**: Intel® Core i5 4th generation
- **Chipset**: Intel 915 GME and Intel ICH6M
- **Memory**: 16 GB SODIMM DDR2 400/533
- **Non-Volatile Storage**: 1 x 2.5 inch SATA, 240 GB MLC solid state drive
- **Network**: Two 10/100/1GB Ethernet ports, each port tied to an independent MAC/NIC
- **Encryption**: AES 256, FIPS 197 listed
- **Display Interface**: HDMI, DVI and VGA
- **USB**: Eight

#### Features

<table>
<thead>
<tr>
<th>SiteServer Model</th>
<th>SSVR2-08-CE</th>
<th>SSVR2-16-CE</th>
<th>SSVR2-32-CE</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Online Readers</td>
<td>8</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td># of Online Inputs</td>
<td>128</td>
<td>256</td>
<td>512</td>
</tr>
<tr>
<td># of Online Outputs</td>
<td>128</td>
<td>256</td>
<td>512</td>
</tr>
<tr>
<td># of Credentials</td>
<td>7,000</td>
<td>7,000</td>
<td>12,000</td>
</tr>
<tr>
<td># of Simultaneous Clients</td>
<td>5/10</td>
<td>5/10</td>
<td>5/10</td>
</tr>
<tr>
<td># of Standard Badging Clients</td>
<td>1/5</td>
<td>1/5</td>
<td>1/5</td>
</tr>
<tr>
<td>American Dynamics Intellex Integration</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>American Dynamics VideoEdge Integration</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
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<tr>
<td>Exacq exacVision Integration</td>
<td>Download driver</td>
<td>Download driver</td>
<td>Download driver</td>
</tr>
<tr>
<td>DSC PowerSeries Intrusion Integration</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
</tbody>
</table>

- **Front**: 2 (2.0 High-Speed mode), 2 (3.0 SuperSpeed mode)
- **Rear**: 2 (2.0 High-Speed mode), 2 (3.0 SuperSpeed mode)
- **Operating System**: Windows Standard 7 (embedded)
- **Database**: Microsoft SQL Express
- **Languages Supported**: Brazilian Portuguese, English, French, German, Italian, Simplified Chinese, Spanish
- **Controllers Supported**: iSTAR Edge, iSTAR eX, iSTAR Pro, apC/8X, apC/L
Environmental
Operating Temperature
0 °C to 50 °C
Storage Temperature
-20 °C to 70 °C
Humidity 10 – 95% RH, non-condensing

Electrical
Power to Unit 120/240 VAC
Power Rating 300 W
Maximum BTU 700

Regulatory
Emissions FCC Part 15, Class A
CE: EN55022, Class A
CE: EN61000-3-2 and
EN61000-3-3
ICES- 003/NMB-003, Class A
AS/NZS CISPR22, Class A
Immunity CE: EN50130-4
Safety UL 60950-1(2nd Ed.)
IEC/EN 60950-1
CSA C22.2 60950-1
Environmental RoHS, WEEE
C•CURE 9000 Web Client Minimum System
Requirements Browsers Microsoft Internet Explorer
7, 8, 9 (32- and 64-bit) and 11,
Mozilla® Firefox® (32- and
64-bit), Google™ Chrome (32-
and 64-bit) Client Operating
Systems Windows 7 (32- and
64-bit) Microsoft Silverlight™
Version 4.0 or 5.0

(2) C•CURE 9000 SiteServer can be used as a client, using local
display/keyboard/ mouse connected to the VGA port and USB
ports. For external C•CURE 9000 client workstations, refer to
the C•CURE 9000 Installation Guide for minimum hardware and
software specifications.
(3) Software options such as LDAP and SDK integrations are not
available.
(4) For Exacq exacqVision integration, download the latest driver
from www.sthouse.com under Support/Software
Downloads.
iSTAR Ultra All-in-one Power Centre

An all-in-one 16 or 24 A power centre integrating iSTAR controllers and power supplies into one enclosure, also allowing optional battery maintained operation. Mountings for iSTAR UltraSE or iSTAR Pro (1 x GCM and 2 x ACM) are provided with three replaceable 12 V DC (13.7 V) 8A load current power supplies.

The controller power supply unit is intended for powering an iSTAR controllers, readers and ancillaries totalling up to 8 A. Each lock power supply unit provides 8 A for lock power with multiple outputs (8 x 1 A, 2 x 3 A) and allows user selectable fire panel control of each output.

The enclosure includes a covered cabling area and various features intended to ease and speed up installations. The enclosure will house a 12 V VRLA battery of up to 17AH capacity for each fitted PSU.

Features:
- Mild steel enclosure
- Key-lockable lid matching SWH standard key
- Lid tamper micro-switch
- Three replaceable high efficiency power supply units
- Removable hinged lid
- Houses and maintains three VRLA standby batteries of up to 17 Ah each (one for each PSU fitted)
- Internal chassis is removable with handles – allows simpler enclosure mounting and controller fitting
- Rotate enclosure for left or right hand cable management
- 16 A or 24 A versions available for one or two ACMs
- Customised cabling area with cover maximizes cabling space, helps to organize and look tidy
- Power supplies and their batteries (if equipped) are independent – gives increased reliability and redundancy
- Mains failure clean contact signalling
- Battery low voltage clean contact signalling
- Automatic low battery disconnect deep discharge protection – Batteries are automatically disconnected by relay
- Lock power outputs have self resetting fuses, back EMF protection and LED indication for easy confirmation of status
- Single input fire interface - Lock outputs are individually selectable to be fire panel controlled or to remain powered constantly
- Compatible 24 V DC Lock PSU is available
Technical Specifications:

Environmental
Operational temperature
-10ºC to +40ºC
Storage temperature
-20ºC to +50ºC
Water and dust resistance
EN60529 IP20
Humidity Maximum
95% non-condensing

Enclosure
Dimensions (WxHxD)
547 mm x 770 mm x 166 mm
Weight
< 22 Kg (exclusive of batteries)
Material
Powder coated mild steel (RAL9016, White)

Electrical - Input specifications
Operating Voltage
176 V - 264 V AC at 47-63Hz
Operating Current
< 450 VA (theoretical full load and recharge condition)
Connection type
10 mm² internal terminal block (3 x 1.5 mm² or 2 x 2.5 mm²)
Fuse
BS1362 13A 1” Mains fuse or 10A HRC 20 x 5 mm fuse (RS 412-685, RS 563-592)
Mains on indication
Green LED indication

Installed power supply units
Controller / Reader
1
Lock power
2

Controller / Reader Power Supply Unit
Specifications
Output specifications
Load output voltage
12 V DC (13.7 V)
Load output current
8 A Maximum total load
Load output fuses
20 x 5 mm 8A Quick blow glass fuse
Mains status indication
Green LED
Output status indication
Green LED
VRLA Battery connection
1 x 13.7 V DC for 12 V VRLA battery
VRLA Battery protection
20 x 5 mm 10 A Quick blow glass fuse and automatic deep discharge protection
Connection type
PCB terminal block (2.5 mm²)

Mains failure signalling contacts
Contact configuration
Single pole change over
False trigger delay
30 < 60 seconds
Maximum voltage
30 V DC
Maximum current
1 A
Connection type
PCB terminal block (2.5 mm²)

Battery low voltage signalling contacts
Contact configuration
Single pole change over
Maximum voltage
30 V DC
Maximum current
1 A
Connection type
PCB terminal block (2.5 mm²)

Lock power supply unit (1 or 2 fitted)
Output specifications
Load output voltage
12 V DC (13.7 V)
Load output current
8 A Maximum total load across 10 output terminals
Load output fuses
8 x 1 A (2 A momentary) and 2 x 3 A (5 A momentary)
Self resetting fuses
Fire enable control
+12 V DC Feed (+F) to Return terminals (+R) with 0V common for additional units
Fire enabled O/P(s) configuration
Individual PCB Jumper per output to set powered or non-powered during fire condition
Fire condition selectable O/P(s)
8 + 2 (PCB jumper to enable/disable during fire condition)
Output status indication
Green LED
VRLA Battery connection
1 x 13.7 V DC for 12 V VRLA battery
VRLA Battery protection
20 x 5 mm 10 A Quick blow glass fuse and automatic deep discharge protection
Connection type
PCB terminal block (2.5 mm²)
**Output power failure signalling contacts**
Contact configuration: Single pole change over
False trigger delay: 30 < 60 seconds
Maximum voltage: 30 V DC
Maximum current: 1 A
Connection type: PCB terminal block (2.5 mm²)

**Battery low voltage signalling contacts**
Contact configuration: Single pole change over
Maximum voltage: 30 V DC
Maximum current: 1 A
Connection type: PCB terminal block (2.5 mm²)

**Compliance**
EN 61000-3-2:2006+A2:2009  Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions (equipment input current < 16 A per phase)
EN 61000-3-3:2013  Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
EN 61000-6-1:2007  Electromagnetic compatibility (EMC). Generic standards. Immunity for residential, commercial and light-industrial environments
EN 61204-3:2001  Low voltage power supplies, d.c. output. Electromagnetic compatibility (EMC)
EN 61204-7:2006  Low-voltage power supplies, d.c. output. Safety requirements
EN 50581:2012  Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

**Order Codes:**
- DAN-USTAR-16A  Tyco 16 A Power Centre for iSTAR Ultra 8 version
- USTAR008-PSU  Kit with iSTAR controller GCM/ACM and Tyco Power Centre (DAN-USTAR-16 A)
- DAN-USTAR-24A  Tyco 24 A Power Centre for iSTAR Ultra 16 reader version
- USTAR016-PSU  Kit with iSTAR controller GCM/2xACM and Tyco Power Centre (DAN-USTAR-24 A)
iSTAR Ultra SE or PRO All-in-one Power Centre

<table>
<thead>
<tr>
<th>Features:</th>
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<tbody>
<tr>
<td>• Mild steel enclosure</td>
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<td>• Key-lockable lid matching SWH standard key</td>
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<td>• Lid tamper micro-switch</td>
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<tr>
<td>• Three replaceable high efficiency power supply units</td>
</tr>
<tr>
<td>• Removable hinged lid</td>
</tr>
<tr>
<td>• Houses and maintains three VRLA standby batteries of up to 17Ah each</td>
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<tr>
<td>(one for each PSU fitted)</td>
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<tr>
<td>• Internal chassis is removable with handles – allows simpler enclosure</td>
</tr>
<tr>
<td>mounting and controller fitting</td>
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<tr>
<td>• Rotate enclosure for left or right hand cable management</td>
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<tr>
<td>• 16 A or 24 A versions available for one or two ACMs</td>
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<tr>
<td>• Customised cabling area with cover maximizes cabling space, helps to</td>
</tr>
<tr>
<td>organize and look tidy</td>
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<tr>
<td>• Power supplies and their batteries (if equipped) are independent –</td>
</tr>
<tr>
<td>gives increased reliability and redundancy</td>
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<tr>
<td>• Mains failure clean contact signalling</td>
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<tr>
<td>• Battery low voltage clean contact signalling</td>
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<tr>
<td>• Automatic low battery disconnect deep discharge protection – Batteries</td>
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<tr>
<td>are automatically disconnected by relay</td>
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<tr>
<td>• Lock power outputs have self resetting fuses, back EMF protection and</td>
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<td>LED indication for easy confirmation of status</td>
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<tr>
<td>• Single input fire interface - Lock outputs are individually</td>
</tr>
<tr>
<td>selectable to be fire panel controlled or to remain powered</td>
</tr>
<tr>
<td>constantly</td>
</tr>
<tr>
<td>• Compatible 24 V DC Lock PSU is available</td>
</tr>
</tbody>
</table>

An all-in-one 16 or 24 A power centre integrating iSTAR controllers and power supplies into one enclosure, also allowing optional battery maintained operation.

Mountings for iSTAR UltraSE or iSTAR Pro (1 x GCM and 2 x ACM) are provided with three replaceable 12 V DC (13.7 V) 8 A load current power supplies.

The controller power supply unit is intended for powering an iSTAR controllers, readers and ancillaries totalling up to 8 A.

Each lock power supply unit provides 8 A for lock power with multiple outputs (8 x 1 A, 2 x 3 A) and allows user selectable fire panel control of each output. The enclosure includes a covered cabling area and various features intended to ease and speed up installations. The enclosure will house a 12 V VRLA battery of up to 17 AH capacity for each fitted PSU.
Technical Specifications:

**Environmental**
Operational temperature -10ºC to +40ºC
Storage temperature -20ºC to +50ºC
Water and dust resistance EN60529 IP20
Humidity Maximum 95% non-condensing

**Enclosure**
Dimensions (WxHxD) 547 mm x 770 mm x 166 mm
Weight < 22 Kg (exclusive of batteries)
Material Powder coated mild steel (RAL9016, White)

**Electrical - Input specifications**
Operating Voltage 176 V - 264 V AC at 47-63Hz
Operating Current < 450 V A (theoretical full load and recharge condition)
Connection type internal terminal block (3 x 1.5 mm² or 2 x 2.5 mm²)
Fuse BS1362 5A 1” Mains fuse or 5A HRC 20 x 5 mm fuse
Mains on indication Green LED indication

**Installed power supply units**
Controller / Reader 1
Lock power 2

**Controller / Reader Power Supply Unit Specifications**

**Output specifications**
Load output voltage 12 V DC (13.7 V)
Load output current 8 A Maximum total load across 10 output terminals
Load output fuses 8 x 1 A (2 A momentary) and 2 x 3 A (5 A momentary) Self resetting fuses
Fire enable control +12 V DC Feed (+F) to Return terminals (+R) with 0V common for additional units
Fire enabled O/P(s) configuration Individual PCB Jumper per output to set powered or non-powered during fire condition
Fire condition selectable O/P(s) 8 + 2 (PCB jumper to enable/disable during fire condition)
Output status indication Green LED
VRLA Battery connection 1 x 13.7 V DC for 12 V VRLA battery
VRLA Battery protection 20 x 5 mm 10 A Quick blow glass fuse and automatic deep discharge protection
Connection type PCB terminal block (2.5 mm²)
### Output power failure signalling contacts

**Contact configuration**
- Single pole change over

**False trigger delay**
- 30 < 60 seconds

**Maximum voltage**
- 30 V DC

**Maximum current**
- 1 A

**Connection type**
- PCB terminal block (2.5 mm²)

### Battery low voltage signalling contacts

**Contact configuration**
- Single pole change over

**Maximum voltage**
- 30 V DC

**Maximum current**
- 1 A

**Connection type**
- PCB terminal block (2.5 mm²)

### Compliance

- EN 61000-3-3:2013: Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
- EN 61204-3:2001: Low voltage power supplies, d.c. output. Electromagnetic compatibility (EMC)
- EN 61204-7:2006: Low-voltage power supplies, d.c. output. Safety requirements
- EN 50581:2012: Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

### Order Codes:

- **DAN-USTARSE-16A**: Tyco Power Centre for iSTAR UltraSE & Pro 8 reader version
- **USTAR008-SE-PSU**: Kit with iSTAR controller GCM/ACM and Tyco Power Centre (DAN-USTARSE-16 A)
- **DAN-USTAR-SE-24A**: Tyco Power Centre for iSTAR UltraSE & Pro 16 reader version
- **USTAR016-SE-PSU**: Kit with iSTAR controller GCM/2xACM and Tyco Power Centre (DAN-USTAR-SE-24 A)
Software House
iSTAR Power Centres

Rack-mount 24 A Power Centre

A dedicated all-in-one 19" rackmounting access control power centre with integral sliding drawer. The product combines three 12 V DC power supplies and battery space into one 3U height enclosure.

Three independent 12 V DC (13.7 V) 8 A load current power supplies are fitted.

The controller power supply unit is intended for powering access control controllers, readers and ancillaries totalling up to 8 A.

Each lock power supply unit provides 8 A for lock power with multiple outputs (8 x 1 A, 2 x 3 A) and allows user selectable fire panel control of each output. The enclosure includes a cabling area and various features intended to ease and speed up installations. The enclosure will house a 12 V VRLA battery of up to 7 AH capacity for each fitted PSU. Suitable for iSTAR and other access control systems.

Features:
- Mild steel enclosure
- Integrated slide-out drawer accommodates batteries and wiring to allow fast, compact and tidy installation
- Magnetic front cover tamper microswitch
- Adjustable depth rear support brackets
- Three high efficiency power supply units
- Quick-release front cover
- Houses and maintains three VRLA standby batteries of up to 7 Ah each (one for each PSU fitted)
- Cable area, tie down points and spiral wrap provided to assist with cable management
- Customised cabling area maximizes cabling space, helps to organize and look tidy
- Power supplies and their batteries (if equipped) are independent – gives increased reliability and redundancy
- Mains failure clean contact signalling
- Battery low voltage clean contact signalling
- Automatic low battery disconnect deep discharge protection – Batteries are automatically disconnected by relay
- Lock power outputs have self resetting fuses, back EMF protection and LED indication for easy confirmation of status
- Single input fire interface - Lock outputs are individually selectable to be fire panel controlled or to remain powered constantly
- 24 V DC Lock PSU version is available on request
Technical Specifications:

**Environmental**
Operational temperature: -10ºC to +40ºC
Storage temperature: -20ºC to +50ºC
Water and dust resistance: EN60529 IP20
Humidity: Maximum 95% non-condensing

**Enclosure**
Dimensions (WxHxD): 480 mm (19" rack) x 133 mm (3U height) x 480 mm
Weight: < 13 Kg (exclusive of batteries)
Material: Powder coated mild steel (RAL9016, black)

**Electrical - Input specifications**
Operating Voltage: 176 V - 264 V AC at 47-63Hz
Operating Current: < 450 VA (theoretical full load and recharge condition)
Connection type: internal terminal block (3 x 1.5 mm² or 2 x 2.5 mm²)
Fuse: BS1362 5A 1" Mains fuse or 5A HRC 20 x 5 mm fuse
Mains on indication: Green LED indication

**Installed power supply units**
Controller / Reader: 1
Lock power: 2

**Controller / Reader Power Supply Unit Specifications**

**Output specifications**
Load output voltage: 12 V DC (13.7 V)
Load output current: 8 A Maximum total load across 10 output terminals
Load output fuses: 8 x 1 A (2 A momentary) and 2 x 3 A (5 A momentary) Self resetting fuses
Mains status indication: Green LED
Output status indication: Green LED
VRLA Battery connection: 1 x 13.7 V DC for 12 V VRLA battery
VRLA Battery protection: 20 x 5 mm 10 A Quick blow glass fuse and automatic deep discharge protection
Connection type: PCB terminal block (2.5 mm²)

**Battery low voltage signalling contacts**
Contact configuration: Single pole change over
Maximum voltage: 30 V DC
Maximum current: 1 A
Connection type: PCB terminal block (2.5 mm²)

**Lock power supply unit (1 or 2 fitted)**

**Output specifications**
Load output voltage: 12 V DC (13.7 V)
Load output current: 8 A Maximum total load across 10 output terminals
Load output fuses: 8 x 1 A (2 A momentary) and 2 x 3 A (5 A momentary) Self resetting fuses
Fire enable control: +12 V DC Feed (+F) to Return terminals (+R) with 0V common for additional units
Fire enabled O/P(s) configuration: Individual PCB Jumper per output to set powered or non-powered during fire condition
Fire condition selectable O/P(s): 8 + 2 (PCB jumper to enable/disable during fire condition)
Mains failure signalling contacts
Contact configuration: Single pole change over
False trigger delay: 30 < 60 seconds
Maximum voltage: 30 V DC
Maximum current: 1 A
Connection type: PCB terminal block (2.5 mm²)

Mains status indication: Green LED
Output status indication: Green LED
VRLA Battery connection: 1 x 13.7 V DC for 12 V VRLA battery
VRLA Battery protection: 20 x 5 mm 10 A Quick blow glass fuse and automatic deep discharge protection
Connection type: PCB terminal block (2.5 mm²)
In-built back-EMF Spike protection: Yes
**Output power failure signalling contacts**

Contact configuration
- Single pole change over

False trigger delay
- 30 < 60 seconds

Maximum voltage
- 30 V DC

Maximum current
- 1 A

Connection type
- PCB terminal block (2.5 mm²)

**Battery low voltage signalling contacts**

Contact configuration
- Single pole change over

Maximum voltage
- 30 V DC

Maximum current
- 1 A

Connection type
- PCB terminal block (2.5 mm²)

**Compliance**

EN 61000-3-2:2006+A2:2009
- Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions (equipment input current < 16 A per phase)

EN 61000-3-3:2013
- Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

EN 61000-6-1:2007
- Electromagnetic compatibility (EMC). Generic standards. Immunity for residential, commercial and light-industrial environments

EN 61000-6-3:2007+A1:2011
- Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light-industrial environments

EN 61204-3:2001
- Low voltage power supplies, d.c. output. Electromagnetic compatibility (EMC)

EN 61204-7:2006
- Low-voltage power supplies, d.c. output. Safety requirements

EN 50581:2012
- Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

**Order Codes:**

DAN-RACK-PSU-24A

Dantech 19" rack-mounting access control Power Centre 12 V DC 24 A
iSTAR Ultra is a powerful, network-ready controller that supports up to 32 readers. The strong feature set answers the most demanding access control requirements of enterprise and government applications. Rack-mount and wall-mount options provide installation flexibility, while iSTAR Ultra’s unique lock power management eliminates the need for separate lock power interface boards. iSTAR Ultra features a hardened Linux kernel for its operating system, improving the security and scalability of the system.

Supports up to 32 Readers
iSTAR Ultra uniquely combines support for traditional hard-wired access control doors with support for wireless lock sets, all in the same controller. Up to 32 readers are supported by the iSTAR Ultra, of which 16 may come from the Access Control Module’s (ACM) I/O units – the rest can be made up of wireless lock sets and devices.

iSTAR Ultra is ideal for areas that require many readers in close proximity to the panel. For more distributed installations, iSTAR Ultra includes up to 16 RS-485 ports, allowing the installer to run longer distances to each door. iSTAR Ultra uses a General Controller Module (GCM) which includes standard 2GB RAM and 16GB SD card for memory, and has two onboard gigabit network ports for reliable network communications. The GCM controls up to two ACMs, with each ACM supporting up to eight Wiegand or RM readers, along with 24 supervised inputs and 16 outputs which can be individually wet- or dry-configured.

Features:
- Powerful network-ready door controller for up to 32 readers
- Embedded lock power management lowers installation costs
- Hardened Linux embedded OS for improved security and scalability
- Includes global anti-passback and advanced peer-to-peer clustering
- Native intrusion zone functionality
- LCD provides important controller status and diagnostics information
- Manages up to 500,000 cardholders in local memory
- Dedicated input for fire alarm interlock overrides door locks during fire conditions
- Onboard 256-bit AES network encryption
- Compatible with C•CURE 9000 v2.30 and above
- Enables Aperio wireless locks to communicate with C•CURE 9000 providing a fully integrated and managed lock solution
- Rack-mount models provide flexibility in mounting options
- Great solution for enterprise and government installations

iSTAR Ultra also includes an alphanumeric LCD to provide status and troubleshooting information. Database backups and all buffered transactions are stored to non-volatile SD card memory. A real-time clock battery keeps the clock powered during a power failure.

Network Ready
iSTAR Ultra includes two onboard gigabit network ports for primary and secondary communications to the host. AES 256-bit FIPS 197 network encryption, with custom key management, secures the controller from potential network threats. iSTAR Ultra supports both static and dynamic IP addresses, using DHCP and DNS to simplify network installation. In addition, the powerful iSTAR Configuration Utility (ICU) reduces startup time by allowing you to view online controllers, change configuration parameters, and download new firmware from a single interface.

(1) Up to 16 readers hard-wired through the ACMs
(2) iSTAR Ultra is not compatible with C•CURE 800/8000
Embedded Lock Power Management
The iSTAR Ultra’s ACM offers a unique, straightforward approach to managing the complete lock power needs of an installation. The ACM is designed to distribute power directly to each lock circuit without needing a separate fused distribution board (and the associated interconnect wiring). Each ACM has two separate lock power feeds in addition to controller power. These feeds can be used for different voltages (12 V and 24 V for example) or for battery-backed and non battery-backed power sources to comply with certain local life safety codes.

Each lock output can then be selected to use either a dry contact, lock power 1, or lock power 2, providing tremendous flexibility. In addition, each lock circuit is protected with a PTC resettable fuse and over-voltage surge protection through the extensive use of transzorbs, and includes a socketed relay for quick field replacement. Each lock circuit can be individually selected to unlock or lock based on the dedicated fire alarm input setting, meeting life safety requirements.

Ensure Reliable Communication with Clusters
iSTAR Ultra supports peer-to-peer communications across clusters meaning that the controllers communicate with one another without needing host intervention. Clusters are user-defined groups of up to 16 controllers and can be created to enhance security by separating a widely dispersed facility into different controlled areas. For example, events linking inputs on one controller to outputs on another controller will still be active without the host.

Local and Global Anti-Passback
Provides Effective System-Wide Security Anti-passback prevents cardholders from passing their credentials back to others in order to gain access to secured areas. Global anti-passback is critical for ensuring uncompromised security on a large scale. Building upon cluster based anti-passback as described above, the controllers are able to send an antipassback violation notice to the C•CURE server. Tailgating, or following another cardholder into a secured area without presenting a separate badge, can easily be flagged within the C•CURE monitoring station.

Rack-Mount Flexibility
iSTAR Ultra is available in a modular rackmount configuration, reducing the space requirements and costs associated with installing a panel on the wall. Separate GCM and ACM modules can be arranged in the rack to optimize your server room installation. For example, the GCM can be mounted in the front of a four-post rack, while the ACM and field wiring can be located in the rear of the rack. Field wiring on the ACM is easily routed through the top and/or bottom of the enclosure, with the ACM board mounted front and center for convenient servicing.

Keypad Commands Provide the Ultimate in Control
iSTAR Ultra supports custom keypad commands which provide a powerful way to easily activate events in C•CURE. These commands include anything from triggering a duress call and sounding an alarm, to locking and unlocking doors directly from an RM reader keypad. Commands can be configured to require a card presentation and/or a card and PIN to validate the command. Keypad commands can also be used to arm and disarm intrusion zones.

Improves Life Safety
A dedicated input for a fire alarm tie-in automatically locks or unlocks selected door lock outputs in the event of a fire condition. The fire input may be unsupervised or supervised, and the release circuit does not require software programming for operation. In addition, a second input for a manual keyswitch is provided, such that the door lock outputs will not re-lock unless authorized safety personnel confirm the safety of the building via the keyswitch. The keyswitch functionality is enabled via an onboard DIP switch.

iSTAR Ultra is easy to configure in its convenient rack-mount model.
Extended Card Formats Enhance Security

iSTAR Ultra supports extended card formats of up to 256 bits, providing the utmost in flexibility when configuring custom card formats. iSTAR Ultra supports the full 200-bit FASC-N format for compliance with the US Government’s FIPS 201 initiative, as well as the 128-bit GUID format for PIV-I credentials. These extended cardholder formats are stored locally in iSTAR allowing the controller to make the access decision even when it is offline from the host. Each format supports multiple data fields such as card number, site code, issue code, parity, agency code, system code, plus up to four custom card integer fields. Longer card numbers and formats offer greater protection against card duplication, and are especially valuable to customers who require card numbers that exceed 10 digits.

Cardholder Flexibility

Used with C•CURE 9000, iSTAR Ultra allows administrators to assign up to five cards per cardholder record rather than having to create a separate record for each card. This simplifies the management and maintenance of personnel records.

For additional flexibility, iSTAR Ultra can support up to 128 card formats system wide and ten card formats per reader, including smart cards. This expanded ability to use multiple card types (such as 26-bit, 37-bit, or Corporate 1000) at a single reader frees customers from having to consolidate or reissue new cards.

Built-in Diagnostics to Easily Test and Troubleshoot

iSTAR Ultra includes both built-in web diagnostics pages and a local LCD to test and troubleshoot inputs, outputs, reader ports, and last card read. In addition, via the network, you can retrieve real-time status and diagnostics of:

// controller time/boot time
// total/available memory
// connection status
// firmware and OS versions
// hardware (MAC) and IP addresses
// downloaded clearances and cardholders

Fully Integrated and Managed Lock Solution

Utilizing iSTAR Ultra, Aperio wireless locks from ASSA ABLOY communicate with C•CURE 9000, providing a fully integrated and managed lock solution. Up to 32 Aperio locksets can be managed by a single iSTAR Ultra. In addition to traditional locksets, the Aperio line also includes cabinet and data center locks, allowing you to extend the breadth of your access control system to nontraditional openings. Each lockset communicates using AES 128-bit encrypted wireless technology to an Aperio hub, which is then connected to the iSTAR Ultra with a simple RS-485 communications bus. Each hub can accommodate up to eight wireless locks.

All activity and alarms from each Aperio device are sent to the iSTAR Ultra and then up to the C•CURE 9000 in real time, guaranteeing a high level of control and visibility of door actions. Besides standard card access transactions, each device also communicates low battery, tamper, and communications status to the system.
iSTAR Ultra and Wireless Lock System Layout

(3) The C•CURE 9000 Server component is now called the victor Application Server.

Technical Specifications:

**Physical**

Dimensions (H x W x D)
- Wall-Mount: 635 x 560 x 127 mm
- Rack-Mount GCM: 86 x 445 x 252 mm (2U rack height)
- Rack-Mount ACM: 175 x 445 x 125 mm (4U rack height)
- GCM Board: 165 x 266 x 26 mm
- ACM Board: 115 x 397 x 36 mm

Weight
- Wall-Mount: 12.3 kg
- Rack-Mount GCM: 4.3 kg
- Rack-Mount ACM: 4.1 kg
- Enclosure Material: 16 gauge carbon steel, with tamper switch

Environmental

Operating Temperature: 0-50°C
Operating Relative Humidity: 5-95% RH non-condensing
Storage Temperature: -20-60°C

**Electrical**

Power Requirements, GCM
- 12 VDC +/- 20%, 0.5 A plus up to 1.5 A per RS-485 port

Power Requirements, Each ACM
- ACM board: 12 VDC +/- 20%, 0.5 A min, up to 12 A max depending on power required of connected devices (readers, door modules, PIRs). ACM lock power (optional): 0-30 VDC, up to 12 A max (two lock power inputs per ACM)

Heat Dissipation
- GCM: 61 BTU/hr, each ACM: 20.5 BTU/hr

Memory and RTC Backup
- CR 2032 lithium battery provides RTC backup; database and buffered transactions stored in non-volatile memory
Technical Specifications:

System and Network
- CPU: Freescale i.MX6 1 GHz dual core Cortex-A9
- System Memory: 2 GB RAM
- SD Storage: 16 GB SD card
- Primary Network Port: 10/100/1000 Mbps, full duplex, auto-negotiate
- Secondary Network Port: 10/100/1000 Mbps, full duplex, auto-negotiate
- Network Encryption: Optional AES 256-bit, with custom key management
- Indicators and Switches: LCD for diagnostics, LEDs for power, LAN activity, serial port activity, output status, encryption-enable switch

Memory Capacity
- Ten clearances, five cards/person, 40-digit card
- 500,000 cardholders

Transaction Buffer Size
- 10,000 minimum, 500,000 maximum

Inputs/Outputs, GCM
- Dedicated Inputs: Cabinet tamper, AC fail, low battery
- Reader Technologies: Multi-Technology, Proximity, Smart Card (incl. PIV II & TWIC), Wiegand, and Magnetic Stripe (RM only)
- Maximum Distance to Door: RM: 1,219 m, Wiegand: 150 m
- Reader Power Available: On/off indication per port, through C•CURE 9000
- RM Bus Communications: Eight ports, RS-485 half duplex, two wire, plus optional two wires for device power

Distance, GCM to ACM
- Up to 1.83 m

Specifications for Aperio Support
- GCM RS485 Ports to Connect Aperio Hubs: 2
- Max # of Aperio Hubs per RS485 Port: 15
- Max # of Aperio Locks per RS485 Port: 16

Software House
Door Controllers

Specifications per ACM Board
- Readers: Wiegand and RM (RS-485)
- Number of Readers Supported, per ACM Board: 8
- Types of Readers Supported: Wiegand and RM (RS-485)
- Reader Technologies Supported: Multi-Technology, Proximity, Smart Card (incl. PIV II & TWIC), Wiegand, and Magnetic Stripe (RM only)
- Maximum Distance to Door: RM: 1,219 m, Wiegand: 150 m
- Reader Power Available (dependent on power supply): 12 VDC, 1.5 A max per reader (including aux power and RM port power)
- Reader Power Status Indication: On/off indication per port, through C•CURE 9000
- RM Bus Communications: Eight ports, RS-485 half duplex, two wire, plus optional two wires for device power

Inputs
- Number of General Purpose Inputs per ACM: 24, configurable supervision per input
- Additional Dedicated Inputs: cabinet tamper, fire alarm interlock, fire alarm keyswitch override (supervision supported)
- Input Expansion: Up to 128 additional inputs using I8 modules on RM bus
Technical Specifications:

Outputs

Number of Relay Outputs
per ACM: 16 (eight for locking devices, eight for local annunciation)

Output Power Feeds
Two per ACM (L1 and L2), 0-30 VDC, 12 A max.
Voltage value of each feed displayed through C•CURE 9000

Output Power Selection
Individually configurable via jumper as power sourcing (wet, L1 or L2), or dry contact relay

Output Power (Wet)
Up to 0.75 A per lock. Voltage follows selection of power feed (L1 or L2)

Primary Lock Output Rating,
Dry Contact: 0 to 30 VAC/DC, 5 A max

Secondary Output Rating,
Dry Contact: 0 to 30 VAC/DC, 1 A max

Output Protection
Individual PTC resettable fuse, snubber, transzorb, reverse polarity protection (primary lock outputs use socketed relays)

Output Expansion
Up to 128 additional relay outputs using R8 modules on RM bus

Regulatory

Access Control
UL 294, CSA C22.2 No. 205 (Canada); Burglar Alarm: UL 1076, ULC 1076 (Canada)
CE EN 55022, EN 55024, EN 60950-1

Safety
IEC 60950-1

EMI
FCC Part 15 Class A, EN 55022, ICES-003 (Canada), VCCI Class A ITE (Japan), C-Tick (AS/NZS CISPR 22 - Australia/New Zealand)

EMC
EN 55024, EN 50130-4, IEC 62599-2, EN 61000-6-1

Encryption
FIPS 197, FIPS 201

Ordering Information

USTAR008
iSTAR Ultra Controller for 8 readers, Wall mount housing with General Controller Module and one Access Control Module or up to 8 readers (Wiegand or RM). External PSU required

USTAR016
iSTAR Ultra Controller for 16 readers, Wall mount housing with General Controller Module and two Access Control Module or up to 16 readers (Wiegand or RM). External PSU required

USTAR-GCM-2U
iSTAR Ultra GCM, 19” 2U rack mount chassis. Supports up to 2 ACM Boards. RS-485 connection for Aperio wireless locks (32 max)

USTAR-ACM-4U
iSTAR Ultra ACM, 19” 4U rack mount chassis. Supports up to 8 Readers via RM bus or Wiegand connection

USTAR-CAN
iSTAR Ultra Wall mount Enclosure

USTAR-GCM
iSTAR Ultra General Controller Module (GCM). Enclosure not included

USTAR-ACM
iSTAR Ultra Access Control Module (ACM). Enclosure not included

(4) Memory allocation is dynamic and shared between cardholders, event storage, and configuration information. (5) iSTAR Ultra supports 32 readers (ACM and/or wireless) total of which 16 may come from ACMs (6) Up to two ACM boards per iSTAR Ultra
iSTAR Pro

The space-saving Software House® iSTAR Pro 2U Rack Mount controls up to 16 readers and supports most types of Wiegand and RM output card readers. Coupled with removable wire connectors that enable quick installation, iSTAR Pro Rack Mount reduces the space requirements and costs associated with installing a panel on the wall, making it a desirable solution for IT professionals. The patent-pending rack design allows administrators to centrally install and monitor the panel in a standard depth 4-post IT rack or a standard 2-post Telco rack, saving valuable wall space. When used with an external 2U lock power supply that requires minimal wiring, installation costs are further reduced while taking advantage of the controlled environment of an IT server room. The stable temperature and ideal environmental conditions of the IT server room help to preserve the life of the unit, thereby saving maintenance and replacement costs over the long term.

iSTAR Pro Rack Mount supports Dynamic Host Configuration Protocol (DHCP) to simplify and expedite installation. For easy setup, this device also supports Domain Name Services (DNS), Windows Internet Naming Service (WINS), Fully Qualified Domain Naming (FQDN), and provides a comprehensive approach to network management.

A front panel LCD displays real-time system diagnostics for quick troubleshooting. LED status lights indicate power and high temperature.

Features:
- Saves wall space and lowers installation costs
- Leverages standard IT server racks
- Controls up to 16 readers using space-saving 2U enclosure
- Patent-pending design allows fast field wiring using quick connects
- Front panel LCD and LEDs enable quick diagnostics and troubleshooting
- Industrial handles and slide rails ensure easy installation
- Hinged cover provides easy access to diagnostic port
- Dual network LAN ports for redundant network connection
- Compatible with C•CURE® 800/8000 and C•CURE 9000
- Optional external 2U rack power supply can provide lock power
- Supports multiple cards per cardholder and multiple card formats, including FIPS 201 extended formats, for a highly secure, flexible solution

With external diagnostics and status lights, administrators and IT staff can view and easily handle system duress without having to open the enclosure. These security features significantly reduce the risk of system downtime and, with remote web diagnostics, you can find and fix performance issues remotely from anywhere in your facility.

Each controller has front and rear tamper switches to ensure it is not accessed by unauthorized personnel. With encrypted communications, protection against network intrusion, dual network paths, and optional dial-up secondary communications, iSTAR Pro Rack Mount is a highly secure network device that even the most cautious IT manager will trust.
## Door Controllers

<table>
<thead>
<tr>
<th>Specification</th>
<th>Controller Capacity 64 MB</th>
<th>Controller Capacity 128 MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of personnel records with one clearance, one card/person, ten-digit cards</td>
<td>525,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Number of personnel records with ten clearances, one card/person, ten-digit cards</td>
<td>295,000</td>
<td>680,000</td>
</tr>
<tr>
<td>Number of personnel records with one clearance, five cards/person, ten-digit cards</td>
<td>170,000</td>
<td>375,000</td>
</tr>
<tr>
<td>Number of personnel records with ten clearances, five cards/person, 40-digit cards</td>
<td>110,000</td>
<td>250,000</td>
</tr>
</tbody>
</table>

**Physical**
- **Dimensions (H x W x D)**: 8.9 x 48.3 x 58.4 cm
- **Rack Space Requirements**
  - 2U (standard rack units)
- **Environmental**
  - 0° to 50°C
  - 5 to 95% relative humidity, non-condensing
- **Weight**: 15 kg
- **High Temperature Alarm**: 60° +/- 6°C

**Electrical**
- **Power Requirements**
  - 90/264 VAC, 50/60 Hz
- **Input Protection**: 4A/250V fuse
- **Power (Max)**: 75W
- **Heat Dissipation (Typical)**: 320 BTU/h
- **Memory and RTC Backup**
  - Onboard, rechargeable NimH batteries provide minimum 12 hrs retention of RAM and RTC

**Network Communications**
- **10/100 Ethernet onboard**
- **Second LAN Port**
  - Using optional 10/100 PCM CIA network card

**Indicators and Switches**
- **LED for power, high temp**
- **LCD for diagnostics**
- **System Memory**
  - 64 MB RAM standard; expandable to 128 MB
- **Regulatory**
  - Tested and certified by ETL per ANSI/UL standard
  - 294 2004 CE
  - FCC Part 15 Class B
  - RoHS

**Power supply certified to**
- CSA C22.2 No. 60950- 1-03

**Reader, Inputs and Outputs**
- **Reader Ports**: 16
- **Reader Support**
  - RM readers or RM reader modules, or Wiegand output readers

**Reader Technologies Supported**
- Multi-Technology
- Proximity
- Smart Card
- Wiegand
- Magnetic Stripe

**Maximum Distance to Door**
- RM: 1,219 m Wiegand: 150 m

**RM Bus Communications**
- RS-485 half duplex, two wire, plus optional two wires for device power

**Supervised Inputs**
- 32, double-resistor

**Input Expansion**
- Up to 128 additional inputs using 18 input modules on RM bus

**Outputs**
- 16 dry contact relay outputs

**Output Rating**
- 30 V AC/DC, 2.5A inductive, 5.0A non-inductive

**Output Expansion**
- Up to 128 additional Form C Relay outputs using R8 output modules on RM bus

**Tamper Switches**
- Two, front and rear cover
### Order Codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAR008-2URM-EU</td>
<td>iSTAR Pro, 19” 2U rack mount chassis. Supports up to 8 Readers via RM bus. 64MB RAM GCM. 16 alarm I/Ps &amp; 8 alarm O/Ps. Can be field upgraded to 16 readers, pre-loomed for second ACM. US and EU Power Leads included</td>
</tr>
<tr>
<td>STAR008-2UW-EU</td>
<td>iSTAR Pro, 19” 2U rack mount chassis. Supports up to 8 Wiegand compatible readers. 64MB RAM GCM. 16 alarm I/Ps &amp; 8 alarm O/Ps. Can be field upgraded to 16 readers, pre-loomed for second ACM. 1 RM port for additional I/O. US and EU Power Leads included</td>
</tr>
<tr>
<td>STAR016-2URM-EU</td>
<td>iSTAR Pro, 19” 2U rack mount chassis. Supports up to 16 Readers via RM bus. 64MB RAM GCM. 32 alarm I/Ps &amp; 16 alarm O/Ps. US and EU Power Leads included</td>
</tr>
<tr>
<td>STAR016-2UW-EU</td>
<td>iSTAR Pro, 19” 2U rack mount chassis. Supports up to 16 Wiegand compatible readers. 64MB RAM GCM. 32 alarm I/Ps &amp; 16 alarm O/Ps. 2 RM ports for additional I/O. US and EU Power Leads included</td>
</tr>
<tr>
<td>STAR008-2URM-UK</td>
<td>iSTAR Pro, 19” 2U rack mount chassis. Supports up to 8 Readers via RM bus. 64MB RAM GCM. 16 alarm I/Ps &amp; 8 alarm O/Ps. Can be field upgraded to 16 readers, pre-loomed for second ACM. US and UK Power Leads included</td>
</tr>
<tr>
<td>STAR008-2UW-UK</td>
<td>iSTAR Pro, 19” 2U rack mount chassis. Supports up to 8 Wiegand compatible readers. 64MB RAM GCM. 16 alarm I/Ps &amp; 8 alarm O/Ps. Can be field upgraded to 16 readers, pre-loomed for second ACM. 1 RM port for additional I/O. US and UK Power Leads included</td>
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</tr>
<tr>
<td>STAR016-2UW-UK</td>
<td>iSTAR Pro, 19” 2U rack mount chassis. Supports up to 16 Wiegand compatible readers. 64MB RAM GCM. 32 alarm I/Ps &amp; 16 alarm O/Ps. 2 RM ports for additional I/O. US and UK Power Leads included</td>
</tr>
</tbody>
</table>
iSTAR eX Intelligent Network Controller

Up to Eight Doors per Controller
iSTAR eX is a four- or eight-door, Ethernet-ready embedded control panel for enterprise-wide security management.

Featuring strong, on-board AES 256-bit encryption, iSTAR eX exceeds the US Government’s FIPS 197 encryption standard, and is the only access controller certified and listed to the FIPS 140-2 standard for secure cryptographic modules. iSTAR eX also features a built-in Uninterruptible Power Supply (UPS), providing four hours of full operation during a power failure, and automatic backup of all system data to non-volatile compact flash (CF) memory before full discharge of the battery.

The iSTAR eX includes on-board I/O for four complete entry-only doors (16 inputs, 8 outputs, 4 Wiegand and RM reader ports). iSTAR eX is easily field upgradable to eight readers using a USB security key. Additional RM readers (5-8) can be activated by inserting the security key into a USB port located on the panel.

iSTAR eX operates with Software House’s RM Reader series as well as industry-standard Wiegand interface readers. Full DHCP support allows the controller to easily fit into the LAN infrastructure making it extremely IT-friendly. Two on-board 10/100bT Ethernet ports allow support for connection to a second LAN for redundant communications. iSTAR eX is compatible with C•CURE 800/8000 9.1 and higher and with C•CURE 9000 version 1.0 and higher.

Features:

- AES 256-bit Encryption. On-board, secure FIPS 197-listed encryption between panel and host and between panels within a cluster.
- Dual On-Board 10/100base-T Ethernet Ports. For redundant communications to the host with automatic failover.
- Built-In UPS. Provides up to four hours of full operation during power failures.
- Custom Key Management. Supports digital certificates, both self-generated and from the customer’s own certificate authority.
- Flexibility in System Design. Use RM Readers, RM-4 and RM-4E reader modules for a distributed approach or wire Wiegand readers and door I/O directly back to iSTAR eX – or use a combination of both.
- Wide Range of Alarm Monitoring. iSTAR eX has 16 inputs and eight outputs on-board; I/8 and R/8 modules allow additional input and output capacity.
- Advanced Clustering for Unmatched Event Control and Monitoring. Distributed management is supported through communications within a cluster.
- Anti-Passback within a Cluster. Stops or restricts access of personnel attempting to utilize the same security badge.
- Password-Protected Web Based Diagnostics. Users can obtain remote diagnostics utilizing any networked computer, Web browser and known iSTAR eX IP address.

The eight-reader model is compatible with C•CURE 800/8000 version 9.4 and C•CURE 9000 version 1.92. It comes with 64 MB of on-board RAM (non-expandable) and a local LCD display. iSTAR eX includes many of the advanced iSTAR Pro features including advanced clustering, extended card formats, multiple cards per record, threat levels, and clearance filters and web diagnostics.
## Door Controllers

### Order Codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAREX004W-64</td>
<td>iSTAR eX, 64 MB RAM Supports four readers, with power supply, battery, enclosure, UL listed</td>
</tr>
<tr>
<td>STAREX004-64NB</td>
<td>iSTAR eX, 64 MB RAM, no Battery Supports four readers, with power supply, battery, enclosure, without SLA battery, UL listed</td>
</tr>
<tr>
<td>STAREX004-64NPS</td>
<td>iSTAR eX, 64 MB RAM, no PSU or Battery Supports four readers, without power supply, without SLA battery, not UL listed</td>
</tr>
<tr>
<td>STAREX008W-64</td>
<td>iSTAR eX, 64 MB RAM Supports eight readers, with power supply, battery, enclosure</td>
</tr>
<tr>
<td>STAREX008-64NB</td>
<td>iSTAR eX, 64 MB RAM, no Battery Supports eight readers, with power supply, without SLA battery, enclosure</td>
</tr>
<tr>
<td>STAREX008-64NPS</td>
<td>iSTAR eX, 64 MB RAM, no PSU or Battery Supports eight readers, without power supply, without SLA battery, UL listed</td>
</tr>
<tr>
<td>STAREX008-UPG</td>
<td>iSTAR eX Upgrade Dongle Provides upgrade from four-door iSTAR eX to eight-door iSTAR eX</td>
</tr>
</tbody>
</table>

### Spare Boards and Accessories

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAREX-GCM</td>
<td>iSTAR eX General Controller Module (GCM) Includes LCD assembly, PMB interconnect cable and RS485 comm cables</td>
</tr>
<tr>
<td>STAREX-PMB</td>
<td>iSTAR eX Power Management Board (PMB)</td>
</tr>
<tr>
<td>STAREX-CAN</td>
<td>iSTAR eX Enclosure Includes tamper switch</td>
</tr>
<tr>
<td>STAREX-PS</td>
<td>iSTAR eX Power Supply 120/240 VAC input, 12V/78W output, includes DC output cable and battery cable</td>
</tr>
<tr>
<td>STAREX-BAT</td>
<td>iSTAR eX Battery 12V, 17.2 / 18 Ahr SLA battery</td>
</tr>
<tr>
<td>0304-1381-01</td>
<td>iSTAR eX LCD Assembly</td>
</tr>
</tbody>
</table>
iSTAR Edge is a powerful addition to the iSTAR range of door controllers in the form of a two or four reader IP edge device which provides a strong feature set including advanced iSTAR clustering, peer-to-peer communication, intrusion zones and keypad commands, extended card numbers, advanced door monitoring, and anti-passback. Its optional Power over Ethernet (PoE) module provides ample power for two doors, and allows the iSTAR Edge to leverage existing network infrastructure to reduce installation costs.

iSTAR Edge increases overall system reliability by providing localized decision-making at each door with a robust local cardholder database of over 400,000 and local alarm and event buffering in the event communication to the host is unavailable.

iSTAR Edge communicates with C•CURE 9000 and other Software House controllers to provide even the most demanding applications with a solution they can use across their entire corporation. Whether installed at the corporate headquarters with thousands of employees, or at the regional sales branches with only a few employees, iSTAR Edge ensures that the same security policies and procedures are implemented at each location.

iSTAR Edge has been designed to drastically lower installation and startup costs. Embedded lock power management, including powered (wet) lock outputs with individual resettable fused protection, eliminates the need for additional power supplies and fused power distribution boards normally required for traditional installations. Combined with removable connectors, a local display for quick troubleshooting, and status LEDs, iSTAR Edge streamlines even the toughest installation. Furthermore, with remote web diagnostics, you can find and fix performance issues from anywhere in your facility using a web browser.

The iSTAR Edge enclosure has expansion capability for up to two input/output modules, and is protected with a built-in tamper switch to ensure the controller is not accessed by unauthorized personnel.

Security risks are significantly reduced with encrypted communications and denial-of-service protection against network intrusion, making iSTAR Edge a highly secure network device – perfect for even the most cautious IT manager.

Order Codes:

- **ESTAR002**: iSTAR Edge 2 reader controller with enclosure
- **ESTAR002-POE1**: iSTAR Edge 2 reader controller with enclosure and PoE/PoE PLUS module
- **ESTAR002-MB**: iSTAR Edge 2 reader controller PCB only
- **ESTAR-POE1**: iSTAR Edge PoE/PoE PLUS module only
- **ESTAR004**: iSTAR Edge four reader controller – iSTAR Edge controller with enclosure
- **ESTAR004-RM**: iSTAR Edge four reader controller – iSTAR Edge plus 2 x RM-4 module pre-mounted in enclosure

*4 reader iSTAR Edge devices are compatible with C.Cure 9000 v1.93 onwards only and will not allow readers 3 & 4 to be configured if used with C.Cure 800 version 10.0 onwards*
Technical Specifications:

**Physical**

Dimensions (H x W x D)
- Enclosure: 305 x 305 x 101 mm
- Board: 190 x 146 x 25 mm
- Enclosure Material: 18g steel, with lock and tamper
- Expansion: Includes mounting standoffs for two point expansion modules (I8, I8-CSI or R8)

Environmental
- 0° to 50° C
- 5 to 95% relative humidity, non-condensing

Weight with Enclosure
- 4.2 kg

**System Memory**

64 MB RAM, 128 MB flash EEPROM
- Cardholder capacity:
  - One clearance, one card/person, ten-digit cards: 400,000
  - Ten clearances, one card/person, ten-digit cards: 230,000
  - One clearance, five cards/person, ten-digit cards: 130,000
  - Ten clearances, five cards/person, 40-digit cards: 85,000

**Note**: Memory allocation is dynamic and shared between cardholders, event storage, and configuration information.

**Electrical**

Power Requirements
- 12/24 VDC, auto-sensing
- Board only: 400 mA, max 3.8A @ 12 VDC, 3.1A @ 24VDC for board plus all attached devices

**Reader, Inputs and Outputs**

Number of Readers Supported
- Two or Four

Types of Readers Supported
- Wiegand and RM

Reader Technologies Supported
- Multi-Technology Proximity
- Smart Card, incl. PIV II & TWIC Wiegand
- Magnetic Stripe (RM only)

Maximum Distance to Door
- RM: 1,219 m

Wiegand: 150 m
- Reader Power Available: 12 VDC, 1.5 A total (including aux power and RM port power)
- RM Bus Communications: Three ports, RS-485 half duplex, two wire, plus optional two wires for device power

**Inputs**

- Supervised Inputs: Eight, single or double-resistor
- Additional Inputs: Tamper switch, power fail, and low battery
- Input Expansion: Up to 32 additional inputs using I8 input modules on RM bus (64 additional with 4-reader model)

**Auxiliary Power Available for Inputs**
- 12 VDC; two (350mA each)

**Outputs**

- Outputs: Four, individually configurable via jumper as power sourcing (wet), or dry contact relay
- Output Power, Wet: 12V or 24 VDC, 0.75A (If iSTAR Edge powered locally, output voltage follows input voltage. If using PoE/PoE Plus, 12V only)
- Output Protection, Per Output: PTC resettable fuse, 0.75A, snubber, transzorb
- Output Rating, Dry: 30V AC/DC, 1 A
- Output Expansion: to 32 additional Form C relay outputs using R8 output modules on RM bus (64 additional with 4-reader model)

**Regulatory**

IEC 60950, UL 294, UL 1076, UL 2043, cUL 294, cUL 1076
- UL 294B (new standard for the use of Power over Ethernet (PoE) in access control systems)
- FCC Part 15 Class A (Class B with shielded Ethernet cable) CE, including EN50133
- C-Tick
- RoHS & WEEE

**Compatibility**

Fully compatible with C•CURE 9000 v1.92 and C•CURE 800/8000 v10.0 or later
## Controller Comparison Tables

Software House offers a wide selection of intelligent network controllers - door controllers and alarm monitoring panels that form the basic building blocks of any C•CURE security management system. Renowned for their reliability and their sophisticated access control features, Software House intelligent network controllers are designed to meet even the most demanding security applications.

<table>
<thead>
<tr>
<th>Description</th>
<th>iSTAR Edge</th>
<th>iSTAR Pro</th>
<th>iSTAR eX</th>
<th>apC/8X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>iSTAR Edge</strong></td>
<td>iSTAR Edge is a small, two-reader intelligent IP edge device designed to take advantage of existing network infrastructure. It features an optional Power over Ethernet (PoE) module that supports both PoE (802.3af) and PoE Plus (802.3at) standards. PoE Plus provides enough power to control two full doors, including locks and readers. iSTAR Edge uses strong AES 256-bit network encryption, supports DHCP, WINS, DNS, and SNMP, and has 64MB memory, which provides for local database storage of up to 400,000 cardholders. It is expandable via the RM bus with up to four I8 input modules and four R8 output modules. The iSTAR Edge is also available in a four-reader model.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>iSTAR Pro</strong></td>
<td>iSTAR Pro is available in either 8- or 16-door configurations. It features on-board Ethernet, optional dial-up modem communications, full DHCP and WINS support, and up to 128 MB memory, enough to store over 1,000,000 cardholders. iSTAR Pro includes on-board wiring for inputs, outputs, and Wiegand readers, while at the same time offering connections to the distributed RM bus.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rack mount versions of the iSTAR Pro allow the controller to take advantage of server room environments, while lowering overall installation costs and saving valuable wall space. The 4U iSTAR Pro Rack Mount includes embedded lock power, 1A per output, to further reduce installation costs, while the 2U iSTAR Pro Rack offers a space-saving form factor and is ideal when lock power is provided separately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>iSTAR eX</strong></td>
<td>iSTAR eX supports up to eight doors. It features strong 256-bit AES encryption, certified per FIPS 197 and is the perfect solution for security-critical government applications. iSTAR eX is listed for FIPS 140-2, the US government’s most rigorous standard for cryptographic products. It also features dual on-board Ethernet ports and a built-in UPS/battery back-up system. Like iSTAR Pro, iSTAR eX includes on-board wiring for inputs, outputs, and Wiegand readers, while at the same time offering connections to the distributed RM bus.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>apC/8X is a versatile 8-door controller, featuring modular architecture with optional add-on boards for direct Wiegand wiring or the distributed RM bus. apC/8X has up to 4 MB RAM, supporting up to 160,000 cardholders.</td>
</tr>
<tr>
<td>Feature</td>
<td>iSTAR Edge</td>
<td>iSTAR Pro/iSTAR Pro Rack Mount</td>
<td>iSTAR eX</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Networking</td>
<td>Embedded Ethernet Port, 10/100bT auto-sensing DHCP support for automatically obtaining IP addresses</td>
<td>Embedded 10bT Ethernet port DHCP support for automatically obtaining IP addresses Supports redundant communication paths – dialup, serial (utilizing RAS), or Ethernet (dialup and serial on C•CURE 800 only)</td>
<td>Embedded Ethernet Port, 10/100bT auto-sensing DHCP support for automatically obtaining IP addresses</td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>Peer-to-peer with master/slave designations (advanced clustering with iSTAR Edge/eX units only) Local, cluster, and global anti-passback support (global on C•CURE 800 only) Asynchronous communication with the host</td>
<td>Peer-to-peer with master/slave designations (advanced clustering with iSTAR Pro units only) Local, cluster, and global anti-passback support (global on C•CURE 800 only) Asynchronous communication with the host</td>
<td>Peer-to-peer with master/slave designations (advanced clustering with iSTAR eX/Edge units only) Local, cluster, and global anti-passback support (global on C•CURE 800 only) Asynchronous communication with the host</td>
<td></td>
</tr>
<tr>
<td>Encryption</td>
<td>AES 256-bit encryption, FIPS 197-listed, with custom key management and digital certificates</td>
<td>RC4 encryption, 128-bit</td>
<td>AES 256-bit encryption, FIPS 197-listed, with custom key management and digital certificates Entire unit listed for FIPS 140-2</td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>64 MB RAM standard (non-expandable)</td>
<td>64 MB RAM standard Field upgradeable to 128 MB using industry standard DIMM module</td>
<td>64 MB RAM standard (non-expandable)</td>
<td></td>
</tr>
<tr>
<td>Readers</td>
<td>Two- or four-reader support</td>
<td>Eight- or 16-reader support</td>
<td>4- or 8-reader support</td>
<td></td>
</tr>
<tr>
<td>Input/Output</td>
<td>Max. 40 supv inputs, 36 outputs per controller (72 inputs/76 outputs max on 4-rdr model)</td>
<td>Max. 192 inputs (all supervised), 176 outputs per controller</td>
<td>Max. 88 inputs (all supervised), 80 outputs per controller</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>12/24 VDC Optional PoE/PoE Plus module</td>
<td>Optional apS power supply required for battery backup (wall-mount only) Full lock power included (rack-mount only)</td>
<td>Built-in UPS provides up to 4 hours full operational backup time</td>
<td></td>
</tr>
<tr>
<td>Expansion/Service</td>
<td>Configuration set up and diagnostics via a web browser on any LAN networked computer LCD for diagnostics and configuration support</td>
<td>Configuration set up and diagnostics via a web browser on any LAN networked computer LCD for diagnostics and configuration support</td>
<td>Configuration set up and diagnostics via a web browser on any LAN networked computer LCD for diagnostics and configuration support</td>
<td></td>
</tr>
<tr>
<td>Redundant Comm. Path</td>
<td>Not supported</td>
<td>Automatic fall back to dialup communications or second Ethernet port if network goes down</td>
<td>Automatic fall back to second Ethernet port if network goes down</td>
<td></td>
</tr>
<tr>
<td>Additional Features</td>
<td>Enhanced intrusion zones and keypad commands Extended card formats and CHUID support Double-swipe feature No Asset Management</td>
<td>Enhanced intrusion zones and keypad commands Extended card formats and CHUID support Double-swipe feature No Asset Management</td>
<td>Enhanced intrusion zones and keypad commands Extended card formats and CHUID support Double-swipe feature No Asset Management</td>
<td></td>
</tr>
</tbody>
</table>
iSTAR Basic Configuration

Host Computer (Server)

[Diagram showing network configuration with Host Computer, Cat 5/6 cables, Modems, and TCP/IP connections]

[Diagram showing Wide Area Network with Ethernet Hubs, Modems, RS-232 connections, and iSTAR Pro devices]
RM Bus Devices

RM Bus is a RS485 field bus offered on iSTAR Pro, iSTAR eX, apC/8X, and apC/L controllers. Using RM devices in a distributed fashion, local door and input/output wiring can be reduced. The RM bus uses two wires for communications, with an additional two wires optionally run for 12 VDC power to the RM devices. The RM bus may be run in a daisy-chain configuration, in a “star” configuration with each RM device wired back to its controller separately, or with a combination of both. See controller installation manuals for details.

Maximum number of RM Devices per Controller:

<table>
<thead>
<tr>
<th></th>
<th>RM Readers</th>
<th>I8 Modules</th>
<th>R8 Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>iSTAR Edge</td>
<td>2 or 4</td>
<td>4 or 8</td>
<td>4 or 8</td>
</tr>
<tr>
<td>iSTAR Pro-8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>iSTAR Pro-16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>iSTAR eX</td>
<td>4 or 8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Order Codes:

RM-4K
Series Personality Module with Keypad Cable Assembly with tamper switch. Requires ARM-1 relay for lock output (131-912)

RM-4
RM Series Personality Module with tamper switch and support for keypad data via Wiegand data stream. Requires ARM-1 relay for lock output (131-912)

RM-4E
Enhanced RM-4E has two additional door relays requires 12 Vdc -280 mA max (excluding lock & reader)

AS0073-000
I8 Eight Input Reader Bus Module

AS0073-CSI
I8-CSI Eight Input Reader Bus Module Provides eight configurable supervised inputs

AS0074-000
R8 Eight Output Reader Bus Module

RM Series Modules

For those wishing to use external Wiegand readers, RM-4 and RM-4E modules offer the same distributed wiring arrangement as RM Readers but as separate boards with optional enclosures. RM-DCM-2 is a UL listed product that offers the RM-4E in an enclosure.

To add inputs to a controller via the RM Bus, use the I8 module for eight supervised inputs, or the I8-CSI module when interfacing to existing supervised circuits with non-standard EOL resistance values. The R8 module adds eight Form C relay outputs. All three units have status LEDs for quick troubleshooting and have optional enclosures. I8, I8-CSI, and R8 modules are UL listed for use in the RM-CAN and RM-DCM-2 enclosures.

Housing and other Accessories for Reader interface

RM-DCM-2
Door Control Module includes RM-4E in a UL 294 Listed enclosure. Possibility to mount two I/O boards

RM-BAT
Optional battery - 12VDC for RM-DCM-2

RM4-18-08-BOX
Optional LCD for RM-4E
Integration box for 2 RM-4., 1 I8 board, 1 O8 board.

130-915A
Heater kit less transformer for MRM/RM 220v applications

132-183
Security screwdriver for MRM/RM series readers

131-912
ARM - 1 auxiliary reader relay module for MRM/RM series readers

KT-0070-000
RM-4 connector kit (spare kit)
Access Control Cards and Readers

This chapter contains information about Access Control Cards and Readers:

- Introduction
- HID iCLASS 13.56MHz Cards & Readers
- Mopho Sigma Biometrics
- ioProx Cards & Readers (Kantech Only)
- HID 125KHz Cards & Readers
- Software House Cards & Readers
- Stone Lock Biometrics
- C•CURE RM Series Cards & Readers
Introduction

Access control card readers are used in physical security systems to read a credential that allows access through access control points, typically a door, turnstile, gate or barrier. There are many types of card reader available in the market:

- Magnetic Stripe
- Bar Code
- Wiegand
- Proximity – 125kHz standard Prox
- Proximity - 13.56MHz smart card
- Contact smart card
- Biometrics

In this introduction we cover the typical requirements for our customers and the stock coded range of products.

Stock Coded Technologies

Proximity Cards
A proximity reader radiates an electrical field around itself. When a card is presented to the reader, the reader’s electrical field excites a coil in the card. The coil charges a capacitor and in turn powers an integrated circuit. The integrated circuit outputs the card number to the coil, which transmits it to the reader.

Smart Cards
There are two types of smart cards: contact and contactless. Both have an embedded microprocessor and memory. The smart card differs from the proximity card in that the microchip in the proximity card has only one function: to provide the reader with the card’s identification number. The processor on the smart card has an embedded operating system and can handle multiple applications such as cashless vending, storing biometric templates etc.

Our stock coded range provides contactless smart cards. These cards use the same radio-based technology as the proximity card, with the exception of the frequency band used is higher frequency (13.56 MHz instead of 125 kHz). This allows more data to be transferred BUT reduces the ‘typical’ read range compared to a standard proximity card.

Access control systems can read either the Card Serial Number (CSN) or a number stored within the cards memory. Card memory may be used for storing biometric. An access badge is a credential used to gain entry to an area having automated access control entry points. Entry points may be doors, turnstiles, parking gates or other barriers.

Biometrics
There are many different types of biometric reader used in physical access control. Fingerprint, hand geometry, vein, iris, facial recognition and voice annunciation. Biometric technology is promoted for its ability to significantly increase the security level of systems and due to it eliminating such problems as lost, stolen or loaned ID cards and forgotten PINs. However it must be noted that biometrics can be slow and cause issues in high throughput areas. They can have issues with reading some peoples characteristics and can be configured to such a low level of security the systems objectives are defeated.

Tyco Security Products are our preferred supplier of biometrics. They have set up a range of fingerprint readers from Morpho/L1 Bioscrypt and have also introduced two units with their ioProx technology built in.

All biometric enquiries for these technologies should go direct to your local Security Products Regional Manager or Applications Engineer.

All biometric readers work similarly, by comparing the template stored in memory of the reader or credential to the scan provided by the user wishing to gain entry. Subject to the security settings of the reader, if the reader is satisfied that the user matches the stored template, the users ID number is sent to the controller.

The access control system then checks that the user has access to through that point by checking the permissions (access groups, time schedules etc). Most biometrics provide an industry standard Wiegand output.
The method of administration must be considered. Often there will be a need for the user to enrol onto the biometric readers’ database and then again using the Wiegand ID number associated to the biometric for the ‘access control’ systems database. This is not the case where the access system manufacturer has integrated the enrolment process into their administration software OR where the template on card reader allows administration through the readers’ enrolment features such as with HIDs BioCLASS.

1-to-1 or 1-to-many are the two possible modes of operation of a biometric reader:

In 1-to-1 mode a user must first either present an ID card or enter a PIN. The reader then looks up the template of the corresponding user in the database and compares it with the live scan. The 1-to-1 method is considered more secure and generally faster as the reader needs to perform only one comparison. Most 1-to-1 biometric readers are “dual-technology” readers, i.e. they either have a built-in proximity, smart card or keypad reader, or they have an input for connecting an external card reader.

In the 1-to-many mode a user presents biometric data such as a fingerprint or retina scan and the reader then compares the live scan to all the templates stored in the memory. This method is preferred by most end-users, because it eliminates the need to carry ID cards or use PINs. On the other hand, this method is slower, because the reader may have to perform thousands of comparison operations until it finds the match.

Wiegand formats

A common Wiegand format is the ‘industry standard’ 26-bit. This format uses a site code, sometimes also called a facility code. The site code is a unique number common to all of the cards in a particular set. The idea is that an organization will have their own facility code and a set of numbered cards incrementing from 1. Another organization has a different facility code and their card set also increments from 1. Thus different organizations can have card sets with the same card numbers but since the facility codes differ, the cards only work at one organization.

This idea worked early in the technology, but as there is no governing body controlling card numbers, different manufacturers can supply cards with identical facility codes and identical card numbers to different organizations. Thus there may be duplicate cards that allow access to multiple facilities in one area. When proposing a 26bit format it must be considered very likely that the site code and ID range proposed has been used many times before and that the same credential is being carried by multiple other users.

For this reason many National & Global companies have implemented their own format or have worked with manufacturers such as HID to have a more secure credential. When being asked to supply these formats, it is most likely that written permission from the format owner is required. We have stocked as standard HIDs 37bit tracked format H10302 for this reason.

When using smart card technology and extra layer of security is added by using the cards memory slots and adding security keys. The read key must be matched to the reader and therefore formats such as 26bit may be used – with the installers or clients read key adding the extra layer of security to the card format.

SWH with the Flex version of the Multi-Technology reader allow a user to define specific read keys which are programmed into stock coded readers when first installed on site.
Security of the Premises

In designing an access control system, the security requirements of the premises during normal working hours and out of hours needs must be considered. Access control systems are primarily installed to save money. They secure the property of the company and the employees saving loss of physical and intellectual property – from staff handbags and wallets, petty cash to high value goods, personal data and company design information.

Assessing which access control solutions would be appropriate for the site must take account of the number of users, the fabric of the building, the doors/entrances to be controlled, with additional consideration to areas of the building where higher security levels should be in operation. What would be the impact of a lost or stolen card or a shared PIN number? By deploying two or three factor authentication at a secure door, an additional level of security is being implemented. The basis for this revised security grading takes account of the number of authentication parameters in operation at each door.

Authentication parameters are something you...
- Have (e.g. card)
- Know (e.g. PIN)
- Are (e.g. biometric)

Single Factor:
- Option: Credential
  Product: R10 iCLASS reader
- Option: PIN only
  Product: Keypad device such as the DG25 or DG180
- Option: Biometric
  Product: MORPHO/L1 4G

Two-Factor:
- Option: Credential and PIN
  Product: RK40 iCLASS reader with in-built keypad
- Option: Credential and Biometric
  Product: V-SMART-A-H, KT-4GFXS-IO-W26 or KT-4GFXSIO-XSF
- Option: Biometric and PIN
  Product: V-PASSFX + K1-W26

Three Factor:
- Option: Credential and PIN and Biometric
  Product: V-PASSFX + RK40

The diagram above shows the authentication options available. Doors with two or more authentication parameters in operation are inherently more secure than doors operating with a single authentication parameter.
NSI Code of Practice for Design, Installation and Maintenance of Access Control Systems NCP 109

As a member of the NSI, ADT UK adhere to NCP 109 the code of practice for the design, installation and maintenance of Access Control systems. This code sets out some guidelines against which Access Control systems are classified, thereby determining how secure each installation is.

This new code replaced the NACOSS Code of Practice - NACP 30 and was issued in July 2012 with several notable changes. For this section of the product range the classification of each access control point at the time of system design rather than that of the overall system needs to be highlighted. This requires that we identify and detail the security classification of each controlled point at the design stage. This new approach solves the issue of key access points being overlooked and identifies to the end user any building areas where higher security levels may have been deployed e.g. all perimeter doors, doors to IT suites, comms rooms.

Taken from NCP 109, there are four classification levels:

Class I (low risk)
Class I, access will only be granted following the input of a correct common code (or the input of a correct PIN code) of not less than 10,000 differs. 10,000 differs requires a 4 digit code number such as 1234.

Class II (low to medium risk)
Class II, access will only be granted following: Option A - the input of a correct PIN code of not less than 1,000,000 differs; OR Option B - the presentation of a valid unique token to a reader. 1,000,000 differs requires a 6 digit code number such as 123456.

Class III (medium to high risk)
Class III, access will only be granted following: Option A - the input of a correct PIN code of not less than 10,000 differs AND the presentation of a valid unique token to a reader; OR Option B - the presentation of a valid biometric to a reader.

Class IV (high risk)
Class IV, access will only be granted following: Option A - the presentation of a valid biometric to a reader AND the presentation of a valid unique token using radio frequency identification (RFID)*; OR Option B - the presentation of a valid biometric to a reader AND the presentation of a valid unique token to a reader AND the presentation of a correct PIN code of not less than 10,000 differs.

* RFID must not rely on recognising the Chip Serial Number (CSN) only. Also the code to be read must be stored in the memory of the card.

Cross Reference of Grading to Other Schemes
You may receive requests to tender which refer to other documents and the grading systems they have defined. The table below shows the approximate relationship between the recommendations for grading the security classification used in the European Standard EN 50133-1 and the classification used by NSI in their Code of Practice for Planning, Installation and Maintenance of Access Control Systems NCP109.

<table>
<thead>
<tr>
<th>Access Security Grade</th>
<th>EN50133 Classification</th>
<th>NSI NCP109 Classes</th>
<th>Access Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3B</td>
<td>4</td>
<td>3 factor including biometric / human image verification</td>
</tr>
<tr>
<td>4</td>
<td>3B</td>
<td>4</td>
<td>2 factor including biometric / human image verification</td>
</tr>
<tr>
<td>3</td>
<td>3B</td>
<td>3</td>
<td>2 factor (non-biometric)</td>
</tr>
<tr>
<td>3</td>
<td>2B</td>
<td>3</td>
<td>1 factor biometric</td>
</tr>
<tr>
<td>2</td>
<td>2B</td>
<td>2</td>
<td>Token</td>
</tr>
<tr>
<td>1, 2</td>
<td>1B</td>
<td>1, 2</td>
<td>PIN</td>
</tr>
<tr>
<td>1</td>
<td>2A</td>
<td>1</td>
<td>Standalone lock with token</td>
</tr>
<tr>
<td>1</td>
<td>1A, 1B</td>
<td>1</td>
<td>Standalone lock with code</td>
</tr>
</tbody>
</table>

You may receive requests to tender which refer to other documents and the grading systems they have defined. The table below shows the approximate relationship between the recommendations for grading the security classification used in the European Standard EN 50133-1 and the classification used by NSI in their Code of Practice for Planning, Installation and Maintenance of Access Control Systems NCP109.
HID Cards and Readers

HID Global provides a wide variety of 13.56 MHz credentials including cards, tags and keyfobs. Some credentials also include combination technology, used in upgrading end-users from 125 kHz proximity to the benefits of 13.56 MHz smart card technology. These multiple technology credentials are ideal for companies preparing to transition from proximity technology to the additional speed and applications of high frequency smart card solutions.

Optimised to make physical access control more powerful, iCLASS® 13.56 MHz read/write contactless smart card technology provides versatile interoperability and is used in a wide range of applications including access control, network log-on security, automotive vehicle identification, cashless vending, time and attendance, event management and biometric verification. Multiple securely separated files enable numerous applications and can support future capabilities.

iCLASS smart cards and readers make access control more powerful, more versatile, and most important of all, offers enhanced security through encryption and mutual authentication. At the same time, iCLASS is user-friendly, delivering the convenience, affordability and reliability of proximity technology for which HID is known worldwide.

Features:

- Encrypted communications - advanced security between card and reader
- Choice of credential and reader styles - designs to meet most smart card requirements
- Secure formats - available in open or closed Wiegand formats to suite the application (including ADT EMEAs own tracked format)*

* A tracked format ensures that no card duplication can take place

Encrypted Communication

The communication between an iCLASS reader and card is encrypted using a secure algorithm so the transaction between the card and reader cannot be “sniffed” and replayed to a reader. The encryption protocol uses a combination of diversified keys, unique 64-bit card serial numbers and mutual card and reader authentication.

Capability to Add Other Applications

The iCLASS chip not only stores HID access control information, it also has memory space available for other applications. iCLASS cards are currently available with 2k bit, 16k, and 32k bit memory capacities, and depending on the amount of memory available and the number of memory areas, iCLASS cards can serve as multi-application credentials that can be used for many purposes.

Since the memory can securely store any kind of information, applications for iCLASS include biometrics, secure computer/network authentication, health record management, time and attendance, digital cash (cafeteria & vending) and many, many more.

Imagine an affordable, single-card, contactless solution that allows you to not only read data securely and quickly, but also to securely write data to the card for many applications.
ISOProx® II

The iCLASS Card offers iCLASS 13.56 MHz contactless read/write smart card technology along the ability to add a magnetic stripe, barcode, and anti-counterfeiting features including custom artwork or a photo identification directly on the credential.

The iCLASS Card meets strict ISO thickness standards for use with direct image and thermal transfer printers.

Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions. Can be carried with credit cards in a wallet or purse. Use with a strap and clip as a photo ID badge.

Print directly to the card with a direct image or thermal transfer printer. Slot punch vertically for easy use. This is a passive card technology, the no-battery design allows for an estimated minimum 100,000 reads.

**Technical Specifications:**
- Typical Maximum Read Range\*:
  - R10 2.0-3.0” (5.0-7.6 cm)
  - RK40/RWK400 3.0-4.0” (7.6-10.1 cm)
- *Subject to environmental conditions.
- **Dimensions**
  - 5.40 x 8.57 x 0.084 cm max.
- **Weight**
  - 5.7 g
- **Card Construction**
  - Thin, flexible polyvinyl chloride (PVC) laminate.
- **Operating Frequency**
  - 13.56 MHz
- **Multi-application Memory**
  - 2k bit (256 Byte) card - 2 application areas
  - 16k bit (2k Byte) card - 2 or 16 application areas

**Features:**
- 13.56 MHz read/write contactless smart card technology provides high-speed, reliable communications with high data integrity.
- iCLASS technology ensures high security with mutual authentication, encrypted data transfer, and 64-bit diversified keys for read/write capabilities.
- Available in 2k bit (256 Byte), 16k bit (2K Byte) or 32k bit (4K Byte) configurations.
- Meets ISO standards for thickness for use with all direct image and thermal transfer printers.

**Order Codes:**
- Format - H10301
  - 26bit Weigand
  - iCLASS ISO card - 2k bits with 2 application areas. Supplied plain white on both sides - encoded for 26bit Weigand. Order must state site code and ID range - order in multiples of 50.
  - 2000PGGMN-H10301
  - 2002PGGMN-H10301
  - H10302 37bit tracked
  - Format
  - 2000PGGMN-H10302
  - 2002PGGMN-H10302

**Typical Maximum Read Range\***
- R10 2.0-3.0” (5.0-7.6 cm)
- RK40/RWK400 3.0-4.0” (7.6-10.1 cm)
- *Subject to environmental conditions.
The iCLASS Key provides the convenience of iCLASS 13.56 MHz contactless read/write smart card in a molded plastic key fob enclosure that is durable in a harsh environment. This key fob is the size of a typical automotive key and offers custom artwork printing capabilities directly on the key fob credential. You now can offer a credential that can be placed on a key ring or lanyard for such diverse applications including access control, network log-on security, automotive vehicle identification, cashless vending, time and attendance, and biometric verification.

**Features:**
- The iCLASS 13.56 MHz read/write contactless smart key technology provides high-speed, reliable communications with high data integrity.
- iCLASS technology ensures high security with mutual authentication, encrypted data transfer, and 64-bit diversified keys for read/write capabilities.
- Available in 2k bit (256 Byte), 16k bit (2k Byte) or 32k bit (4k Byte) configurations.
- Molded plastic enclosure provides durability in harsh environments.

**Keyfob Construction**
Ultrasonically welded polycarbonate shell.

**Operating Frequency**
13.56 MHz

**Memory Type**
EEPROM, read/write

**Multi-application Memory**
2k bit (256 Byte) key – 2 application areas
16k bit (2k Byte) key – 2 or 16 application areas

**Order Codes:**
- Format - H10301 – 26 bit Wiegand
  2050PNNMN-H10301 iCLASS contactless smart Key - 2k bits with 2 application areas. Encoded for 26bit Wiegand. Order in multiples of 100 How to order guide HTOG must be completed detailing site code and ID range
- Format - H10302 – Tracked 37bit Wiegand
  2050PNNMN-H10302 iCLASS Contactless Smart Key - 2k bits with 2 application areas. Encoded for tracked 37bit Wiegand. Order in multiples of 100

**Technical Specifications:**

- **Typical Maximum Read Range***
  - R10 1.0” (2.5 cm)
  - R40/RW400 1.0” (2.5 cm)
  - RK40/RWK400 1.0” - 1.5” (2.5 cm - 3.8 cm)
*Dependent upon installation conditions.

- **Dimensions**
  3.43 x 3.18 x 3.84 cm

- **Weight**
  4.9 g

**Typical Maximum Read Range***

- **R10** 1.0” (2.5 cm)
- **R40/RW400** 1.0” (2.5 cm)
- **RK40/RWK400** 1.0” - 1.5” (2.5 cm - 3.8 cm)

*Dependent upon installation conditions.
The iCLASS Tag provides the convenience of iCLASS technology in a coin-sized, disk-shaped transponder that can be simply attached to any nonmetallic card or device to instantly have 13.56 MHz read/write contactless smart card technology to utilize as a transition device during the rebadging process. You can seamlessly upgrade from Wiegand, magnetic stripe or barium ferrite technologies and can easily and cost effectively turn an existing plastic ID badge or contact smart card into a contactless proximity credential.

**Features:**
- 13.56 MHz read/write contactless smart card technology provides high-speed, reliable communications with high data integrity.
- iCLASS technology ensures high security with mutual authentication, encrypted data transfer, and 64-bit diversified keys for read/write capabilities.
- Available in 2k bit (256 Byte), 16k bit (2K Byte) or 32k bit (4K Byte) configurations.

**Order Codes:**
- **Format - H10301**
  - 26bit Weigand
  - iCLASS Contactless Smart Key - 2k bits with 2 application areas. Supplied in grey with internal number injected on the tag. Encoded for 26bit Wiegand Format. Order in multiples of 100
  - 2060PSSMU-H10301
  - 2062PSSMU-H10302
  - iCLASS Contactless Smart Key - 16k bits with 16 application areas. Supplied in grey with internal number injected on the tag. Encoded for 26bit Wiegand Format. Order in multiples of 100

**Technical Specifications:**
- Typical Maximum Read Range*
  - R10 1.0” (2.5 cm)
  - R40/RW400 1.0” (2.5 cm)
  - RK40/RWK400 1.0” - 1.5” (2.5 cm - 3.8 cm)
- *Dependent upon installation conditions.
- Dimensions
  - Diameter: 1.285” (3.264 cm)
  - Thickness: 0.070” (0.178 cm)
  - Weight: 1.18 g
- Outer Shell Material: Lexan
- Operating Frequency: 13.56 MHz
- Multi-application Memory
  - 2k bit (256 Byte) tag – 2 application areas
  - 16k bit (2k Byte) tag – 2 or 16 application areas
  - 32k bit (4k Byte) card – 16k bits in 2 or 16 application areas plus 16k bits user configurable.
iCLASS Prox Card

The iCLASS Prox Card combines iCLASS 13.56 MHz contactless read/write smart card and Prox 125 kHz proximity technology on a single card with the ability to add magnetic stripe, barcode, and anti-counterfeiting features including custom artwork or a photo identification directly on the credential. Your iCLASS Prox Card can now be utilized for such diverse applications including access control, network log-on security, automotive vehicle identification, cashless vending, time and attendance, and biometric verification. As you integrate and/or migrate to an iCLASS platform from proximity technology readers. And, you have the option of assigning various security levels to the cards depending on the credential holder. The iCLASS Prox Card meets strict ISO thickness standards for use with direct image and thermal transfer printers.

Features:

- 13.56 MHz read/write contactless smart card and 125 kHz technology provides high-speed, reliable communications with high data integrity.
- iCLASS technology ensures high security with mutual authentication, encrypted data transfer, and 64-bit diversified keys for read/write capabilities.
- Available in 2k bit (256 Byte), 16k bit (2K Byte) or 32k bit (4K Byte) configurations.
- Meets ISO standards for thickness for use with all direct image and thermal transfer printers.

This multi technology card allows easy changeover from 125kHz to 13.56M Hz Smart Cards on a site. This format can be the same or different in the technologies.

Due to the numerous options for open & tracked formats to be applied to either the low or high frequency technology in this card, we have not stock coded these items.

HID How To order Guide must be supplied with your NSL (Non Stock Listed) order directly stating the format and site code/ID range etc..

Technical Specifications:

Typical Maximum Read Range*
R10 2.0-3.0” (5.0-7.6cm)
R40/RW400 2.5-4.5” (6.3-11.4cm)
RK40/RWK400 3.0-4.0” (7.6-10.1 cm)
*Dependent upon installation conditions.
Dimensions 5.40 x 8.57 x 0.084 cm
Weight 6.8 g
Card Construction
Thin, flexible polyvinyl chloride (PVC) laminate.
Operating Frequency 13.56 MHz
125 kHz
Multi-application Memory
2k bit (256 Byte) card – 2 application areas
16k bit (2k Byte) – 2 or 16 application areas
Data Retention 10 years
HID Global’s iCLASS SE access control platform goes beyond the traditional smart card model to offer a secure, standards-based and flexible platform that has become the new benchmark for highly adaptable, interoperable and secure access control solutions.

Ideal for new and existing installations, iCLASS SE readers provide customers the assurance that their existing investments can be leveraged to enhance their system as business requirements change.

The technology-independent readers also support iCLASS Seos and iCLASS SE credential platforms, as well as standard iCLASS, MIFARE, MIFARE DESFire EV1 and other leading technologies.

**Powerfully Secure**
- Multi-Layered Security – Ensures data authenticity and privacy through the multi-layered security of HID’s SIO.
- EAL5+ Certified Secure Element Hardware – Provides tamper-proof protection of keys/cryptographic operations.
- SIO Data Binding – Inhibits data cloning by binding an object to a specific credential.
- Secured communications using OSDP with Secure Channel Protocol.
- Expanded iCLASS Elite™ Program – Extends private security by protecting uniquely keyed credentials, SIOs and programming update keys.
- Highly Adaptable:
  - Near Field Communication (NFC) Card Emulation Enables migration to HID access control on mobile devices.
  - SIO Portability – Provides technology independence and portability to other smart card technologies.
- Allows for support of future technologies.

Additionally, iCLASS SE readers support Near Field Communication (NFC) smartphones via Seos, enabling a new class of portable identity credentials that can be securely provisioned and safely embedded into both fixed and mobile devices.

As part of HID Global’s iCLASS SE platform – based on HID’s Secure Identity Object™ (SIO) data model and Trusted Identity Platform® (TIP™) – the powerfully secure iCLASS SE readers offer advanced features such as multi-layered security beyond the card technology and tamper-proof protection of keys/cryptographic operations using EAL5+ secure element hardware.
iCLASS SE® Readers

Sustainability And Management:
• Intelligent Power Management (IPM) – Reduces reader power consumption by as much as 75% compared to standard operating mode.
• Recycled Content – Contributes toward building LEED credits.
• Central management of connected readers using OSDP

Performance:
• SIO Media Mapping – Simplifies deployment of third-part objects to multiple types of credentials.
• Field Programmable Readers – Provides secure upgrades for migration and extended lifecycle.
• RGB LEDs – Delivers increasing capability to notify users and troubleshooters regarding system state.

iCLASS SE readers include Open Supervised Device Protocol (OSDP), a new Security Industry Association (SIA) standard that together with Secure Channel Protocol (SCP) provides secure communications and central management.

Please refer to page 15 for the Storm vandal resistant iCLASS SE reader options. Suitable for the harshest of environments and offering two factor authentication (card + PIN) in either metal or illuminated versions.
### Order Codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADT900NTNEK</td>
<td>HID 00NTNNEK00000-T002 iCLASS SE R10 mullion reader with 18” pigtail. Supplied with installation manual and ADT branding label.</td>
</tr>
<tr>
<td>ADT920NTNEK</td>
<td>HID 20NTNNEK00000-T002 iCLASS SE R40 wall switch reader with 18” pigtail. Supplied with installation manual and ADT branding label.</td>
</tr>
<tr>
<td>6132AKE</td>
<td>R40 / RP40 (or equivalent sized model) Reader Spacer, 25.4 mm (1.0 in), Black</td>
</tr>
<tr>
<td>6132AK</td>
<td>RK40 / RPK40 (or equivalent sized model) Reader Spacer, 25.4 mm (1.0 in), Black</td>
</tr>
</tbody>
</table>

### HID iClass SE and multiClass readers with OSDP v2 support

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>900NTPNEK000FA</td>
<td>HID R10 iCLASS SE 13.56MHz, Colour: Black Panel Connection: OSDP v2.1.6, 18” (45.7 cm) pigtail cable</td>
</tr>
<tr>
<td>921NTPNEK000FB</td>
<td>HID RK40 iCLASS SE 13.56MHz Single Technology Reader with Keypad Colour: Black, Panel Connection: OSDP v2.1.6, 18” (45.7cm) pigtail cable</td>
</tr>
<tr>
<td>921PTPNEK000FD</td>
<td>HID RPK40 multiCLASS SE 13.56MHz &amp; 125KHz Dual Technology Reader with Keypad Colour: Black, Panel Connection: OSDP v2.1.6, 18” (45.7cm) pigtail cable</td>
</tr>
</tbody>
</table>

### HID OSDP reader configuration Cards

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEC9X-CRD-2-S021</td>
<td>HID OSDP reader Configuration card to Set reader to OSDP V2 factory defaults</td>
</tr>
<tr>
<td>SEC9X-CRD-0-P00A</td>
<td>HID OSDP reader Configuration card to Set reader baud rate to 38400</td>
</tr>
<tr>
<td>SEC9X-CRD-B-01</td>
<td>HID OSDP reader Configuration card to Set OSDP V2 reader to address 1</td>
</tr>
</tbody>
</table>
### iCLASS SE® Readers

#### Technical Specifications:

<table>
<thead>
<tr>
<th>Model Name</th>
<th>R10</th>
<th>R40</th>
<th>RK40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Part Number</td>
<td>900N</td>
<td>920N</td>
<td>921N</td>
</tr>
</tbody>
</table>

- **Typical Read Range** *(inches)*
  - **iCLASS SE®**: 2.8” (7.1 cm) SE for DESFire® EV1: 1.6 (4.1 cm) SE for MIFARE® Classic: 2.6” (6.6 cm)
  - **iCLASS SE®**: 3.5” (8.9 cm) SE for DESFire EV1: 1.8” (4.6 cm) SE for MIFARE Classic: 2.8” (7.1 cm)
  - **iCLASS SE®**: 3.4” (8.6 cm) SE for DESFire EV1: 1.6 (4.1 cm) SE for MIFARE Classic: 2.9” (7.4 cm)

- **13.56 MHz Single Technology Tags/Fobs – SIO Data Model**
  - **iCLASS SE®**: 1.5” (3.8 cm) SE for MIFARE Classic: 1.2” (3.0 cm)
  - **iCLASS SE®**: 1.8” (4.6 cm) SE for MIFARE Classic: 1.4” (3.6 cm)
  - **iCLASS SE®**: 1.4” (3.6 cm) SE for MIFARE Classic: 0.5” (1.3 cm)

- **Mounting**
  - Mini-Mullion Size; physically HID's smallest iCLASS® readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box (with mud ring) or any flat surface
  - Wall Switch Size; designed to mount and cover single gang switch boxes primarily used in the Americas and includes a slotted mounting plate for European and Asian back box spacing

- **Colour**
  - Black or Grey

- **Keypad**
  - No

- **Dimensions**
  - 4.8 cm x 10.3 cm x 2.3 cm
  - 8.4 cm x 12.2 cm x 2.4 cm
  - 8.5 cm x 12.2 cm x 2.8 cm

- **Product Weight (Pigtail)**
  - 3.9 oz (113 g)
  - 7.7 oz (220 g)
  - 9.0 oz (256 g)

- **Product Weight (Terminal Strip)**
  - 2.9 oz (84 g)
  - 7.5 oz (215 g)
  - 8.0 oz (226 g)

- **Operating Voltage Range**
  - 5-16 VDC, Linear supply recommended

- **Current Draw - Standard Power Mode*** *(mA)*
  - 70
  - 80
  - 105

- **Current Draw - Intelligent Power Management (IPM) Mode*** *(mA)*
  - 30
  - 40
  - 60

- **Peak Current Draw - Standard Power or IPM Mode*** *(mA)*
  - 250
  - 240
  - 320
<table>
<thead>
<tr>
<th>Model Name</th>
<th>R10</th>
<th>R40</th>
<th>RK40</th>
</tr>
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<tbody>
<tr>
<td>Base Part Number</td>
<td>900N</td>
<td>920N</td>
<td>921N</td>
</tr>
<tr>
<td>NSC** Power Consumption - Standard Power Mode (W @ 16VDC)</td>
<td>1.1</td>
<td>1.8</td>
<td>1.7</td>
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<tr>
<td>NSC** Power Consumption - w/ IPM (W @ 16VDC)</td>
<td>0.5</td>
<td>0.6</td>
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<tr>
<td>Operating Temperature</td>
<td>-35° to 65°C</td>
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<tr>
<td>Storage Temperature</td>
<td>-55° to 85°C</td>
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<tr>
<td>Operating Humidity</td>
<td>5% to 95% relative humidity non-condensing</td>
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<td>Environmental Rating</td>
<td>IP55</td>
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<td>Transmit Frequency</td>
<td>13.56 MHz</td>
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<tr>
<td>Communications</td>
<td>Optional OSDP with SCP over RS485 Wiegand/Clock-and-Data Interface 500ft (150m) (22AWG) - Use Shielded cable for best results</td>
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<td>Panel Connection</td>
<td>Pigtail or Terminal Strip</td>
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<tr>
<td>Certifications</td>
<td>UL294/cUL**** (US), FCC Certification (US), IC (Canada), CE (EU), C-tick (Australia, New Zealand), SRRC (China), MIC (Korea), NCC (Taiwan), iDA (Singapore), RoHS, FIPS-201 Transparent FASC-N Reader</td>
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<tr>
<td>Crypto Processor Hardware</td>
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<td>Patents</td>
<td>US7124943, US6058481, US6337619</td>
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<td>Housing Material</td>
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<tr>
<td>Manufactured with % of recycled content (Pigtail)</td>
<td>10.5%</td>
<td>11.0%</td>
<td>10.9%</td>
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<tr>
<td>Manufactured with % of recycled content (Terminal Strip)</td>
<td>11.0%</td>
<td>11.5%</td>
<td>12.4%</td>
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<tr>
<td>UL Ref Number</td>
<td>R10D</td>
<td>R15D</td>
<td>RK40D</td>
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<tr>
<td>Warranty</td>
<td>Limited Lifetime</td>
<td></td>
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</tbody>
</table>

* Typical read range achieved in air. Different types of metal will cause some degradation (typically up to 20%). Use spacers to space product off metal and improve read range if required.
** NSC = Normal Standby Current
*** Measured in accordance with UL294 standards
**** UL294 functionally certified for Wiegand output only
Access Control Cards and Readers
HID 13.56MHz iCLASS

AXS S40i / S40 iCLASS SE® PIN/Contactless Readers

This integrated keypad and contactless reader is rated for continuous outdoor use in exposed, unsupervised locations.

Featuring genuine HID® iCLASS SE®, Seos®, contactless technology, this access control keypad offers enhanced security by dual authentication. Authorised access through a secured door or barrier can be gained by entry of a valid PIN and presentation of an authorised 13.56 MHz contactless card, token or Seos® compatible NFC device.

Accessibility
Moving tactile keytops, on a standard 19 mm pitch, with home key tactile idents, ensure accessibility for those with sensory impairment.

Security
A requirement for both knowledge of a PIN and possession of an associated card (dual authentication) creates an enhanced level of security at primary points of access.

Flexibility
Dual technology readers can expedite access by accepting just the wave of a card or PIN entry only. The host system can demand both PIN and card to achieve elevated security.

Features:
- Brighter LED so that users can see access status in bright sunlight conditions
- Increased read range from iCLASS credentials
- Two factor authentication in a robust reader design
- A design that can be fitted into door entry solutions for integral, single panel and more aesthetically pleasing solutions at main entrances

Flexibility
Dual technology readers can expedite access by accepting just the wave of a card or PIN entry only. The host system can demand both PIN and card to achieve elevated security.

Reliability
AXS S40 and S40i PIN/Contactless readers feature HID® iCLASS® contactless technology encased within a robust, weather resistant STORM AXS keypad. Laboratory tested and field proven, these UL294 certified keypad / readers provide the most durable and reliable system interface.

Compatibility
Supports multiple technologies including iCLASS SE® Seos®, standard iCLASS®, MIFARE™, and MIFARE DESFire™.

Compliance
Technical Specifications:

**Environmental**
Operational temperature: -35°C to + 65°C (dry)
Water and dust resistance: EN60529 IP65
Humidity: 5% to 95% RH noncondensing
UV resistance: Suitable for continuous outdoor use
Impact resistance: EN62262 IK09 (10J)
Shock and vibration resistance: ETSI 6M3

**Electrical**
Operating Voltage: 5 V DC OR 12 V DC
Operating Current:
- AXS S40i: 500 mA Max (illuminated)
- AXS S40: 300 mA Max

**Compatibility**
Includes genuine HID technology: Default security level V1
Accreditation protocols:
- iCLASS®, iCLASS SE®, Seos®, Mifare™, DESFire™
RX/TX frequency: 13.56 MHZ
Data output format: Wiegand 26 bit, 32 bit, 34 bit or 40 bit
PIN data: 4 or 8 bit burst

**Compliance**
EMC immunity: IEC62559-2
Security: UL294 NRTL Certified

Order Codes:
- **STI-DS401KT201**
  Storm Interface AXS S40 IP65 Vandal Resistant Keypad with integral HID iCLASS, Seos contactless reader. Metal keys
- **STI-DS402KW201**
  Storm Interface AXS S40i IP65 Vandal Resistant Keypad with integral HID iCLASS, Seos contactless reader. Illuminated Polymer keys.
- **STI-1KFS0201**
  Optional privacy shield
The RP15 is a multi-technology card reader designed for customers upgrading their current card system from some of the most popular proximity formats to iCLASS® credentials. With the RP15 reader, the customer has the ability to transition to smart cards over time while incorporating the use of multiple card technologies within a single building or across multiple facilities.

The RP15 multiCLASS reader is specifically designed to assist customers with the transition from the popular HID MiniProx® and other mullion mounted reader form factors. The RP15 features the same mounting dimensions as the MiniProx to allow for an easy direct replacement.

Only the multiCLASS family of products provides true iCLASS security, the ease of Prox, the power of smart cards and the confidence of choosing HID, the worldwide leader in access control.

Features:
- Simple Migration from the most popular proximity technologies to iCLASS®
- Open Architecture Design allows project specific formats and keys
- Provides flexible options for processing multi-technology cards and configuring the reader’s audio/visual characteristics
- All HID card formats carryover
- Reads: 125 kHz - HID, (Indala - special order) or AWID proximity, 13.56 MHz - iCLASS, DESFire® - ISO 15693 CSN (MyD, I Code, Tag It), ISO 14443A CSN (MIFARE®)

13.56 MHz contactless smart cards
- ISO 15693 - read only; 2k bit (256 Byte), 16k bit (2k Byte) and 32k bit (4k Byte); serial number
- ISO 14443A - read only; MIFARE (serial number)
- ISO 14443B - read only; 2k bit (256 Byte) and 16k bit (2k Byte)
- Sony FeliCa™ IDm (requires Transit p/n 6144)
- CEPAS CAN or CSN (requires Transit p/n 6144)

Technical Specifications:
Typical Read Range
- iCLASS Card: 7.5 - 9.0 cm
- iCLASS Key/Tag: 2.5 - 4.0 cm
- HID Prox ISO Card: 6.5 - 9.0 cm
- HID Prox Keyfob/Tag: 3.2 - 4.5 cm
- Indala Proximity ISO Card: 4.0 - 5.0 cm
- Indala Proximity Keyfob/Tag: 2.5 - 3.2 cm
- Dimensions: 15.6 cm x 4.8 cm x 2.3 cm

Card Compatibility
- 125 kHz Proximity
- HID or Indala proximity cards, key fobs, and tags.
- AWID Credentials
**Order Codes:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6145CGN000</td>
<td>HID multiCLASS mullion reader - grey cover. Supplied with 18” pigtail. This reader will provide a Wiegand output from HID 125kHz prox and iCLASS credentials.</td>
</tr>
<tr>
<td>900PTPNEK000FC</td>
<td>HID RP10 multiCLASS SE 13.56MHz &amp; 125KHz Dual Technology Reader Colour: Black, Panel Connection: OSDP v2.1.6, 18” (45.7cm) pigtail cable</td>
</tr>
<tr>
<td>910NTPNEK000FA</td>
<td>HID R15 iCLASS SE 13.56MHz , Colour: Black, Panel Connection: OSDP v2.1.6, 18” (45.7cm) pigtail cable</td>
</tr>
<tr>
<td>920PTPNEK000FC</td>
<td>HID RP40 multiCLASS SE 13.56MHz &amp; 125KHz Dual Technology Reader Colour: Black, Panel Connection: OSDP v2.1.6, 18” (45.7cm) pigtail cable</td>
</tr>
</tbody>
</table>

**HID iClass SE and multiClass readers with OSDP v2 support**

**HID OSDP reader configuration Cards**

- **SEC9X-CRD-2-S021**
  - HID OSDP reader
  - Configuration card to Set reader to OSDP V2 factory defaults

- **SEC9X-CRD-0-P00A**
  - HID OSDP reader
  - Configuration card to Set reader baud rate to 38400

- **SEC9X-CRD-B-01**
  - HID OSDP reader
  - Configuration card to Set OSDP V2 reader to address 1
## Technical Specifications:

<table>
<thead>
<tr>
<th></th>
<th>RP10</th>
<th>RP15</th>
<th>RP40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Part Number</strong></td>
<td>900P, 900L</td>
<td>910P, 910L</td>
<td>920P, 920L</td>
</tr>
<tr>
<td><strong>13.56 MHz Single Technology ID-1 Cards – SIO Model Data</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Typical Read Range¹ | iCLASS Seos: 3 cm  
iCLASS: 8 cm  
MIFARE Classic: 7 cm  
MIFARE DESFire EV1: 3 cm | iCLASS Seos: 3 cm  
iCLASS: 8 cm  
MIFARE Classic: 7 cm  
MIFARE DESFire EV1: 3 cm | iCLASS Seos: 5 cm  
iCLASS: 12 cm  
MIFARE Classic: 12 cm  
MIFARE DESFire EV1: 5 cm |
| **13.56 MHz Single Technology Tags/Fobs – SIO Data Model** | | | |
| iCLASS: 4 cm  
MIFARE Classic: 3 cm | iCLASS: 4 cm  
MIFARE Classic: 3 cm | iCLASS: 6 cm  
MIFARE Classic: 5 cm |
| **125 kHz Single Technology iD-1 Cards** | | | |
| HID Prox: 7 cm  
Indala Prox: 4 cm  
EM4102 Prox: 11 cm | HID Prox: 7 cm  
Indala Prox: 4 cm  
EM4102 Prox: 11 cm | HID Prox: 7 cm  
Indala Prox: 5 cm  
EM4102 Prox: 11 cm |
| **125 KHz Single Technology Tags/Fobs** | | | |
| HID Prox: 4 cm  
Indala Prox: 2 cm  
EM4102 Prox: 7 cm | HID Prox: 5 cm  
Indala Prox: 2 cm  
EM4102 Prox: 7 cm | HID Prox: 5 cm  
Indala Prox: 3 cm  
EM4102 Prox: 7 cm |
| **Mounting** | Mini-Mullion Size; physically HID’s smallest iCLASS readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box (with mud ring) or any flat surface | Mullion Size; physically HID’s second smallest iCLASS readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box (with mud ring) or any flat surface | Wall Switch Size; designed to mount and cover single gang switch boxes primarily used in the Americas and includes a slotted mounting plate for European and Asian back box spacing |
| **Colour** | Black | | |
| **Keypad** | No | | |
| **Dimensions** | 4.8 cm x 10.3 cm x 2.3 cm | 4.8 cm x 15.3 cm x 2.3 cm | 8.4 cm x 12.2 cm x 2.4 cm |
| **Product Weight (Pigtail)** | 114 g | 149 g | 222 g |
| **Product Weight (Terminal)** | 85 g | 124 g | 216 g |
| **Operating Voltage Range** | 5-16 VDC, Linear supply recommended | | |
| **Current Draw - Standard Power Mode² (mA)** | 75 | 75 | 85 |
| **Current Draw - Intelligent Power Management (IPM) Mode² (mA)** | 40 | 40 | 50 |
| **Peak Current Draw - Standard Power or IPM Mode² (mA)** | 200 | 200 | 200 |

¹ Typical read range may vary based on environmental factors.

² Power management settings can affect current draw and should be considered based on specific application requirements.
### Access Control Cards and Readers

**HID 13.56MHz iCLASS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSC³ Power Consumption - Standard</td>
<td>1.2</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Power Mode (W @ 16 VDC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSC³ Power Consumption - w/ IPM (W @</td>
<td>0.6</td>
<td>0.6</td>
<td>0.8</td>
</tr>
<tr>
<td>16 VDC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-35º to 65º C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55º to 85º C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>5% to 95% relative humidity non-condensing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Rating</td>
<td>Indoor/Outdoor IP55; IP65 if installed with optional gasket (IP65GSKT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmit Frequency</td>
<td>13.56 MHz &amp; 125 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.56 MHz Card Compatibility</td>
<td>Secure Identity Object™ (SIO™) on iCLASS Seos, iCLASS SE/SR, MIFARE DESFire EV1 and MIFARE Classic (On by Default) - standard iCLASS Access Control Application (order with Standard interpreter) -ISO14443A (MIFARE) CSN, ISO14443B CSN, ISO15693 CSN - MIFARE Classic and MIFARE DESFire EV1 custom data models - FeliCa™ CSN, CEPAS4 CSN or CAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>125 kHz Card Compatibility</td>
<td>HID Prox®, AWID®, Indala, EM41024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>Optional OSDP with SCP over RS4854 Wiegand/Clock-and-Data Interface 150 m (22AWG) - Use Shielded cable for best results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panel Connection</td>
<td>Pigtail or Terminal Strip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certifications</td>
<td>UL294/cUL (US), FCC Certification (US), IC (Canada), CE (EU), C-tick (Australia, New Zealand), SRRC (China), MIC (Korea), NCC (Taiwan), iDA (Singapore), RoHS, FIPS-201 Transparent FASC-N Reader</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crypto Processor Hardware Common</td>
<td>EAL5+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criteria Rating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing Material</td>
<td>UL94 Polycarbonate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufactured with % of recycled</td>
<td>10.5%</td>
<td>11.0%</td>
<td>10.5%</td>
</tr>
<tr>
<td>content (Pigtail)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufactured with % of recycled</td>
<td>10.5%</td>
<td>11.0%</td>
<td>11.0%</td>
</tr>
<tr>
<td>content (Terminal Strip)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UL Ref Number</td>
<td>RP10E</td>
<td>RP15E</td>
<td>RP40E</td>
</tr>
<tr>
<td>Warranty</td>
<td>Limited Lifetime</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Read range listed is statistical mean rounded to nearest whole centimeter. HID Global testing occurs in open air. Some environmental conditions, including metallic mounting surface, can significantly degrade read range and performance; plastic or ferrite spacers are recommended to improve performance on metallic mounting surfaces.
2 Measured in accordance with UL294 standards; See Installation Guide for Details.
3 NSC = Normal Standby Current; See Installation Guide for Details.
4 Not available on 9xxL part numbers.
The eForce iCLASS™ proximity card readers control access with Adams Rite deadbolts, deadlatches and exit devices.

Card presentation is confirmed with an audible beep and visual change in the red/green LED indicator – displaying the locked/unlocked status. Supporting HID® 13.56 MHz (eForce iCLASS) credentials, the eForce iCLASS interfaces with any Wiegand-compatible access control system.

**Technical Specifications:**

**Handle**
Clutch-protected cast zinc alloy, finished to match housing.

Special Features/Requirements
Hardwired installation: 18-22 AWG recommended (seven conductor stranded and shielded)

Temperature range:
-35°C to 65°C and 5-95% humidity (non-condensing) 500 ft. max. distance to host

**Housing**
The sleek-looking eForce measures 1-3/4” wide x 15-3/8” high, with Satin Chrome finish.

**Electrical Specs:**
eForce Prox
Integrated HID® 13.56MHz iCLASS contactless card reader Interfaces with any Wiegand compatible access control system Recognizes HID® Prox 26-39 bit formats 12 Vdc/150 mA average 300 mA Peak

**Features:**
- Interfaces with any Wiegand protocol access control system
- Supports HID iCLASS 13.56MHz credentials
- Models to operate Adams Rite latches, exit devices, and MS® Series deadbolts
- Audible beep upon card presentation
- Red/green LED lock/unlock status
- Surface-mounted with concealed fasteners
- Non-handed with clutched lever protection
- Mortise cylinder control override (1” to 1-1/2” range with AR/MS cam)
- Full outdoor rating – temperature range from -35°C to 66°C
- Hardwired (7 conductor) installation with ElectroLynx™ connectors

**Order Code:**
3090C-01-626 Adams Rite eForce iCLASS in satin chrome finish. Reads any iCLASS credential
Here is a new flexible Card Enrolment reader that simplify Access control card administration. HID Global's OMNIKEY® 5427CK Reader combines a modern design with a small footprint and functions in virtually any PC environment, opening new market opportunities for system integrators. The reader also supports low and high frequency technologies within a single device to provide organizations with a seamless migration path and enabling mixed credential technology environments.

Additionally, the reader includes an integrated, easy-to-use web based management tool that enables intuitive, browser-based configuration independent from the operating system.

Features:
- Security - Enhanced system security supporting low and high frequency credentials including HID Prox®, Indala Prox, MIFARE® Classic, MIFARE DESFire® EV1, iCLASS®, and iCLASS SE.
- CCID Support - Eliminates the need to install drivers on standard operating systems.

Technical Specifications:
- Dimension: 71 mm x 93 mm x 16 mm
- Weight: 100 g
- Power Supply: Bus powered
- Host Interface: USB 2.0 (also compliant with USB 1.1)
- Transmission Speed: 12 Mbps (USB 2.0 full speed)
- SmartCards: iCLASS®, iCLASS® SE/SR, iCLASS® Seos MIFARE SE, DESFire EV1 SE MIFARE™ Classic 1K / 4K, Ultra Light, Ultra Light C, Plus (Security Lvl 1) , MIFARE™ DESFire™ 0.6, MIFARE™ DESFire™ EV1 (MAC / DES/3DES /3K3DES / AES)
- Low frequency cards: HID PROX®, HID Indala®, Prox, EM Prox®

Order Code:
R54270001 HID Enrolment readers
OMNI KEY® 5427CK
Morpho SIGMA Lite Series Terminals

Features:
- 1:10,000 user identification in 1 second
- High capacity: 30,000 templates, 250,000 IDs in authorised user list, 1 Million log
- Flexibility: Prox®, iClass® or MIFARE®/DESFire®/NFC contactless card reader as an option
- Anti-fraud: fake finger & face detection, duress finger
- IP65 rated and vandal resistant (IK08)
- Embedded Web Server for on-device enrolment, terminal configuration and transaction log retrieval

Ultra-secure
The World’s most accurate fingerprint technology is further enhanced with additional antifraud like, Fake finger detection, Duress finger, banned / authorised user lists and timed anti-pass back function that prevents repeated authorisations by the same user, within a configurable time period.

Fresh, intuitive, flexible User Interface
- Embedded Web Server
- Enables on-device enrolment, terminal configuration and transaction log retrieval
- Use with any device (PC, laptop, tablet, smartphone)
- Use with any OS (Windows, Android, Apple iOS)
- Use with any web browser (Google Chrome, Mozilla Firefox, Safari, Internet Explorer)

Easy Set-up and Maintenance
Built for the real World and designed to save time at installation and reduce maintenance costs.
- Flush mounted “quick-tilt” access
- Easy installation with an adjustable mounting plate to axis to either side of axis
- On-device or remote IP-based set-up
- Secure USB port located on the side of the product

Compatible with Existing Installations
Upgrade or complement your installation with MorphoAccess® SIGMA and SIGMA Lite devices using MorphoManager application on a Morpho network. Using SecureAdmin application or SecureSDK on a Bioscrypt network.

Integration with access control
Morpho provide an Access control integration middleware named BioBridge. BioBridge is an enrolment and synchronisation middleware that overlays enrolment and demographic synchronisation between MorphoManager and Tyco’s Access control Systems.

BioBridge is compatible with Morpho’s, MA J-Bio, MA J-Dual, MA 500+, MA 520+D, OMA 520 D, SIGMA Series, SIGMA Lite Series, 3D Face Reader and most impressively the new MorphoWave Tower.

The SIGMA family welcomes new members!
Engineered with the same attention to detail and performance as their predecessor, the MorphoAccess® SIGMA Lite terminals are specifically designed to equip narrow mounting surfaces, such as glass/aluminium door mullions, turnstiles, or server rack doors. With two designs and multiple card reader options, there are a variety of models to address the widest range of deployment scenarios, both indoors and outdoor.
Technical Specifications:

**General**
- CPU: ARM® Cortex™-A9 core 1GHz
- Operating System: Linux
- Sensor: FBI PIV IQS certified optical fingerprint sensor
- Contactless reader options: Prox®, iClass®, MIFARE®, MIFARE® Plus/DESFire®/NFC

**Network/Communication**
- Ethernet, RS485, USB - Wi-Fi option

**Internal storage capacity**
- 512MB Flash, 512MB RAM
- 500 user records, extendable to 3,000 or 10,000 with license (*3 templates each, including 1 duress)
- 250,000 IDs in authorised user list - 1 Million transaction logs

**Inputs/outputs**
- Wiegand In & Out (customisable up to 512 bits), Door Relay, 2 General Purpose Inputs (including Door monitoring), 2 General Purpose Outputs
- Tamper switch: Yes

**Environmental**
- Operational temperature: -20°C to 55°C
- Humidity: 10% to 80% (non condensing)

**Enclosure**
- Dimensions (HxWxD): 156 mm x 68 mm x 62 mm
- Weight: 280 grams
- Impact resistance: IK08(1)(2)
- Protection: IP65

**Electrical**
- Operating Voltage: 12 V-24 V DC - Power over Ethernet (PoE) Compatible with PoE+ switches
- Operating Current: 1 Amp min @12 V, 15.36 W on PoE

**Regulatory**
- Agency Certifications: CE, CB, FCC
- Compliance: RoHS, REACh, WEEE

Order Codes:
- MOR-293678615: MA SIGMA Lite, Monofactor Bio, Embedded web server
- MOR-293678628: MA SIGMA Lite iClass, Multi-factor Bio/Card, Embedded web server
- MOR-293673665: MA SIGMA Lite Prox, Multi-factor Bio/Card, Embedded web server
- MOR-293678657: MA SIGMA Lite HID, Multi-factor Bio/Card, MIFARE/DESFire, Embedded web server
- MOR-293673644: MA SIGMA Lite Lite+, Multi-factor Bio/PIN, Embedded web server and touchscreen
- MOR-293678636: MA SIGMA Lite Lite+, iClass, Multi-factor Bio/Card/PIN, Embedded web server and touchscreen
- MOR-293678678: MA SIGMA Lite Lite+, HID Prox, Multi-factor Bio/Card/PIN, Embedded web server and touchscreen
- MOR-293678660: MA SIGMA Lite Lite+, Multi Mifare/Desfire, Multi-factor Bio/Card/PIN, Embedded web server and touchscreen

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(1) NFC support depends on the smartphone model used with the MA SIGMA Lite/Lite+ device
(2) IK08 rating is not available for MA SIGMA Lite+ design
(2) IK08 rating is not available for MA SIGMA Lite+ design
Morpho SIGMA Fingerprint Terminals

The Ultimate in Security
United in a team whose experience and skill level have no equivalent in the industry, experts from Morpho and Bioscrypt join forces to design the best of breed fingerprint identification terminal.

Tailored for both Access Control and Time & Attendance applications, the MorphoAccess® SIGMA (MA SIGMA) Series implements no fewer than 20 patents to master biometric identification and deliver a host of additional features, together with a refined and enjoyable user experience.

Ultra-secure
The World’s most accurate fingerprint technology is further enhanced with additional antifraud and anti-“buddy punching” features:
- Face detection and picture logging
- Fake finger detection
- Duress finger
- Banned/authorised user lists

Fresh, intuitive, flexible User Interface
The MA SIGMA Series implements the design cues from today’s most intuitive consumer electronics, for fast user adoption:
- 5” WVGA colour touch-screen highlighting a sophisticated Graphic User Interface
- Seamless on-device administration
- Extensive customisation capabilities: use your own content! (corporate video, audio messages, wallpapers etc.

Features:
- New generation Morpho algorithms (MINEX and FIPS 201 approved)
- FBI PIV IQS certified optical sensor
- Tablet-like user experience
- Anti-fraud: fake finger & face detection, duress finger
- Full set of contactless technologies including NFC
- Network/Communication: Ethernet, RS485, RS422, USB (host & slave) Wi-Fi option
- IP65 rated design
- Fast 1:100 000 identification

Easy Set-up and Maintenance
Built for the real World and designed to save time at installation and reduce maintenance costs.
- Flush mounted “quick-tilt” access
- No need for extra-cable wiring: connectors are directly pluggable on rear side
- On-device or remote IP-based set-up
- Secure USB port located on the side of the product

Compatible with Existing Installations
Upgrade or complement your installation with MorphoAccess® SIGMA devices using MorphoManager application on a Morpho network. SecureAdmin application on a Bioscrypt network.

Integration with access control
Morpho provide an Access Control integration middleware named BioBridge. BioBridge is an enrolment and synchronisation middleware that overlays enrolment and demographic synchronisation between MorphoManager and Tyco’s Access Control Systems. BioBridge is compatible with Morpho’s, MA J-Bio, MA J-Dual, MA 500+, MA 520+ D, OMA 520 D, SIGMA Series, SIGMA Lite Series, 3D Face Reader and most impressively the new MorphoWave Tower.

(1) NFC: Near Field Communication. Support depends on the smartphone model used with the MA SIGMA®
Technical Specifications:

**General**
- **Models**: Indoor and Outdoor
- **CPU**: ARM® Cortex™-A9 core 1GHz
- **Operating System**: Linux
- **Display**: 5” WVGA colour Touch-screen, VGA Camera
- **Audio**: Yes, Loudspeaker & Microphone
- **Video**: Yes with audio
- **Sensor**: FBI PIV IQS certified optical fingerprint sensor
- **Contactless reader options**: Prox®, iClass®, MIFARE®/MIFARE® Plus/DESFire®/NFC¹
- **Network/Communication**: Ethernet, RS485, RS422, USB (host & slave) Wi-Fi option
- **Internal storage capacity**: 512MB Flash, 512MB RAM + 8GB μSD Card 3000 user records (2 fingers + 1 duress each), extendable up to 100 000 with licenses
- **Inputs/outputs**: Wiegand In & Out (customisable up to 512 bits), Door Relay, 3 GPI (including Door monitoring), 3 GPO
- **Tamper switch**: Yes

**Enclosure**
- **Dimensions (HxWxD)**: 153 mm x 151 mm x 58.5 mm
- **Weight**: 470 grams (depends on variant)
- **Protection**: IP65

**Electrical**
- **Operating Voltage**: 12 V-24 V DC - Power over Ethernet (PoE)
- **Operating Current**: 1 Amp @ 12 V, PoE power 12.35 W
- **Battery Backup**: Yes

**Regulatory**
- **Agency Certifications**: CE, CB, FCC, UL294 (for indoor use only)
- **Compliance**: RoHS, REACh, WEEE

¹ NFC: Near Field Communication. Support depends on the smartphone model used with the MA SIGMA™

**Order Codes:**
- **MOR-293638835**: Multi-factor Bio/PIN (3K users, expandable with license), 1M logs storage capacity - PoE
- **MOR-293638898**: Multi-factor Bio/ Card/ PIN/ BioPIN (3K users, expandable with license), 1M logs storage capacity - HID Prox – PoE
- **MOR-293638877**: Multi-factor Bio/ Card/ PIN/ Bio PIN (3K users, expandable with license), 1M logs storage capacity - MIFARE®/DESFire® Smartcard Reader – PoE
- **MOR-293638856**: Multi-factor Bio/ Card/ PIN/ Bio PIN (3K users, expandable with license), 1M logs storage capacity - HID iClass SE- PoE
HID Cards and Readers

HID has become in many countries the generic name for 125kHz proximity cards and readers and is recognised as the industry standard for physical access control.

Featuring 125 KHz RFID technology HID prox products are robust, affordable, and seamlessly integrate with access control system.

HID 125kHz proximity readers are common throughout the range that in that they are not formatted. The range of cards, tags & fobs on the other hand are formatted and this needs to be identified with each order.

Tyco Fire & Security has generally used four formats:
H10301 – 26 bit Industry standard Wiegand Format
H10302 - 37 bit HID tracked Wiegand Format
H10304 – 37 bit Sensormatic Wiegand Format
S10701 – 37 bit Software House Wiegand Format

As you can see from the above there are two 37bit formats which have been supplied to ‘Tyco Fire & Security’ over the years. It is therefore essential when ordering cards for existing projects that the correct format is specified. For new projects requiring 37bit format we would recommend the use of the H10304 format.

The H10302 format is not detailed further in this chapter as is used mainly with the Non PC based network Solution - Galaxy Dimension.

All HID parts are now ordered direct from HID Europe. This allows Tyco Fire & Security to manage locally the card ordering database and benefit from the ‘One Tyco Pricing’ offered by HID.

All readers in this section can however be used with the dimension solution.
The ISOProx II provides a solution for companies wishing to use proximity technology and Photo ID badging.

The card accepts either horizontal or vertical card punching (slot location identified on the card) and meets ISO standard thickness for use with direct card printers.

Features:
- Combines proximity technology and offers photo identification capability on a single card
- Graphics quality surface for use with direct image printers
- Same size and thickness as a standard credit card
- Vertical or horizontal slot punch capability

Order Codes:
1386LGGMN-H10301
HID:1386LGGMN-H10301
ISO Prox II programmed for 26 bit Wiegand. Front & Rear supplied in PVC plain white gloss finish. Card numbering matching - internal & external. NOT slot punched

1386LGSMN-H10301
HID:1386LGSMN-H10301
ISO Prox II programmed for 26 bit Wiegand. Front & Rear supplied in PVC plain white gloss finish (Back has standard HID ISO II artwork). Card numbering matching -internal & external. NOT slot punched.
Duo Prox® II

Features:
- Combines proximity technology and offers photo identification capability on a single card
- Graphics quality surface for use with direct image printers
- Same size and thickness as a standard credit card
- Vertical or horizontal slot punch capability
- Magnetic stripe technology
- Thin enough to be used with standard swipe or insert readers

Proven, Reliable Technology
Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions, even when close to keys and coins.

Thin/Practical Size
Can be carried with credit cards in a wallet or purse. Use with a strap and clip as a photo ID badge.

Photo ID Compatible
Print directly to the card with a direct image or thermal transfer printer. Slot punch vertically or horizontally for easy use.

Cross-reference
A cross-reference list correlating the external card number and the programmed ID number is provided for easy system administration.

Magnetic Stripe
Ready to be encoded by the customer (see card construction).

Long Life
Passive, no-battery design allows an infinite number of reads.

Durability
Strong, flexible and resistant to cracking and breaking.

Order Codes:
1336LGGMN-H10301
HID:1336LGGMN

1336LGGMN-H10304
HID:1336LGGMN
Prox Key® II

**Proven, Reliable Technology.**
Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions, even when close to keys and coins.

**Small and Convenient**
Can be carried with keys in pocket or handbag.

**Cross-reference**
A cross-reference list correlating the external card number and the programmed ID number is provided for easy system administration.

**Long Life**
Passive, no-battery design allows for an infinite number of reads.

**Durability**
ABS package is resistant to cracking and breaking.

**Features:**
- Offers universal compatibility with all HID proximity readers
- Provides an external number for easy identification and control
- Can be placed on a key ring for convenient entry

**Order Codes:**
- **Format - H10301 – 26 bit Wiegand**
  1346LNSMN-H10301
  ProxKey II keyfob programmed for 26 bit Wiegand. Supplied with HID logo on the front back is standard finish. Numbering is sequential internal & external.

- **Format - H10302 – Tracked 37 bit Wiegand**
  1346LNSMN-H10302
  ProxKey II keyfob programmed for HIDs tracked 37 bit Wiegand format H10302. Supplied with HID logo on the front back is standard finish. Numbering is sequential internal & external.
MicroProx®

The MicroProx Tag provides the convenience of HID’s proximity technology in a small disk-shaped transponder. Simply attach the adhesive-backed Tag to any non-metallic card or device, and you instantly have a proximity card!

With the MicroProx Tag you can:

• Seamlessly upgrade from Wiegand, magnetic stripe or barium ferrite technologies by simply adhering the Tag to your existing access card.
• Easily and cost-effectively turn a plastic ID badge or contact smart chip card into a proximity credential!
• Add proximity access control capability to users’ cell phones, PDAs and other similar non-metallic device

Features:

• The size of a coin, the Tag easily attaches to all non-metallic materials
• The Tag can be programmed in any
• HID proximity format, and is compatible with all HID proximity readers
• The Tag is RF-programmable for ease of encoding with HID’s ProxProgrammer®
• Experience the convenience of proximity without the expense of rebadging

Order Codes:

391LKSMN-H10301
HID:1391LKSMN

1391LKSMN-H10304
HID:1391LKSMN
HID Proximity and MIFARE® Card

The HID Proximity and MIFARE card combines contactless smart card technology with the benefits of HID’s proven proximity technology. This card can be used for diverse applications such as access control, public transportation, road toll, park & ride, airline ticketing, customer loyalty and photo ID cards.

Read/write Functionality for Multi-functional Memory Applications Sixteen securely separated files (sectors), each protected by a set of two keys and programmable access conditions, allow complex applications and provide for future expansion. Each sector potentially represents a different application. Arithmetic functions are used for expanding the capabilities of the chip. Different keys can protect read/write operations in order to build key hierarchies in the system.

Security mechanisms such as mutual authentication and encryption are efficiently combined with fast processing and data communication, resulting in transition times of less than 100 milliseconds for a typical secure ticketing transaction.

Proven, Reliable Technology
Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions, even when close to keys and coins.

Thin/Practical Size
Can be carried with credit cards in a wallet or purse. Use with a strap and clip as a photo ID badge.

Photo ID Compatible
Print directly to the card with a direct image or thermal transfer printer. Slot punch vertically for easy use.

Features:
- Ideal for companies that want to add smart card applications to an existing
- HID proximity technology access control system
- Supports all HID proximity card formats, including Corporate 1000
- 13.56 MHz operating frequency provides high-speed, reliable communications with high data integrity.
- MIFARE technology ensures high security (mutual authentication, data encryption, unique 32-bit serial number)
- Meets ISO standards for thickness; use with all direct image and thermal transfer printers.

Order Codes:
1431LGGMNN-H10301

1431LGGMNN-H10304

HID:1431LGGMNN /
Format:H10301
Proximity & MIFARE card.
Prox encoded for 26 bit Wiegand - MIFARE chip unencoded. Front & back plain white PVC with Gloss finish. Sequentially numbered internally & externally (inkjetted) for the 125kHz. Card has printed location for slot punch position. MIFARE chip is unencoded.

HID:1431LGGMNN /
Format:H103041
Proximity & MIFARE card.
Prox encoded for 37 bit Wiegand - MIFARE chip unencoded. Front & back plain white PVC with Gloss finish. Sequentially numbered internally & externally (inkjetted) for the 125kHz. Card has printed location for slot punch position. MIFARE chip is unencoded.
ProxCard II®

Features:
- Price competitive with all other card technologies
- Thin enough to carry in a wallet or purse
- Offers universal compatibility with all HID proximity readers
- Provides durable packaging and consistent read range
- Provides an external number for easy identification and control
- Supports formats up to 85 bits, with over 137 billion codes
- Custom pre-printed artwork available.
- A PVC overlay allows for on-site photo ID using most direct image printers

Proven, Reliable Technology
Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions, even when close to keys and coins.

Thin/Practical Size
Can fit into a wallet or purse. Use with a strap and clip as a photo ID badge.

Cross-reference
A cross-reference list correlating the external card number and the programmed ID number is provided for easy system administration.

Long Life
Passive, no-battery design allows for an infinite number of reads.

Durability
Strong, flexible and resistant to cracking and breaking.

Order Codes:
1326LMSMV-H10301

1326LMSMV-H10304

1326LGSMV-H10301

1326LSSMV-H10301
MiniProx®

Mounting: unobtrusive design mounts directly onto metal such as door mullions. Hazardous Location MiniProx reader Mounting: designed to mount onto a junction box included with each reader. The junction box is attached to an appropriate surface location utilising four holes.

Audio-visual indication: when a proximity card is presented to the reader, the red LED flashes green and the beeper sounds. The multi-colour LED and beeper can also be controlled individually by the host system.

Diagnostics: on reader power-up, an internal self-test routine checks and verifies the setup configuration, determines the internal or external control of the LED and beeper, and initialises reader operation.

An additional external loop-back test allows for the reader outputs and inputs to be verified without the use of additional test equipment.

Indoor/outdoor design: sealed in a rugged, weatherised polycarbonate enclosure designed to withstand harsh environments, providing reliable performance and a high degree of vandal resistance.

Features:
- Offers high reliability, consistent read-range and low power consumption in an easy-to install package
- Mounts directly onto metal with no change in read range performance
- Provides multi-colour LED, compatibility with all standard access control systems and internal or host control of LED and beeper
- Available with either pigtail or terminal strip (terminal strip only for Hazardous Location version)

Order Codes:

5365CGP00  HID Miniprox in grey with 18” (45.7cm) Pigtail cable. Reader is configured with Beep on, LED normally red, reader flashes green on card read.

5365EGT00  HID Miniprox in grey with terminal strip. Reader is configured with Beep on, LED normally red, reader flashes green on card read.

5365EGH00  HID Miniprox in grey with hazardous area back box. Reader is configured with Beep on, LED normally red, reader flashes green on card read.

Additional Benefits
- Encapsulated Reader Suitable for indoor and outdoor use.
- Hazardous Location version is UL104 Class I & II DIV 2 and Class III listed.
- Power Requirements: 5 -16 VDC
- Current requirements 20mA avg/110mA peak at 12 VDC
- Classic Series covers available in black, grey, white or beige
- 45 cm wire pigtail standard; consult factory for 2.7 m pigtail available by special order
ProxPro®

The ProxPro proximity card reader’s weatherproof design and architecturally attractive enclosure allows easy mounting indoors or out. The ProxPro Reader is ideal for applications requiring a larger read range. Mounting: holes fit standard U.S.A. single-gang switch boxes (vertically mounted) to simplify installation. Field adjustable for mounting directly to metal, exhibiting only minimal effects on read range.

An additional external loop-back test allows the reader outputs and inputs to be verified without the use of additional test equipment. Indoor/outdoor design: sealed in a rugged, weatherised polycarbonate enclosure designed to withstand harsh environments, providing reliable performance and a high degree of vandal resistance. Easily installed in any location, even with the optional keypad.

The unit includes a tamper switch to provide notification of reader tampering. Recognises card formats up to 84 bits, with over 137 billion unique codes. Keypad option: available with an optional, integrated weatherised keypad, which provides an additional level of security by allowing the use of a personal identification number (PIN). The keypad interfaces with the host system either by sending the keypad data over the data output lines, or via a direct connection to the host keypad interface.

Features:
- Ideal for medium-range applications
- Sealed for indoor or outdoor use
- Optional glass mount kit available for mounting the reader behind glass
- Power requirements: 10-28.5 VDC
- Current requirements: 100 mA avg/120 mA peak
- Dimensions: 12.7 x 12.7 x 2.54 cm
- Affords high reliability, consistent read range characteristics, and low power consumption in a single, easy-to-install package

Order Codes:
5355AGN00  HID ProxPro reader in grey - Wiegand output. Configured with Beep on, LED normally red, flashes green on card read. HID ProxPro reader in grey with Wiegand output and Wiegand 8 bit burst keypad. Configured with Beep on, LED normally red, flashes green on card read. HID ProxPro reader in grey with Wiegand output and 3 x 4 matrix keypad. Configured with Beep on, LED normally red, flashes green on card read.
5355AGK00
5355AGS00

Additional Features
- Features multi-colour LED, internal or host control of the LED, and/or beeper and a beeper “off” switch for silent operation.
- Offers an optional, fully integrated personal identification number keypad for heightened security.
- Keypad data and card data can be sent on the same cable, or on a separate cable using 2 of 7 or 3 x 4 matrix.
Prox Point Plus®

Features:
- Small sized, low cost reader features a beeper and multi-colour LED which can be host and/or locally controlled
- Potted reader suitable for indoor or outdoor use
- Power requirements: 5-16 VDC
- Current requirements: 20 mA avg / 75 mA peak at 12 VDC
- 45 cm wire pigtail standard; consult factory for
- 9’ (2.7 m) pigtail available by special order
- Beeper and multi-colour LED
- Can read HID cards with formats up to 85 bits
- Designed for mounting directly onto metal with no change in read range performance
- Compatible with all standard access control systems
- Includes multilingual installation manual

Order Code: 6005BGB00

HID ProxPoint Plus in grey with 45.7 cm pigtail cable. Reader is configured with Beep on, LED normally red, reader flashes green on.

Mounting: unobtrusive design can be mounted directly onto metal such as door mullions. Audio-visual indication: when a proximity card is presented to the reader, the red LED flashes green and the beeper sounds. The multi-colour LED and beeper can also be controlled individually by the host system. Diagnostics: on reader power-up, an internal self-test routine checks and verifies the setup configuration, determines the internal or external control of the LED and beeper, and initialises reader operation.

An additional external loop-back test allows for the reader outputs and inputs to be verified without the use of additional test equipment. Indoor/outdoor design: sealed in a rugged, weatherised polycarbonate enclosure designed to withstand harsh environments, providing reliable performance and a high degree of vandal resistance.

Easily interfaced: Wiegand output model interfaces with all existing Wiegand protocol access control systems.

Clock-and-Data (magnetic stripe) model interfaces with most systems that accept magnetic stripe readers.
ThinLine II

Mounting: mounts on a single-gang electrical box for easy installation. Mounts directly on metal with minimal impact on read range performance.

Audio-visual indication: a red LED flashes green and the beeper sounds when reader is presented with a proximity card. The multi-colour LED and beeper can also be controlled individually by the host system.

Diagnostics: on reader power-up, an internal self-test routine checks and verifies the setup configuration, determines the internal or external control of the LED and beeper and initialise reader operation.

An additional external loop-back test allows for the reader outputs and inputs to be verified without the use of additional test equipment. Indoor/outdoor design: sealed in a rugged, weatherised polycarbonate enclosure designed to withstand harsh environments, providing reliable performance and a high degree of vandal resistance.

Features:
- The size of most standard U.S. switch plates
- Potted reader suitable for indoor or outdoor use
- Power requirements: 5-16 VDC
- Current requirements 20 mA avg / 115 mA peak at 12 VDC
- Dimensions: 11.9 x 7.6 x 1.7 cm 45 cm wire pigtail standard; consult factory for 2.7 m pigtail available by special order
- Provides high reliability, consistent read range and low power consumption
- Features include multi-colour LED and internal control or host control of the LED and beeper
- Mounts directly on metal with minimal impact on the read range performance
- Includes multilingual installation manual

Order Code: 5395CG100

HID ThinLine reader in grey with Wiegand output. Configured with Beep on, LED normally red, flashes green on card read.
MaxiProx®

Features:
- Long read range distance (up to 8’ with ProxPass®)
- Autotune allows read range to be maintained within four inches of metal
- “Parking hold” feature ensures accurate detection of vehicles in parking lanes
- Dimensions: 30.5 x 30.5 x 2.54 cm
- Power requirements: 12 or 24 VDC (configurable)
- Current requirements: 200 mA avg /700 mA peak at 12 VDC; 260 mA avg /1.2A peak at 24 VDC

Order Code: 5375AGN00

HID MaxiProx reader in grey with Wiegand output. Configured with beep on, LED red, flashes green on card read. Read distance up to 8’ with ProxPass.

Mounting: mount on non-metallic surfaces for optimal read range performance. Audio-visual indication: when a proximity card is presented to the reader, the red LED flashes green and the beeper sounds. The multi-colour LED and beeper can also be controlled individually by the host system.

Indoor/outdoor design: sealed in a rugged, weatherised polycarbonate enclosure designed to withstand harsh environments as well as provide a high degree of vandal resistance for reliable performance anywhere.

Security: includes a tamper switch to provide electronic notification of reader tampering. Recognises card formats up to 85 bits.

Additional Benefits
- Compatible with all HID cards and tags with formats up to 85 bits
- Multi-colour LED with internal or host control of the LED and beeper
- Two MaxiProx units can operate one meter apart for “HI-LO” (truck and car) installations.
Access Control Cards and Readers
Kantech ioProx

ioProx™ Proximity Readers

Integration by Design
Kantech ioProx readers and cards provide an ideal access control solution. They are a secure and easy-to-install solution to manage and control access all the while ensuring people, materials and operations are safe. ioProx readers and cards seamlessly integrate with Kantech access control systems including door controllers and EntraPass Security Management Software.

Secure Card Formats
All ioProx cards are dual encoded with both 26-bit Wiegand format and Kantech extended Secure Format (XSF). These same ioProx cards can be used either with 26-bit Wiegand or XSF format card readers. Kantech XSF readers are compatible with Entrapass Software which allows access to over 4 billion codes, protecting against card duplication.

ioProx Readers support dual authentication by combining ioProx card presentation along with a Personal Identification Number (PIN) entered on the reader’s integrated keypad.

Presenting Our Credentials
ioProx cards feature proven, reliable technology that seamlessly integrates with ioProx readers. Cards are available in a variety of shapes and materials. They offer a flexible design and can be attached to a key ring, badge clip or lanyard. In the case of disk shaped P50TAG, it can be attached to any non-metallic surface such as a smart phone. And some cards are suitable for dye sublimation printing.

Features:
- Choose from Kantech extended Secure Format (XSF) or 26-bit Wiegand format
- Digital Signal Processing (DSP ensures quick and reliable card reading
- Weatherproof design for indoor and outdoor applications
- Integrated piezo buzzer & bicolour reader LED
- Quick connect terminal blocks (P225 and P325 series allows for easy wiring and saves time and money
- Up to 73 cm read range (P600)

Selecting The Right Reader
Choose the right ioProx reader for the specific application: single gang box, mullion, integrated keypad and long read range. Readers can also be selected based on reading distances, output options and other considerations.

Read Range
Depending on the model selected and the operating conditions, read range varies from 16.5 cm to 73 cm. With its extended range, the P600 Long Range Reader is ideal for parking lots and other long read range applications.

Appealing/Durable Readers
ioProx readers are attractive, compact, weatherised and vandal-resistant, making them suitable for installation in a variety of indoor and outdoor environments. The bicolour reader LED indicates system status. The LED turns green to indicate a successful read when the card is presented to the reader. In addition, the LED can indicate if the alarm system is armed or disarmed. The piezo buzzer provides audible indication of a successful read.
<table>
<thead>
<tr>
<th>Description</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ioProx™ Reader MULLION XSF Format, Typical read range up to 16.5 cm, Dimensions: 114.3 x 44.5 x 21.3 mm</td>
<td>P225XSF</td>
</tr>
<tr>
<td>ioProx™ Reader MULLION Wiegand 26 Format, Typical read range up to 16.5 cm, Dimensions: 114.3 x 44.5 x 21.3 mm</td>
<td>P225W26</td>
</tr>
<tr>
<td>ioProx™ MULL Reader with Keypad, XSF Format, Typical read range up to 16.5 cm, Dimensions: 114.3 x 44.5 x 21.3 mm</td>
<td>P225KPXSF</td>
</tr>
<tr>
<td>ioProx™ MULL Reader with Keypad, Wiegand 26 Format, Typical read range up to 16.5 cm, Dimensions: 114.3 x 44.5 x 21.3 mm</td>
<td>P225KPW26</td>
</tr>
<tr>
<td>ioProx™ Reader XSF FORMA, Typical read range up to 20.5 cm, Dimensions 115.6 x 71.1 x 21.3 mm</td>
<td>P325XSF</td>
</tr>
<tr>
<td>ioProx™ Reader Wiegand 26 Format, Typical read range up to 20.5 cm, Dimensions 115.6 x 71.1 x 21.3 mm</td>
<td>P325W26</td>
</tr>
<tr>
<td>ioProx™ S/GANG Reader with Keypad, XSF Format, Typical read range up to 20.5 cm, Dimensions 115.6 x 71.1 x 21.3 mm</td>
<td>P325KPXSF</td>
</tr>
<tr>
<td>ioProx™ S/GANG Reader with Keypad, Wiegand 26 Format, Typical read range up to 20.5 cm, Dimensions 115.6 x 71.1 x 21.3 mm</td>
<td>P325KPW26</td>
</tr>
<tr>
<td>P600 ioProx™ proximity long range reader, unshielded cable, Extended Secure Format and Weigand 26 bit selectable (Black).</td>
<td>P600</td>
</tr>
<tr>
<td>P600 Compatible proximity cards: P10SHL (Standard card), P20DYE (Dye-Sub card), P30DMG (Dye-Sub card with non encoded mag-stripe) and P40KEY (Keytag).</td>
<td></td>
</tr>
<tr>
<td>Tamper switch for P225 P325 readers..</td>
<td>P-TAMP</td>
</tr>
</tbody>
</table>
Common ioProx Card Reader Specifications

Both XSF and 26-bit Wiegand format ioProx readers are compatible with ioProx cards.

- Transmission Frequency 125 kHz
- LED Indicator Bicolour (Red, Green)
- Piezo Buzzer Integrated
- Operating Temperature Range -35°C to 65°C
- Certifications FCC Part 15 Class B, CE, UL
- Environmental RoHS, WEEE
- Colour Black

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
<th>Max Distance</th>
<th>Input Power: 5 VDC</th>
<th>Unshielded Wire</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P225/</td>
<td>11.4 x 4.4</td>
<td>Up to 16.5 cm</td>
<td>137 m 12 VDC - 300 m</td>
<td>#8742, 3 twisted pairs</td>
<td>Optional</td>
</tr>
<tr>
<td>P225KP</td>
<td>x 2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mullion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P325/</td>
<td>11.5 x 7.1</td>
<td>Up to 20.5 cm</td>
<td>150 m 12 VDC - 300 m</td>
<td>#8742, 3 twisted pairs</td>
<td>Optional</td>
</tr>
<tr>
<td>P325KP</td>
<td>x 2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gang</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P600</td>
<td>285 x 285</td>
<td>Up to 73 cm</td>
<td>12 VDC - 137 m 28 VDC - 300 m</td>
<td>#5304UE, 6 conductor</td>
<td>Integrated</td>
</tr>
<tr>
<td>Long Range</td>
<td>x 31.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kantech ioProx
ioProx™ Cards

Features:
- Dual Encoded Cards
- Kantech eXtended Secure Format (XSF)
- 26-bit Wiegand format (W26)
- Read range up to 73 cm using P600
- Long Range reader
- Long-life passive card for unlimited number of reads
- 5 models to meet the requirements of any application

ioProx™ Proximity cards ensure increased security with dual XSF and W26 encoded formats, whilst providing customers with the flexibility to choose from multiple card designs.

Technical Specifications:

<table>
<thead>
<tr>
<th>Part No</th>
<th>P10SHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical read range</td>
<td>up to 10 cm</td>
</tr>
<tr>
<td>P100XSF Mini</td>
<td>up to 12.5 cm</td>
</tr>
<tr>
<td>P200XSF Mullion</td>
<td>up to 14 cm</td>
</tr>
<tr>
<td>P300XSF Single Gang</td>
<td>up to 15 cm</td>
</tr>
<tr>
<td>P400XSF Double Gang</td>
<td>up to 15 cm</td>
</tr>
<tr>
<td>Dimensions (H x W x D) cm</td>
<td>8.6 x 5.40 x 0.18</td>
</tr>
<tr>
<td>Card Construction</td>
<td>P10SHL proximity cards are slot punched and are compatible with most adhesive photo pouches</td>
</tr>
<tr>
<td>Operating temperatures</td>
<td>-45°C to 70°C</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Weight</td>
<td>6.8 g</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL, CE,FCC</td>
</tr>
</tbody>
</table>

ioProx™ Dye sublimination card (suitable for direct card printing) for use with ioPass™ and Kantech EntraPass™, ioProx™ readers. The card is dual format - XSF & the industry standard 26 bit Wiegand.

<table>
<thead>
<tr>
<th>Part No</th>
<th>P20DYE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical read range</td>
<td>up to 7.5 cm</td>
</tr>
<tr>
<td>P100XSF Mini</td>
<td>up to 9 cm</td>
</tr>
<tr>
<td>P200XSF Mullion</td>
<td>up to 10 cm</td>
</tr>
<tr>
<td>P300XSF Single Gang</td>
<td>up to 11.5 cm</td>
</tr>
<tr>
<td>P400XSF Double Gang</td>
<td>up to 11.5 cm</td>
</tr>
<tr>
<td>Dimensions (H x W x D) cm</td>
<td>8.6 x 5.4 x 0.079</td>
</tr>
<tr>
<td>Card Construction</td>
<td>P2DYE Cards are thin, flexible polyvinyl chloride laminates</td>
</tr>
<tr>
<td>Operating temperatures</td>
<td>-45°C to 70°C</td>
</tr>
<tr>
<td>Colour</td>
<td>Glossy white on both sides</td>
</tr>
<tr>
<td>Weight</td>
<td>6.8 g</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL, CE,FCC</td>
</tr>
</tbody>
</table>
**ioProx™ Proximity Readers**

ioProx™ Dye sublimination card (suitable for direct card printing) for use with ioPass™ and Kantech EntraPass™ ioProx™ readers. The card is dual format - XSF & the industry standard 26 bit Wiegand.

**P30DMG ioProx™ Dye-Sub Card (with unencoded mag stripe)**

<table>
<thead>
<tr>
<th>Part No</th>
<th>P30DMG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical read range</td>
<td>up to 7.5 cm</td>
</tr>
<tr>
<td>P100XSF Mini.</td>
<td>up to 9 cm</td>
</tr>
<tr>
<td>P200XSF Mullion</td>
<td>up to 10 cm</td>
</tr>
<tr>
<td>P300XSF Single Gang</td>
<td>up to 11.5 cm</td>
</tr>
<tr>
<td>P400XSF Double Gang</td>
<td></td>
</tr>
<tr>
<td>Dimensions (H x W x D) cm</td>
<td>8.6 x 5.4 x 0.079</td>
</tr>
<tr>
<td>Magnetic stripe</td>
<td>Unencoded</td>
</tr>
<tr>
<td>Card Construction</td>
<td>P2DYE Cards are thin, flexible polyvinyl chloride laminates</td>
</tr>
<tr>
<td>Operating temperatures</td>
<td>-45°C to 70°C</td>
</tr>
<tr>
<td>Colour</td>
<td>Glossy white on both sides</td>
</tr>
<tr>
<td>Weight</td>
<td>6.8 g</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL, CE, FCC</td>
</tr>
</tbody>
</table>

**ioProx™ proximity keytag for use with ioPass™ Kantech EntraPass™ ioProx™ readers. The keytag is dual format - XSF & the industry standard 26 bit Wiegand.**

**P40KEY ioProx™ Keytag**

<table>
<thead>
<tr>
<th>Part No</th>
<th>P40KEY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical read range</td>
<td>up to 3.8 cm</td>
</tr>
<tr>
<td>P100XSF Mini</td>
<td>up to 3.8 cm</td>
</tr>
<tr>
<td>P200XSF Mullion</td>
<td>up to 4.0 cm</td>
</tr>
<tr>
<td>P300XSF Single Gang</td>
<td>up to 4.5 cm</td>
</tr>
<tr>
<td>P400XSF Double Gang</td>
<td></td>
</tr>
<tr>
<td>Dimensions (H x W x D) cm</td>
<td>5.0 x 2.0 x 0.5 cm</td>
</tr>
<tr>
<td>Keytag Construction</td>
<td>P40Key package is strong and resistant to cracking and breaking</td>
</tr>
<tr>
<td>Operating temperatures</td>
<td>-45°C to 70°C</td>
</tr>
<tr>
<td>Colour</td>
<td>Black</td>
</tr>
<tr>
<td>Weight</td>
<td>5 g</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL, CE, FCC</td>
</tr>
</tbody>
</table>

Adhere the tag to any non metallic devices to provide access control capability to users. Ideal to upgrade from Wiegand, magnetic stripe or ferrite technologies.

**P50TAG**

<table>
<thead>
<tr>
<th>Part No</th>
<th>P50TAG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical read range</td>
<td>up to 4.58 cm</td>
</tr>
<tr>
<td>P100XSF/W26</td>
<td>up to 4.59 cm</td>
</tr>
<tr>
<td>P200XSF/W26</td>
<td>up to 5 cm</td>
</tr>
<tr>
<td>P300XSF/W26</td>
<td>up to 5.78 cm</td>
</tr>
<tr>
<td>P400XSF/W26</td>
<td>up to 5 cm</td>
</tr>
<tr>
<td>P555KPXSF/W26</td>
<td>up to 27 cm</td>
</tr>
<tr>
<td>P600</td>
<td></td>
</tr>
<tr>
<td>Tag dimensions cm</td>
<td>2.5 cm diameter</td>
</tr>
<tr>
<td>Tag construction</td>
<td>PVC, back with self adhesive</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-45°C to 70°C</td>
</tr>
<tr>
<td>Weight</td>
<td>1 g</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL, CE, FCC</td>
</tr>
</tbody>
</table>

**Security:** The readers recognise over 4 billion unique codes. Using Kantech’s XSF cards (eXtended Secure Format) provides increased security and absolute guarantee against card duplication.
KT-4GFXS Biometric Solutions

Features:
- Large Template Storage Capacity (10,000 in 1:N; 100,000 in 1:1)
- Integrated ioProx Card Readers
- Range of 500 DPI Sensor Options
- Field Replaceable Sensors
- Backwards Compatible
- Remote Device Management
- IP Connectivity (LAN, WAN, PoE)
- Easy Administration with SecurAdmin™
- Flush or Recess Mounted

Technical Specifications:

Communications
- Networking Options: LAN, WAN, RS485
- PC Connection: USB, RS232
- External Media: USB memory

Input / Outputs
- Wiegand (Customisable format up to 256 bits)
- 3 General Purpose Inputs
- 3 General Purpose Outputs (Extendable to 6 outputs)

Template Storage Capacity
- V-Flex 4G (ioProx) – Store 100,000 templates for 1:1 verification or 10,000 templates for 1:N identification

Transaction Log Capacity
- 1 Million transaction logs stored on device

Authentication Modes
- V-Flex 4G (ioProx): Prox Card + Finger, Prox Card Only, Finger Only
- Voltage: 12 - 24 V DC
- Current Draw: 500 mA, 0.5 amps @ 12 VDC

Order Codes:
- KT-4GFXS-IO-W26: L1 4G biometric reader with integrated ioProx 26bit Wiegand reader
- KT-4GFXS-IO-XSF: L1 4G biometric reader with integrated ioProx XSF reader

Power and Flexibility Features at a glance in a Compact Design
V-Flex 4G XSF and W26 fingerprint models are available on demand to address a wide range of deployment scenarios. Quick throughput, deployment flexibility, and the ability for the system to expand over time meet the demands of today and will be drivers for future requirements. Ensure employees gain access fast, 4G searches 6,000 templates per second.

Meet Challenging Security Requirements
A full range of options are available for different security requirements. Remove install constraints with a wide range of configurable options for multi-factor authentication with multi-factor authentication combining fingerprint, cards and PINs.

Reduce Maintenance Costs
Save time and drive down the cost of ownership with a communication-ready connected smart device, contain new installation and maintenance capabilities.
- Leverage the latest communication standards – Full Ethernet, PoE, RS485
- Maintenance is quick and easy with our Innovative field replaceable sensor modules.
- Take full advantage of IP connectivity for Remote device management

Technical Specifications:

Dimensions
- Recessed Mounted: 159 mm x 96 mm x 48 mm (H x W x D)
- Flushed Mounted: 159 mm x 96 mm x 65 mm (H x W x D)
ioProx Receiver and Wireless Transmitters

Features:
- Four-channel receiver can be matched to a button on the transmitter
- Long read range - up to 45 m
- Encrypted code ensures high level of security
- Two or four-button transmitter with optional integrated ioProx tag
- Indoor/outdoor use

Long-Range, Secure Transmission
The ioProx Transmitter is ideal for long-range (up to 45 m) applications such as opening parking gates. The (2- or 4-button) transmitter is available with an optional integrated ioProx tag, which can be read by an ioProx card reader, making it an ideal solution to access both a parking facility and an office building without searching for multiple access cards. The ioProx transmitter uses radio-frequency (RF) technology secured with encrypted coding. The ioProx Receiver is field selectable for either 26-bit Wiegand format or for Kantech Extended Secure Format (XSF).

Easy Configuration
The receiver is field-configurable so that dip switches can be set to determine which corresponding button on the transmitter will activate the receiver. The same wireless transmitter can be used to operate up to four different receivers (one per button) located within close proximity to each other. If the receivers that are allocated to each button are out of range of the wireless transmitters, additional receivers can be configured and used with the same 4-button transmitter.

Easy Installation
The ioProx receiver can be installed using unshielded cable up to 150 m from the controller. Using this type of cable significantly reduces installation cost.

IoProx Wireless Transmitters
The ioProx wireless transmitters are available in a 2- or 4-button version. With an extra long 433.92 MHz read range, it is an ideal solution for parking lots, garages, or anywhere there is a significant distance between a cardholder and the secured entrance.

Encrypted Code for Higher Security
ID credentials consisting of a site and ID number are encoded on the wireless transmitter. When the appropriate button on the transmitter is pressed, the data is sent to the receiver using incremental packet transmission. This creates a unique code transmission every time the button is pressed so that no one can intercept the code and use it to circumvent the access control system.

Model Available with Integrated ioProx Tag
The ioProx wireless transmitters include a model with an integrated ioProx tag for use with any ioProx card reader. Therefore, if you install the ioProx reader in a parking garage and an ioProx card reader at the building entrance, users can gain access to both using the same transmitter rather than searching for a different key tag or card for each entrance.
ioProx Receiver and Wireless Transmitters

Technical Specifications:

**ioProx Receiver**
- **Power:** 12-24 VDC
- **Operating Temperature:** -30°C to 68°C
- **Dimensions (H x W x D):** 19.2 x 13.0 x 4.1 cm
- **Enclosure Material:** Polycarbonate (HB) with UV stabilizer, weather-resistant, IP56, NEMA 4X rated
- **Frequency:** 433.92 MHz
- **Current:** 50 mA (stand-by), 100 mA (peak)
- **Output:** XSF or 26-bit Wiegand selectable
- **Cable Type:** 2 twisted pairs, unshielded cable
- **Max. Distance from Controller at 12 VDC:**
  - 152 m with 18 AWG
  - 112 m with 20 AWG
  - 76 m with 22 AWG

**Order Codes:**
- P700WLS
- P82WLS
- P82WLS-TAG
- P84WLS
- P84WLS-TAG

**Accessories**
- P-WLS-A1
- P-WLS-A2

**2- and 4-button ioProx Transmitters**
- **Power:** 3 V lithium battery, included (3 year average lifetime)
- **Operating Temperature:** 0°C to 70°C
- **Dimensions (H x W x D):** 5.6 x 4.0 x 1.6 cm
- **Certification:** FCC, CE
- **Standard Whip Antenna**¹
  - **Read Range:** Up to 30 m
- **Power Dipole Antenna**²
  - **Read Range:** Up to 45 m

---

(1) Antenna P-WLS-A1 may be remotely installed using coaxial cable up to 4.5 m
(2) Antenna P-WLS-A2 MUST be installed using coaxial cable up to 4.5 m; RG1 1/U (Belden ref#8213) coaxial cable is recommended.
Software House Multi-tech and Multi-format Readers

Software House's innovative suite of fully open, multi-protocol readers includes the industry’s most versatile Multi-Technology Reader to simultaneously read HID Proximity cards, MIFARE encrypted sector cards, HID iCLASS®, PIV II Government cards, as well as other proximity and smart card formats. The Multi-Technology Readers are listed on the GSA's FIPS 201 Approved Products List.

Software House Multi-Technology Readers provide a flexible multi-protocol, multi-frequency solution for customers who either want to transition to smart cards over time or who want to utilize both smart cards and proximity cards in their facility.

The suite also includes Multi-Format Proximity Readers that read 125 KHz card formats from multiple manufacturers and Multi-Format Smart Card Readers that read 13.56 MHz card formats from multiple manufacturers.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Form Factor</th>
<th>HID RUSCO</th>
<th>CASI-Prox</th>
<th>Deister Prox</th>
<th>ISO14443 A/B SN</th>
<th>MIFARE Sector</th>
<th>ISO1563 SN</th>
<th>FIPS 201 PIV-II</th>
<th>DESFire SN</th>
<th>iCLASS SN</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWH-4000</td>
<td>Mullion</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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</tr>
<tr>
<td>SWH-4100</td>
<td>Single</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gang</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>✔</td>
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</tr>
<tr>
<td>SWH-4200</td>
<td>Keypad</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>SWH-2100</td>
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<td>Gang</td>
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<td>✔</td>
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<td>✔</td>
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<td>SWH-2400</td>
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<td></td>
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<tr>
<td></td>
<td>Gang</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>✔</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Form Factor</th>
<th>HID RUSCO</th>
<th>CASI-Prox</th>
<th>Deister Prox</th>
<th>ISO14443 A/B SN</th>
<th>MIFARE Sector</th>
<th>ISO1563 SN</th>
<th>FIPS 201 PIV-II</th>
<th>DESFire SN</th>
<th>iCLASS SN</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWH-3000</td>
<td>Mullion</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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</tr>
<tr>
<td>SWH-5000</td>
<td>Mullion</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWH-5100</td>
<td>Single</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Software House Multi-tech and Multi-format Readers

This new innovative product from Software House shows the company’s commitment to open standards whilst providing the security industry with a transition from yesterday’s proximity cards to today’s smart cards. The new line of Multi-Technology Readers is a leap forward in open systems, allowing companies to transition from a proximity system to a more advanced smart card system at their own pace – simply and affordably.

Software House’s Multi-Format Proximity Readers can read 125 KHz card formats from multiple manufacturers, providing a cost-effective solution for businesses struggling with disparate proximity access control cards throughout the organisation.

The new line of Multi-Format Smart Card Readers offers enhanced security through encryption and is compatible with nearly every smart card format in the industry. Before making any commitment to 3rd party card or reader compatibilities, we strongly advise that you arrange for the cards to be tested in advance. Some 3rd party manufacturers or distributors provide product that will not be 100% compatible with ISO norms and standards. This means we cannot approve third party products without detailed testing. Please contact your pre-sales support representative.

Features:
- Software House Readers and Cards are priced competitively
- Protecting your existing card investment without having to re-badge
- Enabling the transition to smart card technology at your own pace
- Preventing the obsolescence of the reader - Future Proof - with the ability to flash new firmware

Additional Benefits:
- Software House Multi-Format Proximity Readers
  - HID 125 KHz
  - Deister 125 KHz
  - CASI-RUSCO® ProxLite
- Software House Multi-Format Smart Card Readers
  - iCLASS® Serial Number
  - MIFARE® Serial Number
  - DESFire® Serial Number
  - ISO 14443A Serial Number
  - ISO 14443B Serial Number
  - ISO 15693 Serial Number
  - MIFARE® Sector
Multi-Format Proximity Readers are compatible with cards from multiple manufacturers which makes them an extremely versatile access control solution. The new Proximity readers combine multiple configuration options with an appealing, discreet design and economical price. The Proximity readers are ideal for numerous applications. The readers encapsulated electronics make them ideal for both indoor and outdoor applications.

### Features:
- Reads Multiple 125 KHz Formats
- HID Proximity
- Deister Proximity
- CASI® ProxLite®
- Outdoor/Indoor Use
- Wiegand Output Format

### Order Codes:
- **SWH-5000**
  - Software House black mullion style multi-format 125K prox reader. Reads HID, Casi Prox-Lite & Deister 125K prox. Gives a Wiegand output - can be configured by programming card

- **SWH-5000G**
  - Software House grey mullion style multi-format 125K prox reader. Reads HID, Casi Prox-Lite & Deister 125K prox. Gives a Wiegand output - can be configured by programming card.

### Technical Specifications:

<table>
<thead>
<tr>
<th>Agency Certifications</th>
<th>FCC Part 15, CE, UL 294 Full Outdoor (pending)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Wiring</td>
<td>4 Conductors</td>
</tr>
<tr>
<td>Cable Recommendations</td>
<td>22 AWG, Stranded</td>
</tr>
<tr>
<td>Colour</td>
<td>Black or Light Grey</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td>Model SWH-5000</td>
<td>120 mm x 45 mm x 25 mm, Mullion</td>
</tr>
<tr>
<td>Model SWH-5100</td>
<td>84 mm x 84 mm x 28 mm, Single Gang (Not in EMEA)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>-35° to 67°C</td>
</tr>
<tr>
<td>Humidity Range</td>
<td>0 to 100%</td>
</tr>
<tr>
<td>Index of Protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Power Supply</td>
<td>8 – 16 VDC 125 mA max @ 12 VDC</td>
</tr>
<tr>
<td>Read Range (Optimal)</td>
<td>from 7.5 cm (SWH-5000)</td>
</tr>
<tr>
<td>Read Time</td>
<td>Technology Dependent (typically &lt; 300 msec)</td>
</tr>
<tr>
<td>Terminal Block</td>
<td>12 pos 3.5 mm Screw Terminals Plug-in</td>
</tr>
</tbody>
</table>
Multi-Format Smart Card Readers

Software House’s Smart Card readers allow customers to combine the power of enhanced security with other critical business applications. The Smart Card readers are ISO compliant and read serial numbers from the following card technologies: ISO 14443A (including DESFire®, MIFARE® serial number and sectors), ISO 14443B and ISO 15693 (including My-D®, SLI-2, iCLASS®, and many more), providing an incredibly versatile access control solution.

The Smart Card readers with “Flex” allows users to update the readers with new functionality or enhancements at any time with flash firmware. The “Flexible” readers save significant time and money by allowing users to simply “flash” new card protocols or formats directly to the reader. They also support the capability to read MIFARE® sectors.

Features:
- Read multiple Smart Cards
- ISO 14443A
- DESFire®
- MIFARE
- ISO 14443B
- ISO 15693
- My-D®
- SLI-2
- iCLASS
- MIFARE® Sectors
- Configurable Wiegand Output
- Reads Unique Serial Number or Programmed Sector Data
- Two Wire RS485 (“Flexible readers”)

Order Code:
SWH-2100E

Software House Smart Card Flex Reader Contactless smart card reader; reads 13.56 MHz serial number and MIFARE® sectors; single gang mount for Europe; Wiegand output; Flex version supports flashing new firmware; Light Grey.

Agency Certifications
FCC Part 15, CE, UL 294 Full
(pending)
Outdoor

Minimum Wiring
4 Conductors

Cable Recommendations
22 AWG, Stranded

Colour
Black or Light Grey

Dimensions
Model SWH-3000 120 mm x 45 mm x 25 mm, Mullion
Model SWH-3100 84 mm x 84 mm x 28 mm, Single Gang
Model SWH-4100 84 mm x 84 mm x 28 mm, Single Gang
Model SWH-4200 84 mm x 84 mm x 28 mm, Single Gang with Keypad (Not in EMEA)

Environment
UL Listed for Interior or Exterior

Operating Temperature
Range -35° to 67°C
Humidity Range 0 to 100%
Index of Protection IP65
Power Supply 8 – 16 VDC 125 mA max @ 12 VDC
Read Range Up to 10 cm depending on technology of card
Read Time Technology Dependent (typically < 300 msec)
Multi-Technology Readers

Software House’s Multi-Technology Readers provide a solution for reading serial numbers from multiple 13.56 MHz smart card technologies (Read Multiple CSNs - ISO 14443A, DESFire®, MIFARE, ISO 14443B, ISO 15693, My-D®, SLI-2, iCLASS) and, MIFARE® encrypted sectors. Also most common 125 KHz Prox cards (Read multiple Proximity Cards - HID® 125 KHz, Casi-Rusco ProxLite®, Deister 125 KHz), providing an incredibly versatile access control solution. This cost-effective solution enables customers to transition from proximity to smart cards over time or to utilise both smart cards and proximity cards in their facility.

This Multi-Technology Reader is available as “Flex” model that allows users to update the readers with new functionality or enhancements at any time with flash firmware.

Features:
- MIFARE® Sectors
- Configurable Wiegand Output
- Reads Unique Serial Number or Programmed Sector Data
- Flexible version available allowing users to simply “flash” new card protocols or formats directly to the reader.
- Reads multiple Proximity card formats

Order Code:
SWH-4100EG

Grey wall switch Multi-Technology Flex Reader Contactless smart card and proximity reader; reads 125KHz proximity cards, 13.56 MHz serial number, and MIFARE® sectors; single gang mount for Europe; Wiegand output; Flex version sup-ports flashing new firmware; Light Grey.

Technical Specifications:

<table>
<thead>
<tr>
<th>Agency Certifications (Pending)</th>
<th>FCC Part 15, CE, UL 294 Full Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Wiring</td>
<td>4 Conductors</td>
</tr>
<tr>
<td>Cable Recommendations</td>
<td>22 AWG, Stranded</td>
</tr>
<tr>
<td>Colour</td>
<td>Light Grey</td>
</tr>
<tr>
<td>Dimensions</td>
<td>84 mm x 84 mm x 28 mm, Single Gang</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>-35° to 67°C</td>
</tr>
<tr>
<td>Humidity Range</td>
<td>0 to 100%</td>
</tr>
<tr>
<td>Index of Protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Power Supply</td>
<td>8 – 16 VDC 125 mA max @ 12 VDC</td>
</tr>
<tr>
<td>Read Range (Optimal)</td>
<td>Up to 10 cm depending on technology of card</td>
</tr>
</tbody>
</table>
MIFARE Classic (Standard)

The MIFARE Classic card is a memory storage device, where the memory is divided into segments and blocks with simple security mechanisms for applications such as access control, time and attendance, logical access and cashless vending etc. Thanks to its reliability and low cost, these cards are widely used.

The card operates on 13.56MHz frequency and is a contactless smart card.

The MIFARE Classic 1k offers 1024 bytes of data storage, split into 16 sectors (0-15); each sector is protected by two different keys, called A and B. They can be programmed for operations like reading, writing, increasing value blocks, etc.).

MIFARE Classic 4k offers 4096 bytes split into forty sectors, of which 32 are the same size as in the 1K with eight more that are quadruple size sectors.

The first sector (sector 0) contains the serial number of the card (CSN) and certain other manufacturer data. The Mifare CSN is a 32bit ID which can be read by CSN card readers and output in Wiegand format to an access control system.

This number is not 100% unique though - so it is always preferable for access control to encode a sector and secure with a specific read key. That brings the net storage capacity of these cards down to 752 bytes for Classic 1k and 3440 bytes for Classic 4k.

Features:
- Low cost proximity card solution
- Multiple applications can be loaded on to one card
- Suitable for photo ID

Order Codes:
01485.000  Mifare Classic 1k memory smart card - unencoded
01482.000  Mifare Classic 4k memory smart card - unencoded
Stone Lock® Pro Biometric Facial Recognition

Integration with C•CURE 9000 for Instant and Accurate Confirmation of Identity

The Stone Lock Pro Biometric Facial Recognition reader from CoprometroUSA® has been integrated with C•CURE 9000 security and event management solution (v 2.20 and higher). Stone Lock Pro is an extremely fast and accurate infrared biometric facial recognition device, designed for access control applications that require instant, easy, and reliable confirmation of identity.

The combined solution is the ideal application for critical security situations where a PIN or password alone isn’t enough. Through the deep integration with C•CURE 9000, users have only one personnel database to manage, saving time and reducing problems with duplicate entries, errors, and inefficiency.

This will be Ideal for critical security access applications such as enterprise operations, educational institutions, correctional facilities, military, financial, data, etc.

Features:

- Extreme rapid biometric authentication, scanning over 2,000 facial points in less than a second
- All users, permissions, and schedules managed by C•CURE 9000 for truly integrated operation
- Stable, high performance proprietary biometric system with low power consumption
- Modular unit design with built-in keypad and HID iCLASS® SE reader
- Wide variety of intelligent recognition modes possible

Using the C•CURE 9000 interface, security personnel can create a Stone Lock Pro user, pair it with a personnel record and credential, and capture facial data remotely from any Stone Lock Pro device within the network. Once enrolled, users just need to present their credential and face the device for quick scanning and authentication.

Stone Lock Pro, a modular unit with a built-in keypad and HID iCLASS® SE reader, can scan and plot more than 2,000 facial points in less than a second.
Access Control Cards and Readers

Stone Lock Biometrics

- The Stone Lock® Passive Interface
- Authentication with no contact.
- Users merely approach facing the unit and it authenticates you
- High level of convenience and assurance.
- A subject, once detected, is flooded with near infrared light
- Less than a second, measures the wavelengths reflections on the face

Stone Lock®, Fast
- High through-put ~1 second per user authentication
- Stone Lock® Pro scans a user multiple times a second working to eliminate false rejections
- Initial enrolment of the biometric profile takes less than 15 seconds and you only have to enroll once
- Provides instant, highly accurate authentication

Stone Lock®, Accurate
- FAR 1/250 k (0.0004%)
- Stone Lock® Pro measures and maps 2155 points on a users face
- Proprietary algorithm, firmware and hardware
- Easily distinguishes between facial expressions
- Correctly identifies identical twins

Stone Lock®, Field proven!
- Over 2000 installations in 6 years
- Field proven as a reliable solution for the most critical access control demands including:
  - Data centres
  - Biotech/Pharmaceutical Labs
  - Bank cash vaults
  - Commercial/Industrial Facilities
  - Healthcare
  - Luxury apartments / smart homes

Order Codes:

**CC9000-STLOCK**
- C·CURE 9000 integration license for Stone Lock Pro face Recognition

**STL-PRO-ES-W**
- Stone Lock Pro face plate, control box, enrolment station, integration driver

**STL-PRO-FP-W**
- Lock Pro face plate only for dual apps

**STL-PRO-U-W**
- Stone Lock Pro face plate, control box, Stonelock integration driver
RM Series Card Readers

The RM Series Card Readers offer you a choice technologies – For EMEA we support both Proximity and Magnetic Stripe.

This universal design lets you mix and match different technologies on the same system while maintaining a consistent appearance.

All RM Series readers come with three separate LEDs (red, green, amber), which indicate a range of conditions. An audible alert can also be set from the system host. The readers also provide two supervised inputs and two outputs. The RM Series also supports the ARM-1 relay module.

A keypad version (RM2 series) can also be provided for PIN use. Optionally, a backlit LCD display (RM2L Series) can be added to any RM Series Reader. The display shows the time, date, system conditions, and various user prompts (in English).

The RM Series Card Readers are compatible with existing apC/8Xs and MRM readers, although it may be necessary to upgrade the apC/8X firmware. All RM Series Readers use the same wire and connectors, which simplifies installation and service.

Features:
- Universal packaging accommodates magnetic stripe and proximity technologies
- Keypad and backlit LCD display
- 2 supervised inputs and 2 control point outputs
- Operates in Star or Multi-drop configuration
- Built-in tamper switch
- Readers electronics are coated against dust and moisture
- UL 294/1076, FCC, CE, C-Tick compliant

Order Codes:

**Proximity Range**
- RM1-PH
- RM2-PH
- RM2L-PH
- RM3-PH

**Mag Stripe Range**
- RM1-MP
- RM2-MP
- RM3-MP
- M2L-MP

Software House Proximity Reader HID Version
- Software House Proximity Reader HID Version with Keypad
- Software House Mullion Proximity Reader HID Version

Standard Mag-Stripe Card Reader (Panasonic head)
- Standard Mag-Stripe Card Reader with Keypad
- Mullion Mag-Stripe Card Reader (Panasonic head)
- Standard Mag-Stripe Card Reader with Keypad and LCD Display
Nedap AVI

This chapter contains information about Nedap AVI

- Introduction
- uPass UHF
- TRANSIT Ultimate
- Nedap TRANSIT Entry Reader
- Vehicle Based Tags
- ANPR Access
AVI & Hands Free Solutions

To enhance the stock coded access control range and to provide our end users with improved security, control and monitoring of their premises and sites at main vehicle entrance points. We have worked with Nedap AVI to include in the stock coded a range of entry level low cost solutions for vehicle and pedestrian hands free access and higher security designed longer range solutions for specific control needs. We have also introduced for the first time a ANPR (Automatic Number Plate Recognition) solution specifically for integration with access control.

- Hands Free Access Control for special areas of need
- Low cost vehicle access control (up to 3m) where space and early detection is not a critical factor
- Long range (up to 10m) fast and secure vehicle and or Driver recognition for sites where security starts at the perimeter gate to the car park
- ANPR camera with Wiegand interface for an alternative solution to restricted car park control

Access to secured perimeters.

Knowing who is on site to meet security and health and safety requirements has given rise to a growth in demand for access control. Regulations have created different challenges within many industries and the need to control access of people and vehicles to facilities. With the two key user concerns, being security and convenience, our solution offers just the right combination of features to meet changing security market demands.

Secured convenient access

The Nedap solutions to this requirement add elements of convenience to the need for vehicle access systems. Drivers are not exposed to the environment whilst waiting or inserting a gate pass. This also increases throughput and stops delays to other vehicle traffic as queues build up at entrance points whilst users search for their pass or try to reach a reader on a pedestal.

Independent driver and vehicle ID

The system offers unique patented ability to not just identify the vehicle ID but simultaneously identify an authorised driver as well. This ability significantly improves security in areas where several different drivers are driving vehicles.

Hands free access

Once at or within the building, these readers combine the convenience of traditional door automation with the security of restricted access. Secure hands free access is used to exterior and interior entry doors for disabled, emergency workers and hospital staff, allow industrial workers and equipment operators hands free access to roll up doors.

Choosing between UHF and Microwave based AVI systems

Selecting uPASS or TRANSIT for your AVI application

Nedap AVI launched the uPASS Reach in 2010 as an addition to its portfolio for long range identification of vehicles and people. The uPASS Reach is a UHF reader and operates at a frequency of approximately 900 MHz. Nedap has been selling its TRANSIT system for over 10 years. This system uses a very different, microwave, frequency (2.45 GHz). Each system has its own characteristics and qualities which makes it suitable for specific applications. For this reason we have selected a range of products from both systems and would recommend that anyone who is not sure which is the right solution for the sites needs, contacts Nedap AVI for assistance.

What is the application?

Although the acronym AVI refers to automatic vehicle identification, it is important to realise that the system is used in a wide variety of applications across many different industries: Industrial & chemical plants use it to allow their staff safe and convenient access to their sites. Others to track of vehicles within their logistical processes. Bus depots use ours systems to manage access to the depot and keep track of their vehicles. There are many different types of application are out there. Some suitable for the UHF based systems, others requiring the microwave products.
System robustness
Once installed, the AVI system needs to keep operating no matter what happens. There might be severe weather conditions sometimes. Or maybe unsuspected types of vehicles are added to the population. Other systems might interfere with the frequency bandwidth that your system is using. Windshields might be equipped with solar protection. Dirt and dust might be affecting the performance of the system.

In general one can say that at this moment microwave based systems are more robust and are less likely to be affected by circumstantial influences when compared to UHF based systems. In Nedap terms: if you want to apply the system in difficult situations and want to be 100% sure the system keeps working: choose TRANSIT. In other words: are you dealing with a requirement where the systems robustness is of the upmost importance to ensure operational business continuity? Then the TRANSIT microwave system should be your first option to consider. It is using semi-active battery empowered transponders and a very robust IP66 reader. The technology has been around for more than a decade and has proven to be well performing technology. If you can afford a little less resilience, then UHF readers, including the uPASS Reach, might be a good alternative.

Investment
When AVI systems were still solely equipped with microwave based technology or something comparable, AVI solutions were sometimes systems could be outside of the clients budget. Although AVI can increase the convenience and security on a site also allowing for a quick return on the initial investment, the latest UHF technology is able to introduce an AVI solution to sites who could not before justify the costs. This cost effective long range reader that supports passive UHF cards and tags, which are lower cost initially than their battery powered counterparts and of course have no anticipated end of life date due to battery usage from the microwave system. So if price is an issue, uPASS UHF technology might be a good option.

Guaranteed read range
When debating about the quality of AVI systems, many people will refer to the maximum read range. Nedap AVI feel this is not the highest priority – it is the accuracy of read and the distance required for the application that must be identified. Both microwave and UHF based systems are able, depending on design and power of readers and transponders, to support very long read ranges of sometimes over 20 meters.

For most AVI applications having a read range of more than 10 meters is useless. That is why the TRANSIT is specified at a distance of approximately 10 meters. The small and slim line design UHF reader was developed for applications where approximately 4 meters should be sufficient. Both technologies require line of sight between reader and transponder (tag).

If you want a guaranteed long read range, the TRANSIT microwave system would be your first option. With UHF based AVI systems it is the combined quality of readers, tags and circumstances that will define the success of the implementation.

Driver and vehicle identification
One thing that sets the TRANSIT microwave system apart from competitive systems is the fact that using the booster technology Nedap has been able to offer the option to identify the vehicle and also the driver and thus be able to authorise access via the system based on both criteria being approved.

Although UHF systems were developed to support “multi tagging” scenarios, there currently are no systems that offer a good “out of the box” solution to identify both the driver and the vehicle.

ATEX certified
In explosion hazardous environments (oil refineries for example) very often only the installation of ATEX certified equipment is allowed. Microwave technology has been used successfully in these environments for years. Nedap’s TRANSIT ATEX reader and “Heavy Duty Tag” are ATEX certified and have been used in numerous installations around the world.

Security
Defining which technology is more secure difficult. A secure solution could be described as a solution that people cannot easily abuse to get access to goods or areas they are not authorised for. There is always a security risk attached to any technology. Long range AVI very often is more about convenience than it is about security. But of course security risks must always be considered when using technology like this to allow vehicles and drivers access to a closed perimeter.
Summary
Although both microwave and UHF systems can offer a good level of quality, convenience, resilience and security to end users. Both systems support the safe, secure and speedy flow of traffic and people. The table below shows the key characteristics of both technologies to try and assist with product selection:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Microwave (TRANSIT)</th>
<th>UHF (uPASS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>System robustness</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Investment</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Guaranteed read range</td>
<td>*</td>
<td></td>
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<tr>
<td>Driver and vehicle identification</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Support of open standards</td>
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<tr>
<td>Globally harmonized frequency</td>
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<tr>
<td>Support of volatile population</td>
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<tr>
<td>ATEX certified</td>
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<tr>
<td>Security</td>
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</tbody>
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License plate reader
What is ANPR?
Automatic Number Plate Recognition (ANPR or LPR) can be used for automatic vehicle identification and vehicle access control applications. This technology physically consists of a camera with built in software for OCR (Optical Character Recognition). The big advantage of using ANPR for AVI applications is that it makes use of something that almost every car already has – a number/ license plate.

Why ANPR?
ANPR is very suitable for situations where it is unachievable or undesirable to issue and administer RFID tags, in applications such as:
• Vehicle identification for parking management
• Vehicle access control applications with one off or short term authorizations
• Vehicle management applications dealing with rapidly changing car populations
• If specific RFID bandwidths cannot be used because of interference or regulations

Considerations
ANPR appears to be the effective solution- easy to deploy, maybe on the main building looking towards the vehicle entrance. No cards or tags to deploy to users – and easy to add a visitors details in advance by registering the vehicle on the system prior to their arrival.

It has to be considered that number plates can easily be copied, damaged, have irregular spacing and of course can be obscured by road grim, mud and snow.
uPASS UHF

Features:
- Up to 4 m read range for vehicles from passive tag
- Tamper version of the vehicle tag available for additional security
- Up to 2 m read range for pedestrian users
- Combi version of ISO card available for compatibility with other technologies if required
- Standard Wiegand output allowing reader connectivity to a wide range of systems

Passive - Maintenance Free

The system is based on passive Gen 2 UHF tags that provide superior read quality to previous tag standards. Plus, they are both battery and maintenance free. Tags are mounted inside the vehicle behind the windshield. The thin, flexible, UHF sticker format is easy to install and has a windshield compatible adhesive to ensure proper mounting. For added security, tamper proof - break upon removal- tags are also available.

The ID number is printed on the tag allowing easy and fast enrolment of tags into a management system. An additional printed barcode makes it even easier. Security authentication features are included to provide data integrity and to prevent cloning of tags.

The uPASS reader range from Nedap AVI have been developed after many decades of experience with RFID technology. Timed to take advantage of new, superior Gen 2 tag read characteristics, the uPASS Reach reader is a culmination of both experience and innovation.

Providing a read range of up to 4 meters for external applications and 2 meters for internal, uPASS offers a true long range solution for disabled access, post room staff, car parks, gated communities, and employee parking lots. uPASS reader offer maximum distance at an affordable price.

uPASS Reach is the perfect cure to the problems characteristic of proximity in car park and roller shutter entrances etc applications and it’s ideally suited for upgrading those installations as the reader can easily be installed on a gooseneck with no need for additional mounting accessories or rewiring.

uPASS Access is a small UHF reader that reads access badges at a distance of up to 2 meters. It is the perfect solution for doors that require convenience and security such as office doors, high volume entrances and disabled access.

uPASS is a 865-955 MHz reader and EPC Gen 2 passive tag based system. With readers installed at a height between 1.2 and 2 meters. A long range UHF tag visible in direct line of sight will be identified from up to 4 meters.

Passive - Maintenance Free

The system is based on passive Gen 2 UHF tags that provide superior read quality to previous tag standards. Plus, they are both battery and maintenance free. Tags are mounted inside the vehicle behind the windshield. The thin, flexible, UHF sticker format is easy to install and has a windshield compatible adhesive to ensure proper mounting. For added security, tamper proof - break upon removal- tags are also available.

The ID number is printed on the tag allowing easy and fast enrolment of tags into a management system. An additional printed barcode makes it even easier. Security authentication features are included to provide data integrity and to prevent cloning of tags.
uPASS Access

Features:
- Small reader design
- Consistent reading up to 2 meters
- Operates with passive UHF cards
- (EPC GEN 2)
- Supports combi card technology,
- UHF with HID, Legic, Mifare,
- FeliCa, EM and Nedap
- Indoor and outdoor mounting (IP65 rated housing)
- 3 colour led and beeper indication

uPASS Access readers offer a revolutionary and enduring solution for hands-free door access. The uPASS Access has the dimensions of a conventional access control reader but offers read range unmatched in the industry, up to 2 meters using the latest UHF technology.*

Technical Specifications:

- Operating frequency: Region 1: 865-868 MHz
- Dimensions: 150 x 50 x 40 mm
- Weight: 0.5 kg
- Housing: Aluminium (Zamak5) chassis with polycarbonate cover
- Colour: RAL7016 cover and RAL9006 chassis
- Protection: IP65 [approx. NEMA4X]
- Detection range: Up to 2 meters with passive
- Nedap UHF cards or Nedap UHF
- Combi: cards
- Range check: LED
- LED indications: Green, Red
- Operating temperature: -30 to +60°C
- Power: 12 24 VDC +10% linear supply recommended
- Current consumption: 1 A @ 12 VDC, 0.5 @ 24 VDC
- Input: TTL digital inputs for LED control (RED/GREEN)
- 1 TTL digital input for beeper control
- Tamper Tamperswitch

Output
- Wiegand, clock data, magstripe (depending on programmed tag format)
- Cable distance
- Wiegand 150 m 22AWG
- RS485 1200 m
- Cable
- Fixed cable length of 5 meters included
- Interfaces
- RS485 and USB2 service interface
- Encrypted air interface
- According to ISO 18000-6 C
- Certifications: FCC (preliminary), CE
- EMC Europe Directive for EMC 89/336/EEC, EN301489-1
- Safety
- EN 60950

Order Code:
- 9958240
- UPASS Access dark grey region 1
UHF Combi Card

The UHF Combi card is a card featured with long range UHF and proximity or smartcard technology. It ensures the use of one single card for both vehicle and building access applications.

The UHF Combi card is a passive UHF ISO card offering long range vehicle access up to 3 meters in combination with a uPass Reach reader.

Next to UHF technology, the Combi cards are featured with proximity or smartcard technology, used for building access. It offers the best of both and ensures compatibility and seamless integration with existing access control applications.

In combination with UHF several technologies are supported;
- UHF - Mifare
- UHF – Mifare Desfire
- UHF - Legic
- UHF – EM
- UHF – HID prox
- UHF – HID iClass

The UHF Combi card offers cost effective long range vehicle access for parking applications. Designing the system to require that the UHF Combi card is also used for building access ensures removal of the card from the vehicle.

Security
The UHF Combi card is featured with special security protection to provide data integrity and to prevent copying. The Combi card can be printed and personalized on request.

Applications
Typical applications include long range vehicle identification for parking applications, where the reader is mounted onto a pedestal/ gooseneck and card is presented by the driver to the reader. See for more information the uPASS application note.

Order Code:
9954112

Nedap uPASS Combi card. UHF technology for uPASS Access readers and HID iCLASS 26bit technology for iCLASS compatibility on site. Nedap How To Order Guide must be completed at time of order.
## Technical Specifications:

<table>
<thead>
<tr>
<th>Technical Specifications</th>
<th>UHF Combi Card</th>
</tr>
</thead>
</table>
| Operating frequency      | UHF 850 - 950 MHz (UHF ISO card)  
                           | UHF 850 - 950 MHz & 13.56 MHz (Mifare / Legic)  
                           | UHF 850 - 950 MHz & 125 kHz (EM) |
| Standard                 | ISO 7816, EPC Gen 2 |
| Dimensions               | 85 x 54 x 0.95 mm |
| Protection               | IP54 [approx. NEMA 2] |
| Colour                   | White |
| Material                 | PVC |
| Customisation            | Customised printing on request. |
| Operating temperature    | -20+50°C |
| Detection range UHF      | up to 3 m with uPASS Reach reader when properly alligned |
| Detection range access card | few cm, depending on applied reader and card technology |
| Humidity                 | 10% 93% relative humidity, non condensing |
| Part numbers             | 9943943 UHF ISO Card  
                           | 9942343 Combi card UHF - Mifare 1K  
                           | 9206388 Combi card UHF - Mifare DESfire 4K  
                           | 9942360 Combi card UHF - EM4102  
                           | 9954082 Combi card UHF - HID Prox Wiegand 26  
                           | 9954104 Combi card UHF- HID Prox  
                           | 9954112 Combi card UHF - HID iClass 2K Wiegand 26  
                           | 9959343 Combi card UHF - HID iClass 2K  
                           | 9955836 Bundle 25 Combi cards UHF – HID Prox Wiegand 26  
                           | 9955844 Bundle 100 Combi cards UHF – HID Prox Wiegand 26 |
| Readers                  | 9942319 uPASS Reach (region 1) |
| Accessories              | 5793785 Soft plastic ISO card holder (without clip)  
                           | 5793793 Open hard plastic ISO card holder (without clip) |
uPASS Reach

The uPASS Reach reader offers long range vehicle identification up to 4 meters using the latest UHF technology. Based on battery free passive UHF the uPASS Reach reader offers a cost effective and enduring solution for parking access. The system is based on a uPASS Reach reader and a UHF tag. The Reach readers are installed next to the gate on a maximum height of 2 meters. This can be accomplished without any additional mounting accessories or wiring, when upgrading existing proximity Wiegand reader installations.

A long range passive UHF tag visible in direct line of sight will be identified up to 4 meters. The UHF tags are battery and maintenance free.

The reader output allows the access control or parking system to open the gate when authorized without the need to present a badge. The built-in high intensity LED provides the user visual feedback that the tag has been read.

The reader only supports read commands, so it cannot be used to write data into the memory of the tags. Plug & Play operation The uPASS Reach reader has an integrated fine-tuned antenna in a compact enclosure ideal for outdoor as well as indoor applications. Like all Nedap’s AVI systems, the uPASS Reach reader supports all common industry communication standards, enabling seamless integration into any existing or new access control or parking management system.

EPC global Gen2
The uPASS Reach complies with the ISO 18000-6c and EPC global Gen2 directive. Nedap formatted tags are available for additional security.

Features:
- Consistent reading up to 4m
- Operates with passive UHF tags
- EPC Gen 2 compatible
- Competitive pricing
- On-site adjustable reading
- Elegant slim design
- LED and audible read indication
- Weatherproof protected housing

Technical Specifications:
- Operating frequency Region 1: 865 - 868 MHz
  Region 2&3: 902 - 928 MHz
- Dimensions 200 x 220 x 45 mm
- Weight 0,75 kg
- Housing Aluminium chassis with UL94 ABS cover
- Protection IP65 [approx. NEMA4x]
- Detection range Up to 4 meters with passive
- Nedap UHF tags
- Range check LED
- Operating temperature -30°C to +60°C
- Power 12 VDC +10% linear supply recommended
- Current consumption 1A @12 VDC, 0.5 A@24 VDC Read Only
- Identification See application note dense reader mode
- Input 1 dry contact or TTL
- Frequency offset See application note dense
- Relay output 1 relay output (NO, common, NC), 24 VDC 2 A
- Output Wiegand, clock data, magstripe (depending on programmed tag format)
- Cable distance Wiegand 150 m. 22AWG
- Interfaces RS232, RS422 and USB service interface

Order Codes:
- 9942319 Nedap uPASS Reach Rdr. 865-868MHz Region 1 (Europe)
- 9875840 Accessories 7591152 weather hood for Adjustable mounting bracket
- 9943803 UHF Pole mount (all brackets for easy mounting onto a pole) UHF Weather protection hood (reader protection for gooseneck or pole mounting)
- 7591152
UHF Windshield Tag

The UHF Windshield Tag is a passive UHF transponder offering long range identification up to 4 meters. The UHF Windshield Tag offers cost effective long range vehicle identification for parking applications.

The UHF windshield tag is an effective solution for upgrade of existing proximity installations for parking. It offer long range within reach, it was never so affordable.

The UHF windshield tag is based on passive UHF technology. The tag does not contain a battery and is maintenance free.

The UHF Windshield tag is featured with an excellent adhesive to allow quick and easy installation inside the vehicle to the windshield. The thin, flexible, UHF sticker format is easy to install and offers a tamper resistant AVI solution by way of permanently affixing it to the windshield. The tag is protected against harmful UV rays.

Features:
- Identification up to 4 meters
- Passive battery free tags
- Thin, flexible sticker format
- Protection against harmful UV rays
- Optional tamper resistant
- Customised printing
- Security protected
- EPC Gen 2 compatible
## Technical Specifications:

<table>
<thead>
<tr>
<th>Technical Specifications</th>
<th>UHF Windshield Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating frequency</td>
<td>902 - 928 MHz</td>
</tr>
<tr>
<td>Standard</td>
<td>EPC Gen 2</td>
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<tr>
<td>Protection</td>
<td>IP54 [approx. NEMA 2]</td>
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<tr>
<td>Colour</td>
<td>White with printing</td>
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<tr>
<td>Material</td>
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</tr>
<tr>
<td>Operating temperature</td>
<td>-20 ... +70°C</td>
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<tr>
<td>Detection range</td>
<td>4 meters with uPASS Reach reader, when applied on glass*</td>
</tr>
<tr>
<td>Humidity</td>
<td>10% ... 93% relative humidity, non condensing</td>
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<tr>
<td>Customisation</td>
<td>Customised tag printing on request. Optional Barcode 39 printed on the tag on request</td>
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<tr>
<td>Identification</td>
<td>R/O Read only number</td>
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<tr>
<td>Tag Formats</td>
<td>Wiegand</td>
</tr>
<tr>
<td></td>
<td>Magstripe</td>
</tr>
<tr>
<td></td>
<td>Nedap XS format (compatible to Nedap’s AVI tag format) (see for more information the How to order Guide)</td>
</tr>
<tr>
<td>Mounting</td>
<td>Onto the windshield, the tag is featured with a standard pressure-sensitive adhesive back</td>
</tr>
<tr>
<td>Part numbers</td>
<td>9945954 UHF Windshield Tag Wiegand 26</td>
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<tr>
<td></td>
<td>9945946 UHF Windshield Tag</td>
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<tr>
<td></td>
<td>9942335 UHF Windshield Tag Tamper Resistant Wiegand 26</td>
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<td>9946918 UHF Windshield Tag Tamper Resistant</td>
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<tr>
<td>Readers</td>
<td>9942319 uPASS Reach (region 1)</td>
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<td>106,5 x 28,5</td>
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</table>
Transit Ultimate Long-range vehicle and driver identification reader

The TRANSIT Ultimate is the robust long-range reader, based on semi active RFID technology, which enables automatic vehicle identification at distances of up to 10 m and speeds of up to 200 km/h.

This high-end reader is designed to perform well in high security applications, demanding vehicular access control applications and under harsh environmental conditions. The TRANSIT Ultimate offers the highest level of security and convenience for both vehicles and drivers. The built-in antenna, an integrated read range adjustment board and a variety of communication interfaces to ensure seamless and flexible integration. The identification lobe of the reader is a directed beam, offering precise determination of the detection area. A second RFID communication channel is used for advanced bidirectional communication and secure tag authentication.

Channel selection
The TRANSIT Ultimate operates on a factory-set frequency. The frequency channel selection allows multiple readers to operate in close vicinity of each other without interference.

Read range adjustment
The reader efficiently resolves typical multi-lane, entry and exit reader challenges. The read range of the TRANSIT Ultimate can be adjusted to offer secure and reliable identification in demanding applications.

Housing & mounting
The weatherproof TRANSIT Ultimate reader features an IP66 certified housing. The reader continues to operate reliable under harsh environmental conditions and is able to with-stand exposure to rain, snow and ice. Wall mounting equipment is included.

Features:
- Robust industrial design
- Read range of up to 10 meters
- Object speed up to 200 km
- Well defined adjustable read range
- Multi-channel selection
- Variety of integrated communication interfaces
- 3 colour LED indication
- Tag authentication based on AES Encryption
- Bi-directional communication using two RFID channels
- Supports backward-compatibility mode with previous TRANSIT readers

Interfaces & protocols
The TRANSIT Ultimate is designed for seamless and flexible integration into existing management systems in the industry, such as security, parking, traffic and logistics. Several communication interfaces to the host system are available such as RS232 (default), RS422, RS485, Profibus DP and TCP/IP. Also open industry-standards protocols such as Wiegand are supported. Customer specific protocols can be implemented on request.

Please Note

Security Key Pack
The TRANSIT Ultimate can be supplied with the Security Key Pack. When using the Security Key the following features are available:

- Secure authentication of Ultimate tag to prevent cloning and replay-attacks.
- Advanced bi-directional communication between readers and tags.

Tag authentication
The TRANSIT Ultimate enables advanced tag authentication for the Smartcard and LEGIC Boosters Ultimate and the Window Tag Ultimate. By using a second communication channel (both 433 MHz and 2,4 GHz) advanced security can be achieved.

Data storage
Thanks to a bi-directional communication feature and in combination with Smartcard Booster Ultimate it will become possible to write information on the drivers’ access control card when the car enters or leaves a perimeter. Credits, offline access rights or other information will be changed dynamically upon perimeter access.
### Technical Specifications:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>330 x 274 x 140 mm</td>
<td>Barcode 39, Wiegand 26-bit, Wiegand 32-bit, Wiegand 37-bit, FF56 and Omron ISO 7811/2, USB</td>
</tr>
<tr>
<td>Weight</td>
<td>5 kg</td>
<td>Antenna input</td>
</tr>
<tr>
<td>Housing</td>
<td>Cover ABS, Housing Die-casting ADC12</td>
<td>Optional 1 external inductive antenna connection 120 kHz</td>
</tr>
<tr>
<td>Protection</td>
<td>IP66</td>
<td>Antenna output</td>
</tr>
<tr>
<td>Detection range</td>
<td>Up to 10 meters, message acceptance ratio &gt; 80%</td>
<td>Nedap external reader antenna connection 120 kHz output</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-30… +60°C</td>
<td>Interfaces</td>
</tr>
<tr>
<td>Power supply</td>
<td>100-240 VAC (60 - 50 Hz) or 24 VDC (±10%)</td>
<td>Communication protocols</td>
</tr>
<tr>
<td>Power consumption</td>
<td>&lt;25VA (on AC), &lt;20 Watt (on DC)</td>
<td>CR/LF, DC2/DC4 and various OEM protocols (for more information refer to the firmware manuals)</td>
</tr>
<tr>
<td>Operating frequency</td>
<td>2.438 – 2.457 GHz, 433.62 &amp; 434.22 MHz (RX-Cat 3)</td>
<td>Mounting</td>
</tr>
<tr>
<td></td>
<td>Ton &lt;5sec.</td>
<td>Wall mounting set included Option Pole Mounting Kit (5626595) and is available</td>
</tr>
<tr>
<td>Frequency channels</td>
<td>2.45 GHz 32 channels, spacing 600 kHz to avoid interference, to be used when TRANSIT Ultimate readers are installed in close vicinity of each other</td>
<td>Certifications:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EMC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EN301489-1,-30,-17; EN6100-6-2; EN61000-6-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EN 60950, UL 60950, UL 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FCC part 15.245 - EN 300 440; FCC part 15.231 a, b - EN 300 220</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EN 60950, UL 60950, UL 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air interface</td>
<td>2.45 GHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nedap proprietary encryption</td>
<td></td>
</tr>
<tr>
<td></td>
<td>standard 1.875 kbps</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air interface</td>
<td>433 MHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encryption based upon diversified AES128; 300kbps/ GFSK 75 kHz; Duty cycle &lt; 1%; LBT not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Circular (LHC) (2450 MHz)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>integrated antenna; Horizontal (433 MHz); dedicated antenna.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 relay output (NO, common, NC), 24 VDC 2A, 120 VAC 1A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 dry contacts or TTL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range check beeper</td>
<td></td>
</tr>
</tbody>
</table>

**Order Code:**

NED-9215689 TRANSIT Ultimate
Transit Ultimate Mounting Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEDAP Pole mounting kit</strong></td>
<td><strong>NED-5626595</strong></td>
</tr>
<tr>
<td>Stainless steel pole mounting kit suitable for Nedap TRANSIT reader, attaches to wall mounting bracket Key results; Min. Ø 40 mm round pole and max. Ø 190 mm round pole Max. 150 mm square pole</td>
<td></td>
</tr>
<tr>
<td><strong>NEDAP Weather protection hood</strong></td>
<td><strong>NED-7562640</strong></td>
</tr>
<tr>
<td>Long range reader weatherproof cover, required for extreme weather conditions with long lasting exposure to sun or rain Recommended to apply a weather protection hood to protect the reader from direct water spray, rain or temperature rise by means of long lasting exposure to the sun. The weather protection hood can be mounted on the back side of the TRANSIT readers.</td>
<td></td>
</tr>
</tbody>
</table>
The TRANSIT Entry reader represents the latest in technology for door access and long read range applications. Featuring a slim elegant designed housing the TRANSIT Entry reader makes a perfect fit to any door or vehicle gate environment.

**Reliable consistent reading**  
The TRANSIT Entry reads Nedap tags at distances up to 4 meter reliably and consistently.

**Elegant slim design**  
Due to the slim design and long read range, the reader can be installed on a wall next to a door or on an entry pedestal near the barrier without the need for additional mounting accessories. The reader can be mounted directly on metal without any impact to its performance.

**LED and audible read indication**  
The built-in beeper and high intensity LED provide audible and visual feedback on the identification of a tag in all operating modes.

**Optional Multi Technology Reader interface**  
This interface will enable the reader to read standard proximity cards and smart card CSN, allowing it to operate with existing credentials, at short range, when presented to the face of the reader.

**On-site adjustable reading**  
The identification lobe of the reader is an adjustable directed beam, offering the ultimate in flexibility and accuracy in any installation.

**Features:**
- Consistent reading up to 4 m
- Elegant slim design
- LED and audible read indication
- Optional multi technology reader interface
- On-site adjustable reading
- Multi-channel frequency offset
- Weather proof protected housing
- USB service connection

**Multi-channel frequency offset**  
The multi-channel synthesizer allows on-site adjustment of the frequency channel in case of radio interference.

**Weather proof protected housing**  
The TRANSIT Entry reader is weatherproofed inside an IP65 [approx. NEMA 4x] certified enclosure.

**Variety of interfaces & protocols**  
The TRANSIT Entry reader is designed for seamless integration to existing parking management and access control systems. The USB interface offers easy access to the unit for diagnostics and servicing.

**Applications**  
Typical TRANSIT Entry reader applications involve handsfree access to emergency rooms, access for disabled, door access, personnel tracking, gated community access, access to parking facilities.

**Order Code:**  
NED-9876200

TRANSIT ENTRY Hands-free access reader
Transit Mounting Accessories

**Description**

**Order Codes**

<table>
<thead>
<tr>
<th>Description</th>
<th>9875840</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TRANSIT Entry Adjustable mounting Bracket</strong></td>
<td>Mounting kit for TRANSIT Entry allowing for easy reader alignment.</td>
</tr>
<tr>
<td>- Pole or wall mounting</td>
<td></td>
</tr>
<tr>
<td>- Max. Ø round pole 133 mm</td>
<td></td>
</tr>
<tr>
<td>- Max Ø square pole 100 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>7562640</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multi Technology Reader (MTR) module</strong></td>
<td>The MTR module is a proximity smartcard interface module, allowing the TRANSIT Entry reader to operate with existing credentials (proximity or and smartcards) when presented to the face of the reader. Supported cards on 120 - 125 kHz; HID prox, EM and Nedap Supported cards on 13.56 MHz; HID iClass CSN, Mifare, Legic Advant UID and other ISO 14443 and 15693 compliant cards</td>
</tr>
</tbody>
</table>
Nedap Microwave Readers & Accessories

WINDOW TAG ULTIMATE long-range vehicle identification tag

NOTE: The advanced tag authentication of the Window Tag Ultimate is only functional when the Security Key Pack has been installed in the TRANSIT Ultimate. The Window Tag Ultimate is a long-range identification tag used in applications where vehicles need to be identified secure, fast and convenient. The Window Tag Ultimate will be identified up to 10 meters by the TRANSIT Ultimate reader as soon as it enters the reading zone. The Window Tag Ultimate is designed to complement the interior of a passenger vehicle. Integrated suction pads with industrial strength install the tag in seconds to the inside of a windscreen.

Read-only
The Window Tag Ultimate is read-only factory programmed with a unique customer specific security code, a customer defined tag ID number and unique AES128 authentication encryption keys. The part number, tag ID number and date of manufacture are laser etched into the back case of the tag.

Manual user activation
The Window Tag Ultimate has a switch for user activation, designed for applications where the driver determines the time and distance of reading and driver authorization is important. The Window Tag Ultimate will only transmit the tag ID to the TRANSIT Ultimate reader for 5 seconds when the switch is activated.

Features:
- Vehicle identification up to 10 meters
- Supports AES128 encrypted tag authentication
- Compact housing which suits vehicle interior
- Easy windshield mounting with suction pads
- User activated transmission of the vehicle ID
- Uses two RFID frequencies for optimized performance
- Compatible with previous TRANSIT readers

Two frequencies
The Window Tag Ultimate uses the 2,45 GHz for robust vehicle identification and the 433 MHz frequency for advanced tag authentication using AES standards.

Applications
The Window Tag Ultimate is the preferred choice for installations where only vehicle identification is required, such as access to parking facilities, gated communities and corporate sites.

Order Code:
NED-9564314 Window Tag Ultimate

Two frequencies

The Window Tag Ultimate uses the 2,45 GHz for robust vehicle identification and the 433 MHz frequency for advanced tag authentication using AES standards.

Applications

The Window Tag Ultimate is the preferred choice for installations where only vehicle identification is required, such as access to parking facilities, gated communities and corporate sites.

Order Code:
NED-9564314 Window Tag Ultimate
Technical Specifications:

Operating frequency 2.45 GHz and 433 Mhz
Dimensions 111 x 65 x 28 mm
Weight 120 gram
Protection IP32 [approx. NEMA2]
Colour Anthracite, according to RAL 7016
Operating temperature -40 ... +85°C
Storage temperature -40 ... +85°C
Detection range 10 meters with TRANSIT Ultimate
Humidity 10% ... 93% relative humidity, non condensing
Mounting Attaches with suction pads to the windscreen on the inside of a vehicle. In case of a metalized windscreen a metal free communication zone can be used.
Certification EN60950, EMC 89/336/EEC, EN50081-1, EN 50082-1, ETS 0908 and FCC
Battery life User replaceable AAA batteries with expected life-time of 5 years*.
Note *Life time expectation is based on:
Average warm climate conditions. Exposure to extreme hot conditions might reduce battery life.
Operating mode RO-C = Read Only push button activation (default)
Identification Read/only decimal number
Authentication AES128 encryption with diversified keys
Readers 9215689 TRANSIT Ultimate 9216537 Security Key Pack

Document version nr. 1.0
COMPACT TAG Hands-free single ID tag

Features:
- Credit card size
- Identification up to 7 meters
- Dual side read capability
- Good price/ performance ratio
- Optional battery low indication
- Optional Tag Holder for windshield mounting

The Compact Tag is a slim line RF tag combining long and short range identification of 7 meters in various applications.

The Compact Tag has a standardized credit card size and can be identified up to 7 meters with the TRANSIT Standard and TRANSIT Extended readers. In combination with the TRANSIT Entry reader the tag will be identified up to 4 meters.

Dual side read capability
The Compact Tag features bi-faced antenna design allowing the tag to be read from both sides, eliminating the need to present the tag with one particular side facing the TRANSIT Standard or Entry reader.

Battery low indication
The Compact Tag can optionally be enabled with battery low indication.

Read Only programmed
The Compact Tag is Read Only (R/O) programmed. The Compact Tag is factory programmed with a specific security code and a unique tag ID number. The part number, tag ID number and date of manufacture are laser etched into the back case of the tag.

Tag Holder
Optionally a Tag Holder is available for easy mounting of the Compact Tag to the windshield. Embedded Nedap proximity technology is featured with an embedded Nedap proximity technology for identification of the compact tag in combination with Nedap short range antennas. Applications Typical applications include handsfree identification of vehicles or people over long range such as:
- access to emergency rooms
- access for disabled
- door access
- personnel tracking
- gated community access
- access to parking facilities

Order Code:
NED-9891900 Compact Tag
Technical Specifications:

**Operating frequency**

2.45 GHz and optional 120 kHz

**Dimensions**

85.5 x 54 x 4.9 mm credit card size

**Weight**

20 gram

**Protection**

IP54 [approx. NEMA 2]

**Colour**

Grey, according to RAL 7035

**Operating temperature**

-40 ... +85°C

**Storage temperature**

-40 ... +85°C

**Detection range**

7 meters with TRANSIT Standard or Extended reader
4 meters with TRANSIT Entry reader

**Humidity**

10% 93% relative humidity, non condensing

**Power supply**

Built-in lithium battery with expected lifetime of 7 years, under normal usage and normal circumstances. Battery lifetime is not affected by the number of times the tag is read or RF fields from other sources

**Mounting**

Optional mounting accessories such as Tag Holder and Card Clip

**Short-range identification**

Nedap 120 kHz and optional EM4102 compatible

**Identification**

R/O Read/only decimal number

**Operating modes**

RO-A, Read only continuous transmission of the tag ID (default) RO-D, Read only random transmission of the tag ID EM-A, Read only EM4102 mode always on EM-D, Read only EM4102 mode random transmission of tag ID
TAG HOLDER & CARD CLIP Accessories for Compact Tag

Features:
- Easy windshield mounting
- Card can be removed if required
- Front of tag remains clearly visible

Tag Holder
The Tag Holder is suitable for windshield mounting of the Compact Tag. The holder is suitable for credit card sized tags and is attached to the inside of the windshield by two suction pads. This holder is designed to fit a card with a total thickness of up to 5 mm.

The card is held in place by two narrow edges along the long sides. The design, a spring mounted tongue on the back, and the choice of material mean that a card fits securely in the holder and can also be removed when required. Due to the special design the front of the tag remains visible to ensure that laser engraved markings (e.g. text or barcode) can be clearly read.

The tag is effectively protected in the Tag Holder. The Tag Holder is made of transparent polycarbonate, which is both environment-friendly and very strong, ensuring long life for the holder.

Card Clip
A chrome metal crocodile clip with a nylon strap. The strap is easily threaded through the oval holes in the tag and snapped together for assembly.

Technical Specifications:
- Dimensions: 115 x 45 mm thickness
- Max. Internal space: 87 x 5,5 mm
- Credit card size: 85,5 x 5,5 mm
- Colour: Transparent
- Material: Polycarbonate
- Mounting: Windshield mounting
- Applicable with: 9891900 Compact Tag

Order Code:
NED-9891900

Compact Tag
Vehicle Based Tags

**Window Button**
Long range vehicle tag featured with a single ID and used for vehicle identification/access applications.

**Features:**
- Complete stand alone vehicle access system
- Stores 1,000 authorisation
- Remote web based access
- Read range up to 10 meters
- Well defined

**Order Code:**
NED-9882650 NEDAP Window Button
Long range vehicle tag for use with Nedap AVI reader. Attaches by suction to inside of windshield. Must be clear of metallic screen area. Gives up to 10m read range with TRANSIT Standard reader and up to 4 m with TRANSIT Entry. Has a built-in lithium battery. Wiegand output.

**Nedap Window Button**
Long range vehicle tag with button activation. Button press activates transmitter for 5 seconds. For use with Nedap AVI reader. Attaches by suction to inside of windshield. Must be clear of metallic screen area. Gives up to 10 m read range with TRANSIT Standard reader and up to 4 m with TRANSIT Entry. Has a built-in lithium battery. Wiegand output.

**Features:**
- Long range single ID tag
- Suits interior of a passenger vehicle
- Excellent performance
- Easy windshield mounting with integrated suction pad
- Automatic transmission of vehicle ID
- Option with switch for operator controlled transmission
- Applications: vehicle access, gated communities, employee vehicle access

**Order Code:**
NED-9882480 NEDAP Window Button Switch
Heavy Duty Tag ISO

The Heavy Duty Tag is a durable, weatherproof RFID tag ideal for applications requiring reliable long range identification in harsh environmental conditions. Meeting harsh conditions The Heavy Duty Tag complies with the ISO 10374 directive for RFID of Freight containers. This Tag is shock and vibration proof, watertight, UV stable and chemical resistant. Applications in intrinsically safe zones are allowed based on the ATEX-certificate.

The Heavy Duty Tag features reliable performance up to 10 meters with the TRANSIT reader as soon as it enters the readers detection area.

The Heavy Duty Tag is ideal for tamperproof mounting by means of screws, bolts or rivets exterior on vehicle chassis. The tag can directly be mounted on a metal surface.

**Order Code:**

NED-9875980

Intrinsically safe vehicle ID tag for use with Nedap AVI reader. Attaches permanently to the outside of a vehicle, forklift, container or trailer and provides up to 10 m read range with TRANSIT Standard reader. Has a built-in Lithium battery - expected life time of up to 8 year life (not affected by number of uses). Wiegand output

**Technical Specifications:**

- **Operating frequency:** 2.45 GHz and 120 kHz
- **Dimensions:** 170 x 60 x 20 mm
- **Weight:** 112 gram
- **Protection:** IP66 for exterior mounting to vehicle and container chassis (approx. NEMA 4x)
- **Enclosure material:** ASA/PC
- **ATEX product category:** II 2 G Ex ia IIC T4
- **Vibration:** DIN EN 50155, table 3.
- **Shock:** DIN EN 50155, section 10.2.11.3.
- **Colour:** Black, according to RAL 5003
- **Operating temperature:** -20 to +80°C
- **Storage temperature:** -40 to +85°C
- **Detection range:** 10 meters with TRANSIT PS270 Standard, TRANSIT PS270 ATEX or TRANSIT Extended reader 5 10 cm with NEDAP RF proximity handheld (ID-Logger)
- **Humidity:** 10% 93% relative humidity, non condensing
- **Power supply:** Built-in lithium battery with an expected lifetime of 8 years. Battery lifetime is not affected by the number of times the tag is read or RF fields from other sources

**Features:**

- ATEX-certified for applications in the petrochemical industry
- Identification up to 10 m
- Shock and vibration proof
- Weatherproof enclosure (IP66)
- Tamperproof mounting
- ISO compliant
The Boosters enables long range driver identification. Driver based ID systems ensure that a vehicle can never get access to a secured area unless occupied by an authorized driver. The Booster is used in combination with a personal access credential. It is an easy to integrate solution for vehicle access, which eliminates the need to issue new cards.

**Driver based identification, how does it work?**
The driver based tag is made up of two elements.
1) Building access card
2) In-vehicle Booster
The Booster is placed on the windshield on the inside of a vehicle. When an authorized building access card is inserted into the Booster it will be read and then boosted to the external Nedap TRANSIT reader. The TRANSIT reader transmits the credential ID to any standard back end security panel. If the credential is authorized and access is granted the gate will open automatically. Removal of the Driver ID is ensured by designing the system to require that the access card is also used for building access.

**Matching vehicle and driver**
Optionally a separate ID (vehicle ID) can be programmed in the Booster hardware on certain models, this allows you to match the right driver with the right vehicle.

**Features:**
- Long range driver ID up to 10 m
- Supported credentials
- HID prox, EM, Nedap
- MIFARE, HID iClass, LEGIC, Calypso
- One card solution
- Simultaneous driver & vehicle ID
- Maximizes perimeter security

Boosters are available for almost all card technologies:

**Prox-Booster 2G:** supporting proximity access control badges operating on 120-125 kHz such as HID prox, EM and Nedap.

**Smartcard-Booster 2G:** supports ISO 14443 or 15693 compliant smartcards (eg. MIFARE, MIFARE DESFIRE, LEGIC, Calypso and HID iClass) operating on 13.56 MHz. Depending on applied card technology either CSN or sector information can be read, see Booster_Installguide for more information.

**Transition-Booster 2G:** supports proximity (120-125 kHz) as well as smartcard (13.56 MHz) technology. The Transition-Booster is specifically designed to be used in applications were multiple card technologies are applied simultaneously. It allows for seamless migration from existing Prox to versatile smartcard applications.

**Booster applications**
Typical applications for the Booster are high secured areas like airports, seaports, military bases, utility companies, corporate and educational campuses, police, fire and other installations where vehicles must be assigned to a specific driver.
## Technical Information

<table>
<thead>
<tr>
<th></th>
<th>Prox-Booster 2G</th>
<th>Smartcard-Booster 2G</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part no.</strong></td>
<td>NED-9948538 Prox-Booster 2G</td>
<td>9948554 Smartcard-Booster 2G</td>
</tr>
<tr>
<td></td>
<td>NED-9948546 Prox-Booster 2G Single</td>
<td></td>
</tr>
<tr>
<td><strong>Operating frequency</strong></td>
<td>120 kHz / 2.45 GHz</td>
<td>13.56 MHz / 2.45 GHz</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>116 x 72 x 27 mm according to Ertico OBU standard</td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>95 gram</td>
<td>120 gram</td>
</tr>
<tr>
<td><strong>Protection</strong></td>
<td>IP32 [approx. NEMA 2]</td>
<td></td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Grey, according to RAL 7016</td>
<td></td>
</tr>
<tr>
<td><strong>Operating</strong></td>
<td>-40 +85°C</td>
<td></td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-40 +85°C</td>
<td></td>
</tr>
<tr>
<td><strong>Detection range</strong></td>
<td>Up to 10 meters with TRANSIT Ultimate, up to 4 meter with TRANSIT Entry</td>
<td></td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>10% 93% relative humidity, non condensing</td>
<td></td>
</tr>
<tr>
<td><strong>Mounting</strong></td>
<td>Attaches with suction pads to the windscreen on the inside of a vehicle. In case of a metallised windscreen a metal free communication window is required.</td>
<td></td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td>EN60950, EMC 89/336/EEC, EN50081-1, EN 50082-1, ETS 0908 and FCC</td>
<td></td>
</tr>
<tr>
<td><strong>Battery life</strong></td>
<td>User replaceable AAA lithium batteries with expected lifetime of 5 years*</td>
<td>User replaceable AAA lithium batteries with expected lifetime of 5 years*</td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td>*Life time expectation is based on:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Average warm climate conditions. Exposure to extreme hot conditions might reduce battery life.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Default operating mode C</td>
<td></td>
</tr>
<tr>
<td><strong>Operating mode</strong></td>
<td>C: After user activation vehicle and driver ID is transmitted (default)</td>
<td>C: After user activation vehicle and driver ID is transmitted (default)</td>
</tr>
<tr>
<td></td>
<td>A: Continuous transmission of vehicle ID and driver ID *</td>
<td>A: Continuous transmission of vehicle ID and driver ID</td>
</tr>
<tr>
<td></td>
<td>E: Continuous transmission of vehicle ID and driver ID without need to activate the switch, not even initially when card is inserted.</td>
<td>E: Continuous transmission of vehicle ID and driver ID without need to activate the switch, not even initially when card is inserted.</td>
</tr>
</tbody>
</table>

*This option is not available for the Prox-Booster 2G single ID!
### Long Range Vehicle & Driver Identification

<table>
<thead>
<tr>
<th>Inductive readable</th>
<th>Only the Prox-Booster’s embedded Booster ID.</th>
<th>Embedded Booster ID (vehicle ID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Driver</td>
<td>Prox-Booster: Driver ID &amp; vehicle ID Prox-Booster single id: Driver ID</td>
<td>Driver ID &amp; vehicle ID</td>
</tr>
<tr>
<td>Supported prox cards (120-125 kHz cards)</td>
<td>EM/ Nedap / HID PROX up to 40 bits (HIB required on reader level 7819102 )</td>
<td></td>
</tr>
<tr>
<td>Supported smartcards (13.56 MHZ)*</td>
<td>ISO 14443 1/2A/3A ISO 15693 1/2/3 - MIFARE CSN and optional sector information - MIFARE DESFire CSN and file data - LEGIC Advant UID - HID iCLASS CSN - Calypso PUPI and public files See for more information Smartcard Config Program</td>
<td></td>
</tr>
<tr>
<td>Readers</td>
<td>NED-9990410 TRANSIT Standard reader NED-9876200 TRANSIT Entry NED-9215689 TRANSIT Ultimate</td>
<td></td>
</tr>
</tbody>
</table>
ANPR Access

The Nedap license plate reader is an all in one camera including camera, analyzer, and IR illuminator. The ANPR reader has embedded processing software onboard. The license plate reader is default featured with an RS485 and Ethernet communication.

The Nedap ANPR reader covers nearly all European countries and has a broad list of world-wide countries supporting a large range of IR-reflective license plates.

Easy configuration
The web browser interface also allows you to configure the transmitted Wiegand ID strings of the license plate reader. Upon reading of the license plate, the reader will refer to the database and transmits the corresponding Wiegand ID (via the set Wiegand format) to the access control panel. If the Wiegand ID is authorized access is provided by the connected access control panel.

Features:
- Automatic number plate reading
- All in one system, camera analyzer, IR illuminator
- All European countries onboard
- World-wide countries available
- Range of action 4 to 6 meters
- Easy user configuration

Wiegand Interface Module
Using the separate Wiegand Interface Module the Nedap ANPR reader ensures easy and seamless integration into access control systems without worrying on integration associated with alphanumeric license plates. The Wiegand Interface Module can read a license plate and will operate similar to an access credential reader converting the license plate into a Wiegand ID string to the access control panel. Since most access control systems support a Wiegand ID number, easier integration is achieved.

Applications
Applications include parking, crime prevention, toll systems, security & access control and logistics and customs. In addition the license plate reader can be applied for application where it is difficult to issue tags.

Mounting
Default the ANPR reader is featured with wall/pole mounting bracket.
## Technical Information

<table>
<thead>
<tr>
<th></th>
<th>Automatic Number Plate Reader</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part number</strong></td>
<td>9949933 ANPR</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>200 x 120 x 100 mm</td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td>Aluminum die-cast chassis with HIPS cover</td>
</tr>
<tr>
<td><strong>Protection</strong></td>
<td>IP66 [approx. NEMA4x]</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-20 +55°C</td>
</tr>
<tr>
<td><strong>Operating humidity</strong></td>
<td>&lt;90% non condensing</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>24 VDC +10% linear supply recommended</td>
</tr>
<tr>
<td><strong>Current consumption</strong></td>
<td>10 W, inrush current 3A</td>
</tr>
<tr>
<td><strong>Range of action</strong></td>
<td>*See for more information ANPR application note</td>
</tr>
<tr>
<td><strong>Distance</strong></td>
<td>3 to 6 meters</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>Up to 3,5 meters</td>
</tr>
<tr>
<td><strong>CPU</strong></td>
<td>ARM freescale 256 MB DDR2</td>
</tr>
<tr>
<td><strong>Optics</strong></td>
<td>CS mount lens</td>
</tr>
<tr>
<td><strong>Image sensing resolution</strong></td>
<td>B/W CCD 1300x1000 pixels</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Monochromatic, 256 grey levels</td>
</tr>
<tr>
<td><strong>Camera illuminator</strong></td>
<td>IR850 nm</td>
</tr>
<tr>
<td><strong>Camera optics</strong></td>
<td>8 mm</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>1 digital inputs (opto-isolated)</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td>1 digital output</td>
</tr>
<tr>
<td><strong>Communication:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>RS485</strong></td>
<td>1 line half duplex baud rate 1200, cable distance 1200 mtr</td>
</tr>
<tr>
<td><strong>Ethernet</strong></td>
<td>10/100 Mbps, TCP, UDP, FTP, HTTP, DHCP</td>
</tr>
<tr>
<td><strong>Wiegand</strong></td>
<td>Via wiegand interface module, see datasheet.</td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td>Easy LAN connection and configuration via integrate webserver, login and password protected.</td>
</tr>
<tr>
<td><strong>Data message customization</strong></td>
<td>String syntax fully configurable for integration with access control systems and third party software</td>
</tr>
<tr>
<td><strong>Supported number plates</strong></td>
<td>Europe: Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, United Kingdom, Czech Republic, Romania, Slovakia, Slovenia, Spain, Sweden, Hungary, Switzerland, Russia, Turkey, San Marino. <strong>Africa</strong>: Morocco, South Africa <strong>Middle East</strong>: Israel, Bahrein, Saudi Arabia, United Arab Emirates, Kuwait, Iraq <strong>Americas</strong>: Canada-Ontario, USA- California, Mexico, Argentina, Colombia, Brazil, Uruguay, Chile. <strong>Asia/Pacific</strong>: India, Australia, New Zealand</td>
</tr>
<tr>
<td><strong>Number plate types</strong></td>
<td>IR reflective number plate models</td>
</tr>
<tr>
<td><strong>Result</strong></td>
<td>Number plate character string</td>
</tr>
<tr>
<td><strong>Mounting</strong></td>
<td>Pole/wall mounting kit included</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>9958789 Wiegand Interface Module</td>
</tr>
</tbody>
</table>
Wiegand Interface Module

The Nedap Wiegand Interface Module is a module allowing for easy conversion of the Nedap ANPR reader to a required Wiegand format.

Use in combination with Nedap ANPR
The Wiegand interface module transforms seamlessly integrated license plate reading into a Wiegand badge reader output. It receives the license plate information via RS485 from the Nedap ANPR reader and converts the signal into a required Wiegand format to allow for easy integration into standard access control systems, eliminating time consuming integration associated with alphanumeric license plates.

Automatic Wiegand configuration
The Wiegand interface module allows you to configure and convert the transmitted license plate into an automatic selected Wiegand format. Upon reading of the license plate, the Wiegand interface module will convert the license plate according to selected algorithm to a corresponding Wiegand ID (via the set Wiegand format) to the access control panel. If the Wiegand ID is authorized, access is provided by the access control panel. Multiple Wiegand formats are supported. Since most access control systems support a Wiegand ID number, easy integration is achieved.

Features:
- Converts a license plate to a Wiegand event
- Converts a RS485 signal to Wiegand
- Contains a match list to link license plate to a Wiegand badge reader output
- Easy user configuration
- Easy integration into access controls systems

Match list
Additionally the Wiegand interface module can hold an internal match list. This match list will link the license plate to a specific Wiegand badge number (e.g., driver’s badge). The advantage is that no new numbers or license plates need to be authorized in the access system.

Wiegand interface Software
The match list can be managed remotely through the LAN interface of the Wiegand Interface Module. Using the Wiegand Interface Software multiple license plate readers can be updated at once. The match list is stored locally in the database of the Wiegand interface software. Identified number plates will be verified with the internal match list. If the Wiegand interface module is used and match list is filled, only known IDs will be transmitted to the access controller for authorization.

Moreover the Wiegand Interface Module will detect the following events:

- no match event
  a license plate not matched to a Wiegand ID.

- no plate event
  a vehicle triggers the camera, but no license plate is detected.

These events are logged and can be outputted in a selected Wiegand badge number.

Applications
Applications include vehicle access.
<table>
<thead>
<tr>
<th>Technical information</th>
<th>Wiegand Interface Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>9958789 Wiegand Interface Module</td>
</tr>
<tr>
<td>Dimensions</td>
<td>130 x 125 x 35 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>600 g</td>
</tr>
<tr>
<td>Housing</td>
<td>Aluminum die-cast zinc alloy</td>
</tr>
<tr>
<td>Protection</td>
<td>IP40 [approx. NEMA1]</td>
</tr>
<tr>
<td>Colour</td>
<td>Graphite grey (RAL 7024)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0… +55°C</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>&lt;90% non condensing</td>
</tr>
<tr>
<td>Power</td>
<td>12 24 VDC +10% linear supply recommended</td>
</tr>
<tr>
<td>Current consumption</td>
<td>4W</td>
</tr>
<tr>
<td>Communication</td>
<td>Between Wiegand interface module and ANPR reader - RS485 Between Wiegand interface module and access panel - Wiegand Optional between Wiegand interface module and PC to configure match list – TCP/IP</td>
</tr>
<tr>
<td>Cable distance</td>
<td>RS485: 1200 mtr</td>
</tr>
<tr>
<td></td>
<td>Wiegand: 150 m</td>
</tr>
<tr>
<td></td>
<td>TCP/IP: 100 m</td>
</tr>
<tr>
<td>Supported Wiegand formats</td>
<td>Any Wiegand format up to 64-bits.</td>
</tr>
<tr>
<td>User interface</td>
<td>Configuration of license plate with corresponding Wiegand ID via separate Wiegand Interface Software, this software also allows you to configure the match list.</td>
</tr>
<tr>
<td>Software</td>
<td>Wiegand Interface Software</td>
</tr>
<tr>
<td>Mounting</td>
<td>Desktop or wall mounting (brackets included)</td>
</tr>
<tr>
<td>Operates with</td>
<td>9949933 License Plate Reader</td>
</tr>
</tbody>
</table>
This chapter contains information about Access Control Locking Solutions

- Introduction
- Magnetic Locks
- Electric Releases
- Solenoid Bolt
- Shear Locks
- eForce iCLASS
- Locking Accessories
- NSL Locking Solutions
Access Control Locking Solutions

Locking Solutions Introduction

**Electric lock, strike or electromagnetic**

Locking and unlocking doors is the basic application of any access control system. The system remotely controls the lock to permit or deny access into an area. The controlled doors may be secured all the time or only during user selected schedules.

To do this, electrical locking devices are linked to the door controllers provided with the access control system. The most common locking devices used in the access control industry are electric door strikes and electromagnetic locks. To select which locking device should be used on a specific job, the installer must begin with an evaluation that will take into account not only the security requirements, but also the regulations imposed by local or national authorities having jurisdiction.

**Electric strikes**

Because of potential regulations affecting the use of other devices, a door strike will generally be the most economical locking mechanism.

Always order electric strikes as: 1) fail locked (fail secure) which means the strike will be locked when you remove power; 2) 24VDC, 250ma max.; 3) continuous duty; these specifications correspond to the requirements of access control. Electric strikes are generally more difficult to install than electromagnetic locks and the services of a competent locksmith may be required.

**Fire Rating**

If the door strike is installed on a fire rated door, it may have to be approved for such use to maintain the fire rating of the door.

**Electromagnetic Locks**

When the exit must be controlled, it is necessary to provide a fail-safe device, such as an electromagnetic lock, that will keep the door locked not only on the entry side but also on the exit side of the door.

In the past, the installation of electromagnetic locks may have been considered to be less costly than the installation of door strikes. As a result, the market for electromagnetic locks has grown exponentially over the past few years. Unfortunately, a great number of electromagnetic lock installations were not done according to regulations and in some instances were actually jeopardising the safety of occupants. The proliferation of electromagnetic lock installations has caused great concern amongst safety regulators and, now, stringent local regulations and site inspections are common. This has caused a substantial increase in cost of using electromagnetic locks. Because of these extra costs, the use of electromagnetic locks may be more appropriate in situations where they are the only alternative, such as locking a controlled exit door.

**Double Doors**

On double doors, the door strike will be installed on the inactive door which should be bolted down. A door cord or electric-conductive hinge will carry the power of the strike.

**Special Situations**

It may not be possible to install door strikes on special doors such as full glass doors. The only alternative may be to install an electro-magnetic lock.
Regulations
National and local building codes and fire ordinances usually regulate the use of locking devices. One must remember that those are usually minimum requirements and that the local authorities may have the last word in interpretation and exceptions. Always check with local authorities before installing any locks. Once installed, it can be quite expensive to replace the locks and repair doors and door frames.

Other Locking Devices
Mechanical devices (such as electric dead bolts) that prevent free exit are usually not permitted for use in access control applications. Check with local authorities.

From the NSI Code of Practice NCP 109

4.2.3 Access point hardware
You must select access point hardware:

a) In accordance with the degree of physical security and the anticipated number of users and the duty cycle of the access point to which they are fixed;

b) With regard to the following, particularly when planning to use mechanisms externally:
   - temperature
   - humidity
   - corrosion
   - vibration
   - dust and other contamination
   - physical abuse

c) Taking into account the following with regard to the nature of the access point:
   - the existing physical strength of the access point, such as doors and frames.
   - the transfer of electrical connections onto doors must be via suitable flexible cables or other means of adequate reliability.
   - appropriate hardware must be used where rebated and double rebate doors are controlled.
   - necessary safety precautions must be taken where all glass or other special doors are controlled.
   - door closing devices must be sufficient to close and lock the door under normal circumstances, but without undue impact upon the components of an access control system.

Where adverse air pressure exists, you should provide means for relief of the air pressure.
- doors must be a satisfactory fit in the frame.
- hinges, frame and fixings must be adequate for the weight and proposed usage of a door.

You should follow manufacturers’ recommendations for turnstiles and similar barriers, and their release mechanisms.
- where manual or automatic override features are used, continuously rated releases will be required.

Access point hardware alone may not provide sufficient physical security in some circumstances.

The degree of physical security is related to the classification of access points. An access point to a higher class will usually require greater physical security than an access point of a lower class.

You should select the necessary locking mechanisms to be appropriate to the strength of the door and its frame and you should not reduce the physical strength of the access point significantly when fitting the mechanisms.

As a guide, powered locks should have the following holding forces according to the class of the access point:

Class I Holding force = 3 kN or more
Class II Holding force = 5 kN or more
Class III Holding force = 7 kN or more
Class IV Holding force = 10 kN or more

kN = kilonewtons, 1 kN = 1,000 newtons

You should reinforce the physical strength of an access point if this is likely to be unduly reduced by the attachment of the access control hardware. If the customer will not let you do this, you should confirm the facts of the situation in writing to the customer.
Escape - which standard applies?

EN179 for Emergency Escape Doors or EN1125 for Panic Escape Doors?

**EN179 Emergency escape doors:**
Applies to areas of a public building that are non-public areas with trained staff

**EN1125 Panic escape doors:**
Applies in public areas (assemblies)

**EN179 for Emergency Escape Doors - Unacceptable Methods of Egress**

**EN179 for Emergency Escape Doors or EN1125 for Panic Escape Doors?**

**Further Reading:**
A copy of this document can be found on our web site www.tycoemea.com/English/Products/Access/Locksgeneral.asp

Hard copies are available from:
www.abhm.org.uk
Under the subheading “Technical Publications.”

The information above was supplied by Pat Jefferies of Abloy UK as part of his Academy training course which we strongly recommend anyone designing access control systems should attend.
Armlock® 261 & 262

Direct-pull magnets
To facilitate remote access and exit control of any aluminium, timber or steel door. The Armlock® 260 Series combines a compact case size and clean aesthetics whilst providing a magnetic holding force of up to 250 kg.

Offering durability and low maintenance, Armlock® 260 Series Magnetic Locks at all times provide positive fail-safe operation (unless power supply continued during power failure by means of battery back-up). Available for outward and inward opening door applications.

Now available is a set of safety end caps for the 261 magnetic lock. These are fitted at the time of installation and should be used on outward opening doors. The end caps cover the metal corners of the magnetic lock and reduce the likelihood of injury caused by magnetic locks reducing the head height of outward opening doors.

Note for Guidance:
Building Regulations from the UK Government planning web site Taken from: The Building Regulations 2010. Part B. Fire Safety Volume 2
Buildings other than dwelling houses B1 Means of warning & escape General Provisions General Headroom on escape routes 5.26 All escape routes should have a clear headroom of not less than 2m and there should be no projection below this height (except for door frame)

Note: On an outward opening door our standard 261 mag lock Reduces the head height by approx 45 mm

Order Codes:

637008.401 Adams Rite 261-000 non-monitored single magnet 12 or 24 v dc. Medium duty suitable for internal door (up to 250 kg). Aluminium & Timber

637008.402 Adams Rite 261-005 monitored single magnet 12 or 24 v dc. Medium duty suitable for internal door. Aluminium & Timber

637008.403 Adams Rite 261-200 non-monitored double magnet 12 or 24 v dc. Medium duty suitable for internal door (up to 250 kg x 2). Aluminium & Timber

637008.404 Adams Rite 261-205 monitored double magnet 12 or 24 v dc. Medium duty suitable for internal door. Aluminium & Timber

637008.405 Adjustable L bracket with cover plate for 260 series slim line mag locks from Adams Rite – used for outward opening doors

261-701 Safety end caps for 261 range magnetic locks

LD-MM-EC Adjustable Z&L bracket with cover plate for 260 series slim line mag locks from Adams Rite – used for inward opening doors

261-801 Adams Rite 262-000 monitored mortice magnet 12 or 24 v dc (480 mA @ 12 V). Medium duty suitable for internal doors - up to 250 kg holding force. Double 2 Metre Transome Housing for 2 Mortice Magnets - Aluminium & Timber

261-805 Adams Rite 262-005 monitored mortice magnet 12 or 24 v dc (480 mA @ 12 V).
Armlock® 281

Features:
- Armlock® 281 suits surface mount applications ('L' and 'Z' brackets available for inward opening doors)
- Available as a double magnet model
- Compact case size and clean aesthetics
- Upto 510 kg nominal magnetic holding force
- User selectable dual voltage - 12 or 24 vDC
- Current draw: 480 mA @ 12 vDC, 240mA @ 24 vDC (for a single lock)
- Optional end caps available for outward opening doors
- Achieves NSI NCP 109 Class II

Order Codes:

637008.406
Adams Rite 281-000 non-monitored single magnet 12 or 24 v dc. Medium duty suitable for internal door (up to 510 kg) Aluminium & Timber

637008.407
Adams Rite 281-005 monitored single magnet 12 or 24v dc. Medium duty suitable for internal door. Aluminium & Timber

281-701
Adjustable L bracket with cover plate for 280 series medium mag locks from Adams Rite – used for outward opening doors

LD-SM-EC
Safety end caps for 281 range magnetic locks

281-801
Adjustable Z&L bracket with cover plate for 280 series medium mag locks from Adams Rite – used for inward opening doors

Direct-pull magnets
To facilitate remote access and exit control of any aluminium, timber or steel door. The Armlock® 280 Series features clean aesthetics whilst providing a magnetic holding force of upto 510 kg. Offering durability and low maintenance, Armlock® 280 Series Magnetic Locks at all times provide positive fail-safe operation (unless power supply continued, during power failure, by means of battery back-up).

The 281 has a security pin feature to help prevent unauthorised removal of the magnet from the door frame fixing plate.

Now available is a set of safety end caps for the 281 magnetic lock. These are fitted at the time of installation and should be used on outward opening doors. The end caps cover the metal corners of the magnetic lock and reduce the likelihood of injury caused by magnetic locks reducing the head height of outward opening doors.

Note: On an outward opening door our standard 281 mag lock Reduces the head height by approx 75 mm
Armlock® 291

Features:
- Suits aluminium, timber or steel doors
- Armlock® 291 suits surface mount applications, suitable for face or side fix applications
- 540 kg nominal magnetic holding force
- Compact case size and clean aesthetics
- Stainless steel housing
- User selectable dual voltage - 12 or 24 vDC
- Nominal current draw: 500mA @ 12 vDC, 250 mA @ 24 vDC
- Built-in voltage spike suppressor.
- Reed switch monitoring as standard
- ‘Z’ bracket kit available
- IP Rating: Independently tested, rated IP67
- Achieves NSI NCP 109 Class II

External magnet
To facilitate remote access and exit control of any external gate/barrier. The Armlock® 291 provides a magnetic holding force of up to 540 kg.

Offering durability and low maintenance, Armlock® 291 Magnetic Locks at all times provide positive fail-safe operation (unless power supply continued during power failure by means of battery back-up). One magnet to suit both side and face fix applications.

Order Codes:
291-005
Surface mounted external magnet, 12/24 vDC, monitored, suitable for face or side fix application. Rated IP67.

291-800
‘Z’ bracket kit in SAA finish for 291 series mag lock.
There are a wide variety of locks and electric releases available for access control. In the main, there are three options available:

**Surface or flush fitting**
Surface or flush is simply the method of installing the lock. This must take account of the aesthetics, security and type of door and frame.

**Fail safe or Fail secure**
Fail-safe is a release that allows access when the power is removed from the operating coil. Fail safe locks therefore draw power from the access system when the door is in its closed state. Fail secure provides a degree of physical security when the lock has the power removed.

This could be either in its normal operation or in a total power failure.

Subject to the lock design, this type of installation offers a means of mechanical override for escape from the secure side of the door handle or if acceptable paddle turn and a mechanical override for entry by key. If this is not available then break glass and key switch may be required as for the magnetic lock.

**Monitored or unmonitored.**
Single or double monitored releases are available direct from the manufacturer. Points to consider when specifying electric releases:
- installations that put side pressure on bolt in the jaw as this can prevent opening in an emergency
- on outward opening doors release can be exposed and then tampered with from exterior. (consider fitting anti-thrust plate’).
- Engagement of bolt can be limited to just a few millimetres and so reduce physical resistance
- Do not use a sole point of locking on final exit door

**Features:**
- For timber or steel doors
- Jaw strength 907 kg
- Internal solenoid, 12 or 24 v AC or DC
- Current draw 1.48 A @ 12 vAC, 0.332 A @12 vDC, 0.74 A @ 24 vAC, 0.19 A @ 24 vDC
- Facility to change duty from fail-safe to fail secure and vice-versa
- Optional monitoring: single - latch only; double - latch and solenoid
- Strike opening: 36.5 mm x 15.9 mm x 12.7 mm.
- Faceplate length: 201.6 mm (7110) or 260.3 mm (7111), case depth: 41.6 mm
- Non-handed
- Achieves NSI NCP 109 Class III

**For single or double leaf timber or steel doors**
For remote access control of any timber or steel door equipped with Adams Rite 4700 series (or similar) deadlatch. Electrical actuation unlocks the strike jaw, releasing the latchbolt so the door can be opened without operating the latch itself. The compact mechanism fits into a timber or steel jamb section as shallow as 44.45 mm.

The 7100 Series Electric Strikes held by Tyco Safety Products are supplied with two flat faceplates for mounting in the frame or the inactive leaf of a pair of doors. There is a long faceplate for wooden doors/frames and a shorter face plate for aluminium frames.

**Order Codes:**
7100-310-2
7100-315-2

Adams Rite 7100-Fail Secure 12 v DC electric release (340 mA) short face plate for Aluminium frames. Longer steel faceplate for timber frame or door.
Maximum operational gap (door to frame) 3 mm. Jaw strength 900 kg

Adams Rite 7100-Fail Safe 12 v DC electric release (340 mA) short face plate for Aluminium frames. Longer steel faceplate for timber frame or door. Maximum operational gap (door to frame) 3 mm. Jaw strength 900 kg
Solenoid Bolt

To facilitate remote access and exit control of aluminium, timber, or steel doors. The slimline style of the 1391 allows the lock to be concealed fitted into the door and frame. The stainless steel deadbolt which has a 16mm throw, provides a secure method of locking on doors requiring access control. Suitable for single and double action doors (with positive centring door closers).

The 1391 can be fitted vertically or horizontally (but not in the threshold) allowing flexibility in installation, and at all times provides a positive fail-safe operation (unless power supply continued during power failure by means of battery back-up).

Surface Box for 1391 Electric Solenoid Belt
Allows the 1391 Solenoid Bolt to be surface mounted onto any flush door and frame. Suitable for timber or hollow metal door applications. Glass door brackets supplied for fitting to 10 mm or 12 mm thick glass doors.

Features:
- Slimline style allowing the lock to be concealed fitted into the door and frame
- Stainless steel deadbolt has a 16mm throw, providing a secure method of access control locking
- Suitable for single and double action doors (with positive centring door closers)
- Can be fitted vertically or horizontally allowing flexibility in installation
- User selectable time delay of 0, 2.5 or 5 seconds
- Door status and lock sensor monitoring
- CE marked
- Surface box available
- Achieves NSI NCP 109 Class III

Order Codes:

1391-1042
Adams Rite 1391 Solenoid Bolt, mortice fitting, 12 v DC fail-safe requires 900 mA to lock (Quiescent 300 mA @ 12 vDC)

1391-3042
Adams Rite 1391 Surface Box, allows the lock to be surface mounted onto any flush door and frame. Suitable for timber or hollow metal door applications. Supplied with glass door brackets for fitting to 10 mm or 12 mm thick glass doors.
Armlock®1354

Features:
- Compact Size
- Nominal 1500 kg shear holding force
- Mortice or surface mounted
- Glass door fixing bracket available
- Adjustable locking time 1-30 secs
- Suitable for door gaps up to 8 mm
- Dual coil 12 vDC or 24 vDC
- Retry facility as standard
- Various finishes available on surface housing
- Non-handed
- Locking tolerance: ± 2 mm lateral, ± 5 mm longitudinal
- CE marked
- Achieves NSI NCP 109 Class IV

Mini Electro-Shearmagnet
To facilitate remote access and exit of most aluminium, timber and steel doors. The Armlock® 1354 combines magnetic field force and physical interference between lock body and armature to create a shear holding force of 1500 kg. The product range consists of mortice mounted, surface mounted or glass door versions to cater for single or double action internal doors or external doors where a form of cover is situated above the doorway to prevent direct rain penetration.

The product may be fitted in a vertical or horizontal position, but should not be fitted in the threshold. The shearmagnet at all times provides a positive fail-safe operation (unless power supply continued, during power failure, by means of a battery back-up). The slimline style of the shearlock is achieved by having a separate PCB, which can be mounted separately inside the protective box supplied. (Power supply unit is not included).

NOTE: Positive closer required on doors. For maximum security specify an MS® Deadlock in conjunction with the direct-pull magnet.

Order Code:
637.008.414

Adams Rite Armlock 1354 Mini Electro-Shearmagnet mortice fitting - 12 or 24 v dc. Up to 1500 kg. Requires 1.2 Amps Pull In @ 12 Vdc. (Quiescent 500mA @ 12 Vdc)
Access Control Locking Solutions

eForce iCLASS

This new addition to the eForce family incorporates a contactless proximity reader into the proven eForce® platform. The eForce iCLASS™ proximity card readers control access with Adams Rite deadbolts, deadlatches and exit devices.

Card presentation is confirmed with an audible beep and visual change in the red/green LED indicator – displaying the locked/unlocked status. Supporting HID® 13.56 MHz (eForce iCLASS) credentials, the eForce iCLASS interfaces with any Wiegand-compatible access control system.

The sleek-looking eForce iCLASS measures 1-3/4” wide x 15-3/8” high, and is compatible with aluminium, steel and wood doors from 1-3/4” to 2-1/4” thick. The eForce retrofits to Adams Rite MS® Series Deadbolts, 4500, 4700, 4900 Deadlatches and 8000 Series Exit Devices in 31/32” backsets and greater.

Adams Rite has long been recognized as a leading manufacturer of hardware for aluminum entrances. The eForce iCLASS is a strong addition to this family of products, and the obvious choice to pair with Adams Rite deadbolts, deadlatches and exit devices. Install with confidence. No one makes door hardware like Adams Rite.

Order Code:
3090C-01-626 Adams Rite eForce iCLASS in satin chrome finish. Reads any iCLASS credential

Features:
• Expanded eForce platform with integrated HID® Prox Contactless Card Reader
• Interfaces with any Wiegand protocol access control system
• Supports HID iCLASS 13.56MHz credentials
• Integrated antenna
• Models to operate Adams Rite latches, exit devices, and MS® Series deadbolts
• Audible beep upon card presentation
• Red/green LED lock/unlock status
• Non-handed with clutched lever protection
• Mortise cylinder control override (1” to 1-1/2” range with AR/MS cam)
• Die cast housing and lever in Satin Chrome and Dark Bronze finish
• Full outdoor rating – temperature range from -35°C to 66°C
• Hardwired (7 conductor) installation with ElectroLynx™ connectors

Technical Specifications:

Handle
Clutch-protected cast zinc alloy, finished to match housing.

Special Features/Requirements
Hardwired installation: 18-22 AWG recommended (seven conductor stranded and shielded)
Temperature range: -35°C to 65°C and 5-95% humidity (non-condensing)
500 ft. max. distance to host

Housing
The sleek-looking eForce measures 1-3/4” wide x 15- 3/8” high, with Satin Chrome (626) and Powdercoat Dark Bronze (121) finishes.

Electrical Specs:

eForce Prox
Integrated HID® 13.56MHz iCLASS contactless card reader Interfaces with any Wiegand compatible access control system Recognizes HID® Prox 26-39 bit formats FCC Part 15 (USA & Canada) 12 Vdc/150 mA average 300 mA Peak
Locking Accessories

Where locks or electric releases are fitted into the controlled door and will require electrical connection to control their operation and/or for monitoring purposes. A door loop will be required for the electrical cable connections so that the cable is physically protected and able to withstand the movement of the door.

There are a wide range of alternatives within the intruder range as well as the following surface and flush fitting options:

**Features:**
- Compact
- Various Sizes
- Choice of two colours

**Order Codes:**

- **DL400 Concealed Door Loop**
  Designed to fit within the wooden door and frame offering better security & aesthetics due to concealed installation. Used with electric locks and/or electric releases (double doors) where the cable for the lock is required to transfer from the door frame to door.

- **DL350 Surface mounted door loop - metal**
  Designed to fit between the door and frame offering security of the cable. With a Heavy duty construction, it is ideal for double doors where the cable for the lock is required to transfer from the frame to the door.

- **EDL1-Kit**
  30 cm fixed length door loop white Inc 2 EN3-JB9-HD-W & 2 Grommets

- **EDL2-Kit**
  25 cm white door loop extendable up to 170 cm Inc 2 EN3-JB9-HD-W & 2 Grommets

- **EDL3-Kit**
  50 cm white door loop extendable up to 330 cm Inc 2 EN3-JB9-HD-W & 2 Grommets

- **EDL1-BN-Kit**
  30 cm fixed length door loop Brown Inc 2 EN3-JB9-HD-W & 2 Grommets

- **EDL2-BN-Kit**
  25 cm Brown door loop extendable up to 170 cm Inc 2 EN3-JB9-HD-W & 2 Grommets

- **DL3-BN-Kit**
  50 cm Brown door loop extendable up to 330 cm Inc 2 EN3-JB9-HD-W & 2 Grommets
Alternative Locking Solutions

Where a higher level of access control has or is being specified or the users requirements are more sensitive it is necessary to supply a locking arrangement that is commensurate with the equipment or risk involved. It is recommended in these cases that electric locks are supplied rather than electromagnets or electric releases.

**Electric Locks**
Electrically operated locks differ from electric releases or electromagnets as the power is within the actual mortise lock case. This component, depending on type, is usually cut into the actual door edge with the striking plate fitted in the frame.

This gives the strongest possible arrangement and provides the same level of security as a high quality mechanical mortise lock. Additionally this method ensures the installation is aesthetically pleasing with no cables or hardware visible when the door is secured.

The locks in this section supply solutions to most types of door arrangements and are available as Non Stock Listed items but if clarification is needed in any aspect or and unusual door type is experience i.e. glass/double action, please contact ASSA ABLOY Electronic Security +44 (0)1923 255066.
Compliant Solutions

What is a compliant solution?
A compliant solution is one that meets the needs as laid out in the various building regulations. The most important elements here are related to fire compartmentalization within a building and the ability to escape through mechanical means in case of emergency, and not just a fire emergency; could also be pollution, terror threat, etc. Those standards directly linked to life safety are: EN179 Emergency Escape for when the building occupants are aware of the building environment, and EN1125 Panic Escape for environments used by the general public.

These standards state that even if a door is electronically controlled for access there must be a compliant mechanical means of escape in case of emergency.

The most cost effective solution is not necessarily a compliant solution.

Unlike magnets, Abloy electric locks provide a compliant solution, satisfying the needs of both fire doors and emergency/panic situations where a mechanical means of escape is the essence. Exit doors should not be reliant on a fire alarm or some other ‘power’ trigger allowing egress.

Electric locks vs Electro-magnets

<table>
<thead>
<tr>
<th>Feature</th>
<th>Electric lock</th>
<th>Magnetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliant with all relevant EU and UK standards</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Integrates with access control</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Requires power only when being operated</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>High security solution</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Provides for mechanical security and escape</td>
<td>✓</td>
<td>x</td>
</tr>
</tbody>
</table>
Electric Lock Selector

- Motor > Hands free usage
- Solenoid > For handle control
- Standard stile > timber/steel
- Motor > Hands free usage > Min 120 mm
- Motor > Hung doors
- Solenoid > Hung doors
- DIN >Hung doors > Scandinavian cylinder > Latch only > egress/controlled both sides
- Solenoid > Hung doors > Scandinavian cylinder > Handle control > free egress/controlled both sides
- SOL > Sliding doors > N/A
- DIN > Hung doors > Scandinavia cylinder > Free egress
- Scand. cylinder > Controlled both sides
- Scand. cylinder > Latch only
- Scand. cylinder > Free egress
- Scand. cylinder > Controlled both sides

Security

- EL520
- EL590
- EL560
- EL561
- EL502
- EL580
- EL582
Use the flow chart to select ElectricLocks ideal for your application.

1. Determine whether the door must offer emergency exit (EN179) or panic escape (EN1125) function.
2. Standard or narrow stile type.
3. Select the package that offers the locking function you require.
Select your package

**Standard door Read in, free egress - complies with EN179**
1. EL560 solenoid lock
2. CY326 single cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 60-0319-SSS handle set
5. DC240 door closer (optional)

Wood or metal door applications with handle operation, inside handle always operates and the outside handle is controlled and activated on signal from access control system. Key override at all times from outside.

**Technical Specifications:**
- **Operating voltage:** 12 V dc to 24 V dc stabilised (+15%-10%).
- **Current draw:**
  - 12 V dc: 350 mA max
  - 24 V dc: 250 mA max.
- **Backsets available:** Standard 65 mm, 55 mm, 60 mm, 80 mm, 100 mm.
- **Monitoring:** RQE on inside handle, bolt position, door position, cylinder operation.
- **Standards:**
  - EN179 when used with correct furniture
  - EN12209
  - EN1634-1
  - EN61000-6-1
  - EN1303 (cylinder)
  - EN14846
Package 1ME Multipoint

**Standard door Multipoint - Read in, free egress - complies with EN179**

1. EL566 multipoint solenoid lock
2. CY326 single cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 60-0319-SSS handle set
5. DC240 door closer (optional)

Wood or metal door applications with handle operation, inside handle always operates and the outside handle is controlled and activated on signal from access control system. Key override at all times from outside.

**Technical Specifications:**

- **Operating voltage:** 12 V dc to 24 V dc stabilised (+15%,-10%).
- **Current draw:** 12 V dc 350 mA max 24 V dc 250 mA max.
- **Backsets available:** Standard 65 mm, 55 mm, 60 mm.
- **Monitoring:** RQE on inside handle, bolt position, door position, cylinder operation.

**Standards:**

- EN179 when used with correct furniture
- EN12209
- EN1634-1
- EN61000-6-1
- EN1303 (cylinder)
- EN14846
Package 1P Escape (EN1125)

**Standard door Read in, free egress - complies with EN1125**
1. EL560 solenoid lock
2. CY326 single cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 990000-SE panic bar
5. JPM-912500-SE outside handle / trim
6. DC240 door closer (optional)

Wood or metal door applications with handle operation, inside panic bar always operates and the outside handle is controlled and activated on signal from access control system. Key override at all times from outside.

**Technical Specifications:**
- **Operating voltage:** 12 V dc to 24 V dc stabilised (+15%-10%).
- **Current draw:**
  - 12 V dc 350 mA max
  - 24 V dc 250 mA max.
- **Backsets available:** Standard 65 mm, 55 mm, 60 mm, 80 mm, 100 mm.
- **Monitoring:** RQE on panic bar, bolt position, door position, cylinder operation.

**Standards:**
- EN1125 when used with correct furniture
- EN12209
- EN1634-1
- EN61000-6-1
- EN1303 (cylinder)
- EN14846
Package 2

Standard door Read in, read out
1. EL561 solenoid lock
2. CY327 double cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 60-0319-SSS handle set
5. DC240 door closer (optional)

Wood or metal door applications with handle operation, both handles controlled and activated on signal from access control system. Key override at all times from both sides.

Technical Specifications:
Operating voltage: 12 V dc to 24 V dc stabilised (+15%-10%).
Current draw: 12 V dc 350 mA max 24 V dc 250 mA max.
Backsets available: Standard 65 mm, 55 mm, 60 mm.
Monitoring: RQE on inside handle, bolt position, door position, cylinder operation.

Standards:
EN12209
EN1634-1
EN61000-6-1
EN1303 (cylinder)
EN14846
Package 2M Multipoint

**Standard door Multipoint - Read in, read out**
1. EL567 solenoid lock
2. CY327 double cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 60-0319-SSS handle set
5. DC240 door closer (optional)

Wood or metal door applications with handle operation, both handles controlled

**Technical Specifications:**

- **Operating voltage:** 12 V dc to 24 V dc stabilised (+15%-10%).
- **Current draw:** 12 V dc 350 mA max 24 V dc 250 mA max.
- **Backsets available:** Standard 65 mm, 55 mm, 60 mm.
- **Monitoring:** RQE on inside handle, bolt position, door position, cylinder operation.

**Standards:**
- EN12209
- EN1634-1
- EN61000-6-1
- EN1303 (cylinder)
- EN14846
Package 3E

Narrow stile door Read in, free egress - complies with EN179
1. EL460 solenoid lock
2. CY326 single cylinder - DIN Europrofile
3. DL8 door loop
4. 60-0819-SSS handle set
5. DC240 door closer (optional)

Narrow stile door applications with handle operation, inside handle always operates and the outside handle is controlled and activated on signal from access control system. Key override at all times from outside.

Technical Specifications:
Operating voltage: 12 V dc to 24 V dc stabilised (+15% -10%).
Current draw: 12 V dc 350 mA max 24 V dc 250 mA max.
Backsets available: 30 mm, 35 mm, 40 mm, 45 mm.
Monitoring: RQE on inside handle, bolt position, door position, cylinder operation.

Standards:
EN179 when used with correct furniture
EN12209
EN1634-1
EN61000-6-1
EN1303 (cylinder)
EN14846
Package 3ME Multipoint

Narrow stile door Multipoint - Read in, free egress - complies with EN179
1. EL466 solenoid lock
2. CY326 single cylinder - DIN Europrofile
3. DL8 door loop
4. 60-0819-SSS handle set
5. DC240 door closer (optional)

Narrow stile door applications with handle operation, inside handle always operates and the outside handle is controlled and activated on signal from access control system. Key override at all times from outside.

Technical Specifications:
Operating voltage: 12 V dc to 24 V dc stabilised (+15%-10%).
Current draw: 12 V dc 350 mA max 24 V dc 250 mA max.
Backsets available: 30 mm, 35 mm, 40 mm, 45 mm.
Monitoring: RQE on inside handle, bolt position, door position, cylinder operation.

Standards:
EN179 when used with correct furniture
EN12209
EN1634-1
EN61000-6-1
EN1303 (cylinder)
EN14846
Package 3P Escape (EN1125)

Narrow stile door Read in, free egress - complies with EN1125
1. EL460 solenoid lock
2. CY326 single cylinder - DIN Europrofile
3. DL8 door loop
4. 990001 panic bar
5. 809ZB04——35 outside handle / trim
6. DC240 door closer (optional)

Narrow stile door applications with handle operation, inside panic bar always operates and the outside handle is controlled and activated on signal from access control system. Key override at all times from outside.

Technical Specifications:
- Operating voltage: 12 V dc to 24 V dc stabilised (+15%-10%).
- Current draw: 12 V dc 350 mA max 24 V dc 250 mA max.
- Backsets available: 30 mm, 35 mm, 40 mm, 45 mm.
- Monitoring: RQE on panic bar, bolt position, door position, cylinder operation.
- Standards: EN1125 when used with correct furniture
  - EN12209
  - EN1634-1
  - EN61000-6-1
  - EN1303 (cylinder)
  - EN14846
Package 3MP Escape (EN1125)

Narrow stile door Multipoint - Read in, free egress - complies with EN1125
1. EL466 solenoid lock
2. CY326 single cylinder - DIN Europrofile
3. DL8 door loop
4. 990001 panic bar
5. 809ZB04—35 outside handle / trim
6. DC240 door closer (optional)

Narrow stile door applications with handle operation, inside panic bar always operates and the outside handle is controlled and activated on signal from access control system. Key override at all times from outside.

Technical Specifications:
- Operating voltage: 12 V dc to 24 V dc stabilised (+15% -10%).
- Current draw: 12 V dc 350 mA max 24 V dc 250 mA max.
- Backsets available: 30 mm, 35 mm, 40 mm, 45 mm.
- Monitoring: RQE on panic bar, bolt position, door position, cylinder operation.

Standards:
- EN1125 when used with correct furniture
- EN12209
- EN1634-1
- EN61000-6-1
- EN1303 (cylinder)
- EN14846
Package 4

Narrow stile door

Read in, read out
1. EL461 solenoid lock
2. CY327 double cylinder - DIN Europrofile
3. DL8 door loop
4. 60-0819-SSS handle set
5. DC240 door closer (optional)

Narrow stile door applications with handle operation, both handles controlled and activated on signal from access control system. Key override at all times from both sides.

Technical Specifications:

<table>
<thead>
<tr>
<th>Operating voltage:</th>
<th>12 V dc to 24 V dc stabilised (+15%-10%).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current draw:</td>
<td>12 V dc 350 mA max 24 V dc 250 mA max.</td>
</tr>
<tr>
<td>Backsets available:</td>
<td>30 mm, 35 mm, 40 mm, 45 mm.</td>
</tr>
<tr>
<td>Monitoring:</td>
<td>RQE on inside handle, bolt position, door position, cylinder operation.</td>
</tr>
</tbody>
</table>

Standards:
- EN12209
- EN1634-1
- EN61000-6-1
- EN14846
Package 4M Multipoint

Narrow stile door
Multipoint - Read in, read out
1. EL467 solenoid lock
2. CY327 double cylinder - DIN Europrofile
3. DL8 door loop
4. 60-0819-SSS handle set
5. DC240 door closer (optional)

Narrow stile door applications with handle operation, both handles controlled and activated on signal from access control system. Key override at all times from both sides.

Technical Specifications:
Operating voltage: 12 V dc to 24 V dc stabilised (+15%-10%).
Current draw: 12 V dc 350 mA max 24 V dc 250 mA max.
Backsets available: 30 mm, 35 mm, 40 mm, 45 mm.
Monitoring: RQE on inside handle, bolt position, door position, cylinder operation.

Standards:
EN12209
EN1634-1
EN61000-6-1
EN14846
Package 5E High Security

Standard door
Read in, free egress (motor lock) - complies with EN179
1. EL520 motor lock
2. CY326 single cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 60-0119-SSS handle inside, pullpad outside
5. DC240 door closer (optional)

High security wood or metal door applications with motor operated deadbolt and latch bolt, inside handle always operates. Key override at all times from outside.

Technical Specifications:
Operating voltage: 12 V ac to 18 V ac, 12 V dc to 24 V dc (+15%-10%).
Current draw: 12 V dc 80 mA idle, norm 450 mA 24 V dc 40 mA idle, norm 220 mA.
Backsets available: Standard 65 mm, 55 mm, 60 mm.
Monitoring: RQE on inside handle, bolt position, door position, cylinder operation.

Standards:
EN179 when used with correct furniture
EN12209
EN1634-1
EN61000-6-1
EN1303 (cylinder)
EN14846
Package 5ME Multipoint - High Security

Standard door
Read in, free egress (motor lock) - complies with EN179
1. MP520 motor lock
2. CY326 single cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 60-0119-SSS handle inside, pullpad outside
5. DC240 door closer (optional)

High security wood or metal door applications with motor operated deadbolt, hook bolts and latch bolt, inside handle always operates. Key override at all times from outside.

Technical Specifications:
- Operating voltage: 12 V ac to 18 V ac, 12 V dc to 24 V dc (+15%-10%).
- Current draw: 12 V dc 80 mA idle, norm 450 mA 24 V dc 40 mA idle, norm 220 mA.
- Backsets available: Standard 65 mm, 55 mm, 60 mm.
- Monitoring: RQE on inside handle, bolt position, door position, cylinder operation.

Standards:
- EN179 when used with correct furniture
- EN12209
- EN1634-1
- EN61000-6-1
- EN1303 (cylinder)
- EN14846
Package 5P Escape - High Security

**Standard door**
Read in, free egress (motor lock) - complies with EN1125
1. EL520 motor lock
2. CY326 single cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 990000-SE panic bar
5. 012/120-RT-PZ-72-JPM520 outside pull pad
6. DC240 door closer (optional)

High security wood or metal door applications with motor operated deadbolt and latch bolt, inside panic bar always operates. Key override at all times from outside.

**Technical Specifications:**

- **Operating voltage:** 12 V ac to 18 V ac, 12 V dc to 24 V dc (+15%-10%).
- **Current draw:** 12 V dc 80 mA idle, norm 450 mA, max 1430 mA 24 V dc 40 mA idle, norm 220 mA, max 600 mA.
- **Backsets available:** Standard 65 mm, 55 mm, 60 mm.
- **Monitoring:** RQE on panic bar, bolt position, door position, cylinder operation.

**Standards:**
EN1125 when used with correct furniture
EN12209
EN1634-1
EN61000-6-1
EN1303 (cylinder)
EN14846
Package 5MP Multipoint - Escape - High Security

**Standard door**
Read in, free egress (motor lock) - complies with EN1125
1. MP520 motor lock
2. CY326 single cylinder - DIN Europrofile
3. EA280 concealed door loop
4. 990000-SE panic bar
5. 012/120-RT-PZ-72-JPM520 outside pull pad
6. DC240 door closer (optional)

High security wood or metal door applications with motor operated deadbolt, hook bolts and latch bolt, inside panic bar always operates. Key override at all times from outside.

**Technical Specifications:**
- **Operating voltage:** 12 V ac to 18 V ac, 12 V dc to 24 V dc (+15%-10%).
- **Current draw:**
  - 12 V dc 80 mA idle, norm 450 mA, max 1430 mA
  - 24 V dc 40 mA idle, norm 220 mA, max 600 mA.
- **Backsets available:** Standard 65 mm, 55 mm, 60 mm.
- **Monitoring:** RQE on panic bar, bolt position, door position, cylinder operation.
- **Standards:**
  - EN1125 when used with correct furniture
  - EN12209
  - EN1634-1
  - EN61000-6-1
  - EN1303 (cylinder)
  - EN14846
Package 6E High Security

Narrow stile door
Read in, free egress (motor lock) - complies with EN179
1. EL420 motor lock
2. CY326 single cylinder - DIN Europrofile
3. DL8 door loop
4. 3-19X/013/120PZ+BL-SSS handle inside, pullpad outside
5. DC240 door closer (optional)

High security narrow stile door applications with motor operated deadbolt and latch bolt, inside handle always operates. Key override at all times from outside.

Technical Specifications:
Operating voltage: 12 V ac to 18 V ac, 12 V dc to 24 V dc (+15%-10%).
Current draw: 12 V dc 80 mA idle, norm 450 mA, max 1300 mA 24 V dc
40 mA idle, norm 220 mA, max 600 mA.
Backsets available: 30 mm, 35 mm, 40 mm, 45 mm.
Monitoring: RQE on inside handle, bolt position, door position, cylinder operation..

Standards:
EN179 when used with correct furniture
EN12209
EN1634-1
EN61000-6-1
EN1303 (cylinder)
EN14846
Door Accessories

This chapter contains information about Access Control Door Accessories

- Introduction
- Egress Devices
- Emergency Egress Devices
- Door Status Monitoring (UK Only)
- Local Door Annunciators (UK Only)
Access Control Ancillary Devices

This section provides the ancillary devices required to complete any access control system. They allow you to monitor the doors status, leave the secure area without generating door forced events, leave the area in an emergency situation or override the system from the unsecure side of the door in emergency situations.

These devices are broken down into the following sections:
- Standard Egress devices
- Emergency Egress devices
- Door status monitoring
- Local Alarm annunciation devices

**Standard Egress devices**

**Egress Buttons**

This section offers devices which allow an access-controlled door to be opened in an authorised manner. Standard methods of egress mechanical handle etc. do not normally provide a signal to the local control equipment. A door forced indication would therefore be generated if monitoring of the access doors is required also, if magnetic locks or similar are used, a safe means of release is required.

**Egress detectors**

The purpose of an exit detector is to provide a means of egress from the secure area without the need to operate a press button. The device is designed to detect the individual’s legitimate exit through a supervised door. The detector must capture the individual’s hand movement towards the door handle (or panic bar) and, prior to the actual opening of the door, warn the system of a pending exit. When the door opens, the system is able to discriminate between a valid exit and a forced entry. The exit detector can be used on both free exit and controlled exit doors. The exit detector provides automatic and hands free operation.

**Emergency Override Devices**

**Emergency Break Glass Box**

These items are wired in series with any fail safe lock (power required to secure the door) and its power supply feed and must be connected as the last item in the circuit before the lock itself. This means that the lock power can be cut off to provide a means of escape from the controlled area.

In some circumstances, a break glass may be required on the unsecure side to give access into the secure area for emergency purposes - lift lobbies etc. The latter is a security risk and the break glass and door should be monitored to generate a door forced alarm as soon as the glass is broken. The latest range of break glass units are resettable or switch activated. No replacement glasses are required.

**Key Override switch**

There should always be a means of overriding an access control lock for access – in case of system failure etc. This is achieved by mechanical key where possible. Where mag locks, shear locks etc are fitted, a key override switch will be required to remove the power from the lock to gain entry.

This should be sited where it cannot be tampered with – as it does override the system and cutting the cable will have the same effect as operating the switch. A door forced signal will be generated when the door is opened if the door is monitored.

**Door & Lock status monitoring.**

The NSI Code of Practice NCP 109 advises that: Where access point monitoring is of critical importance, you should consider monitoring the locked / unlocked state of the access point, in addition to any monitoring by means of a separate protective switch.

**Door status monitoring**

Most access control systems will allow you to monitor the status of the controlled door. This is normally carried out by magnetic door contacts – as used with intruder alarm systems. The contacts can be surface or flush fitted and are available in a wide range of colours and finishes. We have included a selection of devices to meet the needs of the access control system.

Door status monitoring covers, door closed, door open, door held/ajar & door forced. The first two door positions are self explanatory. A door held/ajar status is given when for example a user props the door open for a delivery, or holds the door whilst talking to a colleague. This advises the system manager that the security of the site is not complete. Door forced, identifies that the door has been opened by a non approved means (not by card or egress device). This can mean the door has literally been forced open, the emergency break glass or key switch has been used – or an override handle has been used.
Lock Status Monitoring
In addition to – but not in place of, lock status monitoring can be offered for most locking solutions. This allows the user to monitor that the door is closed and securely locked. For magnetic locks this may be achieved by ‘haul effect monitoring’ – ensuring the lock holding force is at an acceptable level. This can detect such acts as applying grease, film, paperclip etc to the face of the magnet to reduce its holding force making forced entry out of hours that much easier. On electric releases this can be via a micro switch – which can be tampered with. Motorised lock sets provide the most secure locking and monitoring of all when used in conjunction with magnetic contacts.

Local Door Annunciation Devices
Alarms such as door forced can be annunciated at the system managers or guards PC. However, it may be beneficial to provide a local sounder to raise the alarm at the door – so people in the area can investigate (and remove the fire extinguisher from its position propping the door open!!). A small selection of local sounders is included in this section. The noise level (dB rating) should be considered as for some doors it may be necessary for deliveries to open the door for extended periods and not all users will isolate the door from the system.

Building Regulations from the UK Government planning web site

Extract from section 5.11
......where a door is operated by a code, combination, swipe or proximity card, biometric data or similar means it should also be capable of being overridden from the side approached by people making their escape.

Electrically powdered locks should return to the unlocked position:

a. On operation of the fire alarm system;
b. On loss of power or system error;
c. On activation of a manual door release unit (type A) to BS EN 54-11:2001 positioned on the side approached by people making their escape...

Images and advice on the escape route standards courtesy of Pat Jefferies Commercial Director Abloy UK
KAC 3 in 1 Egress Device

Features:
- Heavy duty green dome for standard egress
- Double pole resettable egress device for fail safe lock override
- Hinged cover for emergency override unit
- 12 Vdc sounder for door forced and held event notification if required from the door controller
- Standard triple gang electric surface back box – white plastic
- 304 grade brushed stainless steel plate with PRESS TO EXIT text.
- Terminal block for egress button and sounder (emergency release terminated directly in unit)

Technical Specifications:
- Operating frequency: Region 1: 865-868 MHz Europe
- Dimensions: 150 x 50 x 40 mm
- Weight: 0.5 kg
- Housing: Aluminium (Zamak5) chassis with polycarbonate cover
- Colour: RAL7016 cover and RAL9006 chassis
- Protection: IP65 [approx.NEMA4x]
- Detection range: Up to 2 meters with passive UHF cards or Nedap UHF Combi cards
- Range check LED indications: Green, Red
- Operating temperature: -30...+60°C
- Power: 12...24 VDC +10% linear supply recommended
- Current consumption: 1A @12 VDC, 0.5@24 VDC
- TTL digital input for beeper control
- Tamper Tamperswitch

Order Codes:
- CA1015: KAC 3 in 1 Egress device
- ISS-EGRESS-SSBOX: 3 gang metal electrical back box
- SB646: Stainless steel surface box for CA1015 unit. Has 20 & 25 mm entry holes rear surface.
- Appleby 3 gang electrical back box for flush mounting

Designed to be more aesthetically pleasing than individual components around the secure side of the door and to reduce the overall installation time.

The unit is supplied with a 3 gang UK plastic surface mounted back box. If required this could be replaced with a 3 gang electrical back box on site for flush fitting. The stainless steel front panel overlaps the plastic back box so that it is suitable for flush mounting – covering wall finish/fabric affected by the install etc.

Where will this item be used?

Any access controlled door requiring an egress button and using fail safe locking would benefit from the installation of this unit.

Providing standard egress via the green dome, therefore initiating authorised door open signalling and offering local emergency override by the green double pole resettable call point. The unit requires reduced installation time and by adding in the local sounder and plastic cover for the resettable call point - it ‘kits’ together the items often omitted in individual product selection.
Tyco Fire & Security introduced some time back a new range of egress devices with an increased range that have been ADT branded. Also included is a DDA (Disability Discrimination Act) items which are now becoming required for key projects.

Where a door is controlled by card reader for entry but uncontrolled egress is required there are a number of methods available.

The normal ‘handle’ egress is acceptable if the locking mechanism used is motorised / electronic and the handle will actually release the physical item that secures the door for access control purposes. If this is not the case then any use of a handle would cause a door forced event on the access control system as this would not signal the controller that the door was being opened with authority from the inside. For non monitored doors this may however be acceptable.

When an authorised means of egress is required and/or the doors are to be monitored. Then a means of signalling to the access control system that the lock is to be released is required. This can be done by various means. The most common of which is an egress button.

Egress buttons come in various forms – plastic, metal, mechanical and electro mechanical. They are also available in various shapes and sizes to suite the environment and the degree of usage and possibly abuse the button is likely to attract. What ever type of device is used the siting of the device is crucial. If a guest / visitor to the site cannot find a means of unlocking the door then the solution is not satisfactory.

One means of overcoming this problem is the use of an egress passive infra red like the T.Rex device. This activates on the movement of the person towards the door – it can be adjusted to react to the persons hand moving towards the door handle or the push plate etc.

This movement is actually detecting the heat from the persons body – so areas with a lot of heat movement could see false door releases – but unlike standard intruder devices that cover a wide area for their application. The T.Rex can be adjusted on both X & Y axis to reduce this possibility.

Standard Egress Devices

Features:
- Wide range of designs
- Surface or flush mounting options
- Mechanical or Electro-mechanical options
- Branded or unbranded

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# Standard Egress Devices

<table>
<thead>
<tr>
<th>Item</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface mounted plastic egress switch</td>
<td>DRB001N-PTE</td>
</tr>
<tr>
<td>Surface mounted plastic egress switch - ADT branded</td>
<td>DRB001N-PTE-A</td>
</tr>
<tr>
<td>Stainless Steel egress button - supplied with flush fitting back box. Use DRB-SH for surface mounting. Screen printed with ‘PRESS TO EXIT’</td>
<td>DRB002NF-PTE</td>
</tr>
<tr>
<td>Narrow Architrave style Stainless Steel egress button – supplied with flush fitting back box. Screen printed with ‘PRESS TO EXIT’</td>
<td>DRB002NF-PTE</td>
</tr>
<tr>
<td>Stainless Steel plate with raised green egress button – supplied with flush fitting back box. Use DRB-SH for surface mounting. Screen printed with ‘PRESS TO EXIT’ - ADT Branded</td>
<td>DRB003F-PTE-A</td>
</tr>
<tr>
<td>Stainless Steel plate with Green Dome egress button – supplied with flush fitting back box. Use DRB-SH for surface mounting. Screen printed with ‘PRESS TO EXIT’.</td>
<td>DRB004F-PTE</td>
</tr>
<tr>
<td>Stainless Steel plate with Green Dome egress button – supplied with flush fitting back box. Use DRB-SH for surface mounting. Screen printed with ‘PRESS TO EXIT’ - ADT Branded</td>
<td>DRB004F-PTE-A</td>
</tr>
<tr>
<td>Stainless Steel egress device with large stainless steel button – supplied with flush fitting back box. Use DRBSH for surface mounting. Screen printed with ‘PRESS TO EXIT’</td>
<td>DRB006F-PTE</td>
</tr>
</tbody>
</table>
## General Access Products

<table>
<thead>
<tr>
<th>Item</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Stainless Steel plate with Green Dome egress button - supplied with flush fitting back box. Use DRB-SH for surface mounting. Screen printed with ‘PRESS TO EXIT’ - ADT Branded</td>
<td>DRB007F-PTE-A</td>
</tr>
<tr>
<td>Green Stainless Steel plate with raised green egress button – supplied with flush fitting back box. Use DRBSH- G for surface mounting. Screen printed with ‘PRESS TO EXIT’</td>
<td>DRB008F-PTE</td>
</tr>
<tr>
<td>Green Stainless Steel plate with raised green egress button – supplied with flush fitting back box. Use DRBSH- G for surface mounting. Screen printed with ‘PRESS TO EXIT’ - ADT Branded</td>
<td>DRB008F-PTE-A</td>
</tr>
<tr>
<td>Stainless Steel egress device with Disabled logo &amp; ‘push to open’ text. 110 mm x 110 mm surface mounted unit.</td>
<td>DDA900-1</td>
</tr>
<tr>
<td>Narrow Architrave style Stainless Steel egress button – supplied with flush fitting back box. Screen printed with ‘PRESS TO EXIT’</td>
<td>DRB-SH</td>
</tr>
<tr>
<td>White finish Stainless Steel surface housing for egress devices</td>
<td>DRB-SH-W</td>
</tr>
<tr>
<td>Green finish Stainless Steel surface housing for egress devices</td>
<td>DRB-SH-G</td>
</tr>
</tbody>
</table>
The T.Rex provides a complete solution to exit detection and door surveillance for access control applications. Outstanding innovations such as X-Y Targeting™ and DSP implementation make the T.Rex the fastest and most reliable exit detector on the market.

X-Y Targeting™ targets a specific area of detection. While some exit detectors on the market offer adjustments of the detection pattern with masking or horizontal alignment, the T.Rex is the first detector to offer vertical detection using two adjustable louvres located in the detection chamber.

The installer “trims” the detection area by adjusting these louvres from 90° down to a minute 5°. Horizontal adjustment is provided by rotation of the lens. Added security: These two adjustments allow the installer to mount the detector so that the detection area will not “hit” the floor along the doorjamb.

This exclusive feature defeats attempts to circumvent door supervision by sliding objects underneath the door. Such objects would be detected by sensors mounted in a traditional way.

DSP (Digital Signal Processing) prevents “Door Forced Open” alarms. Kantech’s T.Rex utilises infrared detection coupled with DSP sampling specifically designed for access control applications. There is a substantial operational difference between a common infrared intrusion motion detector and the T.Rex. An intrusion detector operates at low sensitivity levels and is looking for the positive presence of a human.

Features:
- New concept in access control exit detection
- Zone of detection easily adjustable with pinpoint accuracy
- Unlocks or shunts door automatically
- Hands free, No buttons to push
- Integrated 90dB local door alarm sounder independently controlled by access panel
- 2-relay model available

Technical Specifications:
- Detector type: Passive infrared
- Filter technology: Digital Signal Processing (DSP)
- Detector Lens: Curtain type Fresnel lens
- Detection Range: One hand: 3m Whole body: 6m
- Power consumption: 12-28VDC, 50mA
- Piezo buzzer: 90dB at 28V, 5-28VDC, 20mA
- Main relay contacts: SPDT, A max, at 30 VDC max
- Main relay timer: Adjustable, 1/2 to 60 sec.
- Main relay recycle time: Fixed 3/4 sec. off
- Tamper switch: N.C. 100mA max at 30 VDC max
- Dimensions (H-W-D)cm: 19.0 x 4.5 x 4.75
- Dimensions (H-W-D)in: 7.13 x 1.75 x 1.88
- Indicator light (LED): Red/Green
- Certifications: UL 294, CE, FCC

Order Codes:
- T.REX-XL: T.Rex Exit detector with tamper, piezo and timer
- T.REX-LT: T.Rex Exit detector with tamper, Europe only

An exit detector must detect the extremely fast movements of a hand (the target) about to push the door or turn the door handle. Contrary to intrusion applications, a failure to detect in an exit application will actually cause a “Door Forced Open” alarm.
**Touch Free Exit Buttons**

**Touch free stainless steel exit buttons**  
The DRB-IR is a rugged, touchless switch built with advanced Infrared technology.

Ideal for use in sterile environments such as hospitals, food processing plants and clean rooms, the touch free exit button recessed design and stainless steel construction make it easy to clean and sanitize. Touchless switch activation helps reduce the spread of bacteria and infectious diseases.

They are also ideal for buildings used by disabled or elderly people.

**Visual Feedback**  
If an alarm event contains associated DVR footage, the operator can access the footage in AC2000 Security Hub via a right-click and selecting “View recorded footage” activating the DVR Alarm Viewer.

Visual indication when motion is detected within the detection zone.

Illuminated ring around the hand symbol changes from standby red to green.

**Mounting**  
Offered in a standard single gang plate size it is made from durable stainless steel. To make ordering and mounting easy, the touch free Exit buttons are available in two models: Surface mount and Flush mount.

**Features:**
- Brushed Stainless Steel
- Infra-Red
- Adjustable timer
- Flush and surface mount
- Adjustable range
- Change-over-contacts
- Compatible with all access control systems

**Technical Specifications:**

<table>
<thead>
<tr>
<th>Input</th>
<th>12 Vdc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Rating</td>
<td>1 A @ 30 Vdc, 0.5 A @ 125 Vac</td>
</tr>
<tr>
<td>Output</td>
<td>N/O - COM - N/C</td>
</tr>
<tr>
<td>Mechanical Life</td>
<td>1,000,000 Tests</td>
</tr>
<tr>
<td>Range</td>
<td>4 cm - 10 cm</td>
</tr>
<tr>
<td>Timer</td>
<td>0.5sec - 25sec</td>
</tr>
<tr>
<td>Operating Temp</td>
<td>-20°C ~ 55°C</td>
</tr>
<tr>
<td>LED Indicator</td>
<td>Red LED :- Standby Green LED :- Switch activated</td>
</tr>
</tbody>
</table>

**Order Codes:**

- **DRB-IR-S**  
  Stainless Steel Infra-Red Exit Button, Surface mount

- **DRB-IR**  
  Stainless Steel Infra-Red Exit Button, Flush mount
Key Override Switch

Features:
- Single Pole devices
- Key removable in both positions
- Flush mount for security
- Surface mount option available
- Can be sourced with different key options for increased security

Once an alternative control system is installed there must always be a means of gaining entry in case the access system needs to be overridden. This could be due to vandalism or simply not having a valid means of entry.

From the unsecure side of any access point – if the code is lost or tags not available, if the locking system does not have mechanical override (for example with a magnetic lock) then a key switch should be used.

It is important that this device is sited in a secure location that ensure that it is not obvious what the unit is for. Please note that the devices provided from stock have a common key.

<table>
<thead>
<tr>
<th>Item</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless steel override key switch – supplied with flush fitting back box. Single pole change over operation – key removable in both positions. <strong>All keyed alike.</strong> For non standard key contact supplier direct for ‘special’. Use DRB-SH-G for surface mounting.</td>
<td>KS001</td>
</tr>
<tr>
<td>Narrow Architrave style Stainless Steel egress button – supplied with flush fitting back box. Screen printed with ‘PRESS TO EXIT’</td>
<td>DRB-SH</td>
</tr>
</tbody>
</table>
Egress Units

Installation efficiency, flexibility and full compliance with the latest standards are at the heart of the new MCP Indoor emergency release? Call Point range. Installation time and ultimately cost, are of paramount importance to any fire or security installer.

The MCP range directly reflects this need by providing a unique ‘plug and play’ concept designed specifically to reduce installation time. All new MCP products utilise a special terminal block, where all initial installation cabling is terminated.

This terminal block is simply connected to the back of the MCP. Simple, but effective with no re-termination required and no time wasted. Tyco Fire & Security now stock the resettable range of operating elements to provide you with the greatest ‘flex-ability’. No other additional parts or alternative products need to be ordered.

Technical Specifications:

**Electrical Specification**
- Cable Termination: 0.5-2.5 mm²
- Maximum Voltage: 30VDC
- Current Rating (switch only): 2 Amps

**Environmental Specification**
- Humidity: 0-95% non-condensing
- Operating Temp: -30°C to +55°C
- Storage Temp: -30°C to +55°C
- Ingress Protection (IP) Rating: IP24D

Features:
- Single or Double Pole devices
- Branded or unbranded Emergency egress units
- Test facility and resettable
- Emergency Break Glass Box
- Unique ‘Plug & Play’ installation concept
- Total ‘Flex-Ability’ in the choice of operating element

Order Codes:
- 636.008.152. A: ADT branded green single pole resettable emergency egress device supplied with surface mount bow, fixing screws, reset/test key and installation leaflet
- 636.008.155.A: ADT branded green double pole resettable emergency egress device supplied with surface mount bow, fixing screws, reset/test key and installation leaflet
- 636.008.152.Y: Tyco branded green single pole resettable emergency egress device supplied with surface mount bow, fixing screws, reset/test key and installation leaflet
- 636.008.155.Y: Tyco branded green double pole resettable emergency egress device supplied with surface mount bow, fixing screws, reset/test key and installation leaflet
- MCP3A-G000SF-13: Green Call Points for Access Control Systems, single pole changeover contact in resettable operation mode. Indoor use, Ingress protection IP24D
- MCP4A-G000SF-13: Green Call Points for Access Control Systems, double pole changeover contact in resettable operation mode. Indoor use, Ingress protection IP24D
- 515.001.045: Test Keys for MSP and CP style call points
Hinged Cover

Fitting a transparent hinged cover to a call point provides additional protection from accidental operation. They are particularly useful in high traffic areas such as stairwells and corridors in schools and public buildings, where the volume of traffic can result in accidental operation of the call point causing nuisance alarms. HNGE-1

Features:
- Protection against accidental damage and extra security
- Fully compatible with all call points

Order Code:
515.001.128

Call point Hinged cover for use on MCP call points models
Door Status Monitoring

Features:
- Surface or Flush Options
- Brown or White finishes
- Choices for wooden or metal doors
- Standard or heavy duty options

There is a wide selection of door contacts available from Tyco Fire & Security product range – with many options in the intruder catalogue. For Access Control we have selected a range of surface and flush fitting contacts which should meet the needs of most access control systems.

Within this range we have also included a number of junction boxes which may be required for wiring inputs and outputs into the access control system – for monitoring ancillary points such fire exit doors, pedestrian gates, in addition to monitoring the access controlled door etc.

<table>
<thead>
<tr>
<th>Item</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium surface contact designed to work on large wooden or metal doors.</td>
<td>QST-GN</td>
</tr>
<tr>
<td>Medium surface contact designed to work on large wooden or metal doors. Available in brown only.</td>
<td>QST-BN-GN</td>
</tr>
<tr>
<td>A small white flush fitting contact designed to fit on wooden doors 5 x terminals.</td>
<td>QF-5</td>
</tr>
<tr>
<td>A small brown flush fitting contact designed to fit on wooden doors 5 x terminals.</td>
<td>QF-5-BN</td>
</tr>
</tbody>
</table>
Local Door Annunciators

With both standalone and PC based networked solutions there is always a need to provide local indication of unauthorised door status positioning. This means that there should be a local sounder to advise staff/users of door held and door forced events.

This means that local users will close the door or investigate what has happened and also stop would-be offenders leaving the door ajar.

Features:
- Available with or without visual indicators
- Choice of designs to suit the aesthetics of the site
- Range of Audible output levels to suit the environment

<table>
<thead>
<tr>
<th>Item</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Besson bandit 12 V Piezo siren. 108 db @ 1 metre</td>
<td>7067</td>
</tr>
<tr>
<td>Piezo Strobe This unit is an internal unit giving audible and visual indication when activated. The unit is particularly useful for use in conjunction with an Exitguard unit.</td>
<td>676.002.033</td>
</tr>
<tr>
<td>Soundguard Similar to the Piezostrobe but without the visual element. 102 dB output.</td>
<td>676.002.034</td>
</tr>
</tbody>
</table>
Cable and Power Supplies

This chapter contains information about Access Control Cable and Power Supplies:

- Cable
- Junction Boxes
- Power Supplies
- Batteries
Cable

A wide range of cables are required for the various systems supplied and supported by ADT here in Europe. Where cables are stocked these will be Belden equivalent cables - meeting the Belden specification for number of cores, core size and twist/screen etc.

You should only use the cable specified by the design authority for the access control system. Using any other cable may cause installation issues which could lead to replacement of the cabling at a later date to achieve a stable installation for the client.

Where possible we have worked with the design authority for our stock coded access products to have our stock coded cables approved to reduce system overall cost and improve cable supply.

Please note:
There is a difference between a LSF (Low Smoke and Fume) cable and a proper low smoke zero halogen cable (LSZH, LSNH or LS0H). LSF cables can give off a large amount of smoke and dangerous fumes (including hydrogen chloride gas) when burnt as they are made from a modified version of PVC.

Low Smoke Zero Halogen cables will not emit more than 0.5 percent of hydrogen chloride. When required due to standards or regulations or specified in requirement documentation, LSF should not be supplied.

For further advise or NSL quotations please contact our preferred partner:
Webro Cable and Connectors
Tel : +44 (0)115 9837207

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Reel size</th>
</tr>
</thead>
<tbody>
<tr>
<td>355008-WHT-100</td>
<td>8 way flex cable WHITE</td>
<td>100 m</td>
</tr>
<tr>
<td>355012-WHT-100</td>
<td>12 way flex cable WHITE</td>
<td>100 m</td>
</tr>
<tr>
<td>355006-BRN-100</td>
<td>6 way flex cable BROWN</td>
<td>100 m</td>
</tr>
<tr>
<td>355008-BRN-100</td>
<td>8 way flex cable BROWN</td>
<td>100 m</td>
</tr>
<tr>
<td>355012-BRN-100</td>
<td>12 way flex cable BROWN</td>
<td>100 m</td>
</tr>
<tr>
<td>355020-WHT-100</td>
<td>20 way flex cable WHITE</td>
<td>100 m</td>
</tr>
<tr>
<td>355030-WHT-100</td>
<td>30 way flex cable WHITE</td>
<td>100 m</td>
</tr>
<tr>
<td>355106LSF-WHT100</td>
<td>6 core Security Screened white LSF sheath cable</td>
<td>100 m</td>
</tr>
<tr>
<td>355108LSF-WHT100</td>
<td>8 core Security Screened white LSF sheath cable</td>
<td>100 m</td>
</tr>
<tr>
<td>520003-WHT-100</td>
<td>CW1308 3 pair cable WHITE (solid core telephone cable)</td>
<td>100 m</td>
</tr>
<tr>
<td>355008LSF-WHT100</td>
<td>8 core flex security white LSF sheath cable</td>
<td>100 m</td>
</tr>
<tr>
<td>Cat5E data cable - Unshielded Twisted Pair (UTP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>350401-GRY-100</td>
<td>Cat5e 4 pair UTP cable - grey sheath</td>
<td>100 m</td>
</tr>
<tr>
<td>610.001.042</td>
<td>Cat5e 4 pair UTP cable - Low Smoke Zero Halogen (LSOH) sheath</td>
<td>305 m</td>
</tr>
<tr>
<td>610.001.043</td>
<td>Cat5e 4 pair UTP cable - grey sheath</td>
<td>305 m</td>
</tr>
<tr>
<td>110401-WHT-UV-100</td>
<td>cat5e 4 Pair UPT cable suitable for external use (UV resistant)</td>
<td>100 m</td>
</tr>
</tbody>
</table>
### Cable

<table>
<thead>
<tr>
<th>Cat5 patch leads</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>610.001.040</td>
<td>0.5 metre RJ45 Cat5 Patch cable</td>
</tr>
<tr>
<td>374002</td>
<td>1 Metre Patch lead Cat5E, terminated with RJ45</td>
</tr>
<tr>
<td>374003</td>
<td>2 Metre Patch lead, Cat5E terminated with RJ45</td>
</tr>
<tr>
<td>610.001.041</td>
<td>3 Metre RJ45 CAT5 Patch cable</td>
</tr>
<tr>
<td>008-001-002-03</td>
<td>Single gang RJ45 locking plate (white painted metal)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Belden style/equivalent cable</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>428723-WHT-100</td>
<td>Belden 8723 equivalent 2 pair screened cable with white LSF sheath</td>
</tr>
<tr>
<td>428723-WHT-250</td>
<td>Belden 8723 equivalent 2 pair screened cable with white LSF sheath</td>
</tr>
<tr>
<td>428723-WHT-500</td>
<td>Belden 8723 equivalent 2 pair screened cable with white LSF sheath</td>
</tr>
<tr>
<td>479503-WHT-100</td>
<td>Belden 9503 equivalent 3 pair screened data cable with white LSF sheath</td>
</tr>
<tr>
<td>429504-WHT-100</td>
<td>Belden 9504 equivalent 4 pair screened data cable with white LSF sheath</td>
</tr>
<tr>
<td>429506-WHT-100</td>
<td>Belden 9506 equivalent 6 pair screened data cable with white LSF sheath</td>
</tr>
<tr>
<td>429536-WHT-100</td>
<td>Belden 9536 equivalent 6 core screened data cable with white LSF sheath</td>
</tr>
<tr>
<td>428442-WHT-250</td>
<td>Belden 8442 equivalent 1 pair screened data cable with white LSF sheath</td>
</tr>
<tr>
<td>428760-WHT-250</td>
<td>Belden 8760 equivalent 2 core screened data cable with white LSF sheath</td>
</tr>
<tr>
<td>429841-WHT-100</td>
<td>Belden 9841 equivalent 1 pair screened data cable with white LSF sheath</td>
</tr>
<tr>
<td>429842-WHT-100</td>
<td>Belden 8761 equivalent 2 pair screened data cable with white LSF sheath</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Twin core 1mm lock cable</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>350492-SLT-100</td>
<td>1 mm twin core cable with LSF sheath</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low voltage mains cable</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>320018-WHT-100</td>
<td>Mains flex - 3 cores 1.0 mm WT 3183</td>
</tr>
</tbody>
</table>
Webro Security Bracket

Features:
- Shallow design can be used with complact and standard depths faceplates
- Can be fitted retrospectively
- For use with all standard and Euro style modules

Security Bracket which provides a tamperproof solution to any standard data outlet. When used with tamperproof screws and unbooted leads, the bracket prevents the unauthorised and accidental removal of RJ45 plugs fitted in a single gang faceplate.

Order Code: 008-001-002-03
Single gang RJ45 locking plate (metal – painted white)

Technical Specifications:
- Width: 72.50 mm
- Depth: 6.20 mm
- Height: 30.00 mm
- Material: Mild Steel Sheet CR4 to BS EN 130-1999 DC01
- Finish: White gloss paint
Designed for use in security applications, these junction boxes are provided with a tamper connection which will open circuit whenever the lid is removed.

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elmdene 10 way Grade 3 White JB with Tamper - 8 way plus 2 terminals for Tamper</td>
<td>EN3-JB10</td>
</tr>
<tr>
<td>Elmdene 10 way Grade 3 brown JB with tamper - 8 way plus 2 terminals for Tamper</td>
<td>EN3-JB10-BN</td>
</tr>
<tr>
<td>Elmdene 9 way HD Grade 3 white JB with Tamper and Sealing Gasket - 7 way plus 2 terminals for tamper with environmental class 3 sealing gasket</td>
<td>EN3-JB9-HD</td>
</tr>
<tr>
<td>Elmdene 9 way grade 3 brown JB with tamper with sealing gasket. 7way plus 2 terminals for tamper with environment class 3 sealing gasket</td>
<td>EN3-JB9-HD-BN</td>
</tr>
<tr>
<td>Elmdene 24 way Grade 3 white JB with Tamper - 24 way plus 2 terminals for Tamper</td>
<td>EN3-JB26</td>
</tr>
</tbody>
</table>
Access Control Power Supply Solutions

The G Range BM Series of switch mode power supplies are ideal for access control applications that require mains and battery monitoring. The units have a regulated highly stable output supplying full rated current to load and a universal mains voltage input range (90 to 264 V ac).

These products use switch mode technology and are typically 80-87% efficient. This reduces power bills and carbon footprint. Switch mode technology also makes for more reliable products in the field due to running cooler compared to older linear types.

Available in a range capacities and fused outputs as detailed over leaf.

All provide the installer with volt-free fault outputs to allow signalling of mains failure, battery fault or PSU fault. Battery deep discharge protection is standard on all models protecting the battery from over discharge.

An optional ‘Fire’ relay is available for the 2 A, 4 A and 10 A models if required, allowing power to be removed from the output on an input trigger (voltage or NO/NC contact signal).

Features:
- 13.8 V DC output
- Available in 1 A, 2 A, 4 A and 10 A variants
- Multi-fused outputs provided
- Provides charging for a standby battery
- Designed with efficient switch mode technology
- Provides volt-free fault outputs to indicate:
  » Mains Failure
  » PSU Fault
  » Battery Fault
- Offers battery Deep Discharge Protection
- Enclosure front and rear tamper
- Universal mains input
- Mains and Fault LED indication
- Power supplies and their batteries (if equipped) are independent – gives increased reliability and redundancy
- Mains failure clean contact signaling
- Housed within white powder coated steel enclosures

Order Codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELM-G13801BM-A</td>
<td>13.8 V DC 1A Battery Monitored Switch Mode PSU</td>
</tr>
<tr>
<td>ELM-G13802BM-2-C</td>
<td>13.8 V DC 2 A (2 x 1A) Battery Monitored Switch Mode PSU</td>
</tr>
<tr>
<td>ELM-G13804BM-4-B</td>
<td>13.8 V DC 4 A (4 x 1 A) Battery Monitored Switch Mode PSU</td>
</tr>
<tr>
<td>ELM-G13810BM-8-R</td>
<td>13.8 V DC 10 A (8 x 1.25 A) Battery Monitored Switch Mode PSU</td>
</tr>
<tr>
<td>ELM-PSUIR-12</td>
<td>PSU ‘Fire’ relay 12 V</td>
</tr>
<tr>
<td>PS-1270</td>
<td>12 Volt DC, 7 Ah Battery, recharge-able sealed lead acid battery - VDS approved (supplied in box of 5)</td>
</tr>
<tr>
<td>PS-1242</td>
<td>12 Volt DC, 4.5 Ah Battery, recharge-able sealed lead acid battery</td>
</tr>
<tr>
<td>PS-12170</td>
<td>12 Volt DC, 17 Ah battery, recharge-able sealed lead acid battery</td>
</tr>
</tbody>
</table>
**Technical Specifications:**

<table>
<thead>
<tr>
<th></th>
<th>ELM-G13801BM-A</th>
<th>ELM-G13802BM-2-C</th>
<th>ELM-G13804BM-4-B</th>
<th>ELM-G138010BM-8-R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output Voltage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output Current</strong></td>
<td>1 A</td>
<td>2 A</td>
<td>4 A</td>
<td>10 A</td>
</tr>
<tr>
<td><strong>Enclosure Size</strong></td>
<td>200 x 230 x 80</td>
<td>275 x 330 x 80</td>
<td>330 x 355 x 80</td>
<td>410 x 390 x 80</td>
</tr>
<tr>
<td>(mm) HxWxD</td>
<td>Hinged Lid</td>
<td>Hinged Lid</td>
<td>Hinged Lid</td>
<td>Hinged Lid</td>
</tr>
<tr>
<td><strong>Fused Outputs</strong></td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>1 x 1 A</td>
<td>2 x 1 A</td>
<td>4 x 1 A</td>
<td>8 x 1.25 A</td>
</tr>
<tr>
<td><strong>Maximum Battery</strong></td>
<td>12 V 7 Ah</td>
<td>12 V 17 Ah</td>
<td>12 V 17 Ah</td>
<td>2 x 12 V 17 Ah</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>2 kg</td>
<td>3.3 kg</td>
<td>3.7 kg</td>
<td>4.9 kg</td>
</tr>
</tbody>
</table>

Tyco Security Product provide a wide range of batteries for all security applications. The details below cover the main items used within our range of intelligent access controllers and separate power supplies.

<table>
<thead>
<tr>
<th></th>
<th>ELM-G13801BM-A</th>
<th>ELM-G13802BM-2-C</th>
<th>ELM-G13804BM-4-B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nominal Voltage</strong></td>
<td>12V</td>
<td>12V</td>
<td>12V</td>
</tr>
<tr>
<td><strong>Nominal Capacity C20 (Ah)</strong></td>
<td>4.5</td>
<td>7.0</td>
<td>17.0</td>
</tr>
<tr>
<td><strong>Size (mm) L x W x H</strong></td>
<td>90 x 70 x 101</td>
<td>151 x 65 x 94</td>
<td>181 x 77 x 165</td>
</tr>
<tr>
<td><strong>Terminal Type</strong></td>
<td>Standard spade</td>
<td>Standard spade</td>
<td>M5 stud</td>
</tr>
</tbody>
</table>
Batteries

We stock in our Distribution Centres a wide range of batteries for all security applications. The details below cover the main items used within our range of intelligent access controllers and separate power supplies.

Order Codes:

PS-1270 12 Volt DC, 7 Ah Battery, Power-Sonic Europe Ltd. PS-1270 - 12 Volt 7.0 ampere hour recharge-able sealed lead acid battery - VDS approved (supplied in box of 5)

PS-1242 12 Volt dc 4.5 Ah (Ampere hour) rechargeable sealed lead acid battery (for use with apC/L – requires cable 0650-1298-01 not included) 12 Volt dc 17 Ah (Ampere hour) rechargeable sealed lead acid battery

PS-12170

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal Voltage</th>
<th>Nominal Capacity C20 (Ah)</th>
<th>APPROX. DIMENSIONS (MM) Please refer to individual data sheets for full information</th>
<th>Terminal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS-1242</td>
<td>12</td>
<td>4.5</td>
<td>L 90 W 70 H 101 TH 107</td>
<td>Standard spade</td>
</tr>
<tr>
<td>PS-1270</td>
<td>12</td>
<td>7.0</td>
<td>L 151 W 65 H 94 TH 100</td>
<td>Standard spade</td>
</tr>
<tr>
<td>PS-12170</td>
<td>12</td>
<td>17</td>
<td>L 181 W 77 H 165 TH 165</td>
<td>M5 stud</td>
</tr>
</tbody>
</table>
Card Bureau Services

This chapter contains information about the Card Bureau Services:

• Introduction
• Card Bureau
Card Bureau

Databac now offers a complete bureau service on behalf of Tyco Safety Products for those end users who do not wish to purchase a complete photo ID system. They offer personalisation services via their in-house bureau. The bureau utilises the latest in image capture, compression and card printing technologies, in order to provide the best possible service in terms of turnaround times, competitive pricing and quality of product. Using their own Dataimage photo ID software which combines images and data. PLEASE NOTE that no data is stored by either ADT, Tyco or Databac. Once the print project is completed to the end users satisfaction the details of encoded IDs/number ranges and formats are recorded by the Letchworth bureau but all user data and images are deleted from the system. Only the end users approved card layout template is retained for future orders.

Specific part codes have been created for legacy SGA mag stripe card supply and for print services on either stock coded proximity cards or third party cards supplied by the end user. Arrangements have been made with Databac for the stock coded HID iCLASS cards in preferred format H10302 and for the ioProx P20DYE to be held in their Kingston premises to reduce lead times. All other card formats must allow lead times for card supply including completion of the suppliers How To Order Guide if required.

How it works
Step 1 - card design
Step 2 - photo and data capture
Step 3 - printing and encoding

Step 1 - card design
The first part of service is to design the card. Databac follow the end users design specifications or they could choose from a library of pre-configured templates. There is a once-only charge for each card design. A PDF proof will be provided for approval. Artwork can be supplied in electronic format and as full-size colour-separated artwork, bromides and film. It is possible to scan in logos and other graphics from letterheads and compliment slips, but the better the quality the better the printed image. Artwork can be accepted in PC and Mac format on CD or USB memory stick. We accept files created in Quark XPress, Illustrator, Photoshop, InDesign and CorelDRAW, as well as PDF, BMP, TIF, PCX, JPG and others (please enquire).

Artwork should have a minimum resolution of 300dpi and must be accompanied by a colour printout or PDF.

Step 2 - photo and data capture
Photos, data and other information are sent to the bureau service centre via email, secure courier, post or other method. Data can also be sent using PKI service (data is encrypted using a 128 bit key) or via a secure Virtual Private Network.

Where data exists in multiple formats and in varying levels of quality, the bureau can offer a database management service. In this case creating an ID database for the end user, bringing together photos and data from varying sources. Our team cleans up the photos, conducts rigorous quality control of the data and creates accurate records for a clean, ready-to-print database.

Step 3 - printing and encoding
Cards can be printed in single or full colour, on one or both sides. We deploy the latest in high-definition image re-transfer card printing equipment for superb quality and speed. Cards are produced with photographic quality, providing vivid colours and sharp detail. The bureau team is skilled at colour matching corporate logos and other graphics.

For that distinctive look, your end user can request special services which Databac can provide NSL. These include printing in metallic colours on the card, providing cards with Signature or scratch-off panels included and information can be embossed. Applying a tough layer of polyester over the card will protect the graphics from being scratched. For additional security, we can include:

- Holographic overlay
- Hot-stamp hologram
- UV printing
- Other covert methods

Tyco Letcorth will be central to this process, maintaining records of the cards supplied to the end user and details of card design approvals etc. All correspondence from ADT should still be direct with the card bureau on 01462 667715.

Artwork can be accepted in PC and Mac format on CD or USB memory stick. We accept files created in Quark XPress, Illustrator, Photoshop, InDesign and CorelDRAW, as well as PDF, BMP, TIF, PCX, JPG and others (please enquire). Artwork should have a minimum resolution of 300dpi and must be accompanied by a colour printout or PDF.
New Card Bureau Service for ADT UK & Ireland

Order Codes:

<table>
<thead>
<tr>
<th>Set up charges</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DG-ADT-SETUP1</td>
<td>Set up cost for single sided Photo ID card. PDF of design will be emailed to Tyco Bureau and must be signed off by the customer before any print services will be provided. Up to 5 sample cards to be included in this cost - allowing for end user changes to design. These will only be supplied on request and not as standard.</td>
</tr>
<tr>
<td>DG-ADT-SETUP2</td>
<td>Set up cost for double sided print design - Photo ID front and text reverse. PDF of design will be emailed to Tyco Bureau and must be signed off by the customer before any print services will be provided. Up to 5 sample cards to be included in this cost - allowing for end user changes to design. These will only be supplied on request and not as standard.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Printing ISO prox cards - supplied by others</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DG-ADT-ISO30F</td>
<td>ISO 30 proximity card (by others) with printing by Card Bureau on the front of the card - up to three colours NO PHOTO. Sales must allow for the supply of the prox card in addition to this charge or the end user must free issue.</td>
</tr>
<tr>
<td>DG-ADT-ISO30FP</td>
<td>ISO 30 proximity card (by others) with printing by Card Bureau on the front of the card - with Photo ID. Artwork and photos to be supplied by the customer. Sales must allow for the supply of the prox card in addition to this charge or the end user must free issue.</td>
</tr>
<tr>
<td>DG-ADT-ISO30FR</td>
<td>ISO 30 prox card (supplied by others) with printing by Card Bureau on the front of the card - up to three colours NO PHOTO. A single colour print on the reverse of the card (return address). Sales must allow for the supply of the prox card in addition to this charge or the end user must free issue.</td>
</tr>
<tr>
<td>DG-ADT-ISO30FRP</td>
<td>ISO 30 prox card (supplied by others) with photo ID printing by Card Bureau on the front of the card. Customer to provide artwork and photos. A single colour print on the reverse of the card (return address). Sales must allow for the supply of the prox card in addition to this charge or the end user must free issue.</td>
</tr>
<tr>
<td>DG-ADT-ISO30R</td>
<td>ISO 30 prox card (supplied by others) with a single colour print on the reverse of the card (return address). Sales must allow for the supply of the prox card in addition to this charge or the end user must free issue.</td>
</tr>
</tbody>
</table>
New Card Bureau Service for ADT UK & Ireland

Order Codes:

<table>
<thead>
<tr>
<th><strong>Legacy unencoded mag Stripe Cards</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DG-ADT-MAGF</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-MAGFP</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-MAGFR1C</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-MAGFR3C</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-MAGFRP</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Legacy SGA encoded mag Stripe Cards</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DG-ADT-SITE</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-SITEF</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-SITEFP</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-SITEFR</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-SITEFRP</strong></td>
</tr>
<tr>
<td><strong>DG-ADT-SITER</strong></td>
</tr>
</tbody>
</table>
This chapter contains information about Access Control ID Printers:

- Introduction
- FARGO DTC1250e
- FARGO DTC4500
- Card Accessories
ID Card Production - Enhancement to your access control system. Having supplied an access control system to an end user, they may now wish to consider taking advantage of the ID software available for all of the Tyco range of access control solutions. This will allow you to print cards via software loaded onto their PC and enable them to locally manage an ID system for a site or office.

Each ID production system would include badging software & a card printer. They may already have staff photographs on a web site or have a digital camera to ‘grab’ the images.

The ID printer can be connected to the access control PC and will allow them to produce cards for staff, temporary staff & visiting contractors. As well as cards which should be worn by authorised visitors etc.

Access control allows a customer to manage who goes where and when - ID badging allows staff to identify anyone on site who is not authorised.

Features:
- Enhance access control by recognising unauthorised people in secure areas
- Produce cards on-site. New starters have their ID on the same day
- Store images on the access control database for out of hours verification
- Produce visitor & contractor passes
- Store images on the access control database for out of hours verification
- Produce visitor & contractor passes which can be made active and inactive on your access system
- Personalise your access cards for company/club logo or slogan
FARGO® DTC1250e

Features:

- A dual-sided printing module that enables you to add additional company or cardholder information as needed.
- A Wi-Fi accessory for Ethernet enabled printers, allowing you to print anywhere, anytime.
- An optional iCLASS SE® encoder that enables your printer to be compatible with the HID secure identity ecosystem. This includes the ability to program the HID PACS data in the printer. The encoder provides an additional layer of security to your identity program by allowing for processing of Secure Identity Object (SIO) data, and enabling the printer to become a Trusted Identity Platform (TIP) endpoint.
- Optional internal server for secure printing over a network, enabling distributed card issuance in seconds.
- Optional technology card encoders that allow you to easily migrate to contact and contactless smart card technologies (including but not limited to iCLASS SE® or MIFARE®) or simple mag stripe and prox cards as needed.
- Eco-friendly erase and rewrite feature, ideal for creating temporary ID cards, such as visitor badges.
- Ability to print on a variety of card thicknesses to create simple loyalty cards as thin as 9 mm, or access control badges as thick as 40 mm.

Order Codes:

- **ADT-SSID-1250**
  - ADT kit in S&I & Evolve. Includes DTC1250e single sided ID printer with USB and Ethernet connectivity plus YMCKO cartridge with cleaning roller for up to 250 images

- **FAR050020**
  - DTC1250e Single Sided ID Printer with USB and Ethernet connectivity

- **FAR050120**
  - DTC1250e Double sided ID printer with USB and Ethernet connectivity

- **FAR45000**
  - YMCKO Cartridge with Cleaning roller for up to 250 images
### Technical Specifications:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print Method</strong></td>
<td>Dye-sublimation / resin thermal transfer</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>300 dpi (11.8 dots/mm) continuous tone</td>
</tr>
<tr>
<td><strong>Colours</strong></td>
<td>Up to 16.7 million / 256 shades per pixel</td>
</tr>
<tr>
<td><strong>Print Ribbon Options</strong></td>
<td>Full-colour with resin black and overlay panel, YMCKO*; 250 prints&lt;br&gt;Resin black (standard), 1000 prints ECO only:&lt;br&gt;Full-colour half-panel with resin black and overlay panel, YMCKO*; 350 prints EZ only:&lt;br&gt;Full-colour with two resin black panels and overlay panel, YMCKOK*; 200 prints&lt;br&gt;Resin black and overlay panel, KO*; 500 prints&lt;br&gt;Resin black (premium), 1000 prints&lt;br&gt;Dye-sublimation black and overlay panel, BO*; 500 prints&lt;br&gt;Resin green, blue, red, white, silver, gold, 1000 prints&lt;br&gt;Silver and gold metallic, 500 prints&lt;br&gt;Rewrite technology - no ribbon is required</td>
</tr>
<tr>
<td><strong>Print Speed</strong></td>
<td>6 seconds per card (K*); 8 seconds per card (KO*); 16 seconds per card (YMCKO*); 24 seconds per card (YMCKOK*)</td>
</tr>
<tr>
<td><strong>Accepted Standard Card Sizes</strong></td>
<td>CR-80 (85.6 mm L x 54 mm W); CR-79 adhesive back (84.1 mm L x 52.4 mm W)</td>
</tr>
<tr>
<td><strong>Print Area</strong></td>
<td>CR-80 edge-to-edge (85.3 mm L x 53.7 mm W); CR-79 (83.8 mm L x 51.8 mm W)</td>
</tr>
<tr>
<td><strong>Accepted Card Thickness</strong></td>
<td>.009” - .040” / 9 mil - 40 mil / .229 mm - 1.016 mm</td>
</tr>
<tr>
<td><strong>Accepted Card Types</strong></td>
<td>PVC or polyester cards with polished PVC finish; monochrome resin required for 100% polyester cards; optical memory cards with PVC finish; rewrite</td>
</tr>
<tr>
<td><strong>Input Hopper Card Capacity</strong></td>
<td>100 cards (.030” / .762 mm)</td>
</tr>
<tr>
<td><strong>Output Hopper Card Capacity</strong></td>
<td>Up to 30 cards (.030” / .762 mm)</td>
</tr>
<tr>
<td><strong>Card Cleaning</strong></td>
<td>Card cleaning roller integrated into ribbon cartridge; cleaning roller is automatically replaced with each ribbon change</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>32 MB RAM</td>
</tr>
<tr>
<td><strong>Software Drivers</strong></td>
<td>Windows® XP / Vista™ (32 bit &amp; 64 bit) / Server 2003 &amp; 2008 / Windows® 7 / Windows® 8 (32 bit &amp; 64 bit) / MAC OS X 10.5/10.6/10.7/10.8 / Linux***</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>USB 2.0, optional Ethernet with internal print server</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>18° to 27°C</td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>20–80% non-condensing</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>Single-sided printer: 224 mm H x 348 mm W x 201 mm D&lt;br&gt;Dual-sided printer: 249 mm H x 475 mm W x 234 mm D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Single-sided: 3.4 Kg; dual-sided: 4.54 Kg</td>
</tr>
<tr>
<td><strong>Agency Listings</strong></td>
<td>Safety: UL 60950-2, CSA C22.2 (60950-07), and CE; EMC: FCC Class A, CE (EN 55022 Class A, EN 55024), CCC, BSMI, KC</td>
</tr>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>100-240Vac, 50-60Hz, 1.6 Amps max.</td>
</tr>
<tr>
<td><strong>Encoding Options</strong></td>
<td>Supported smart card and magnetic stripe technologies: 125 kHz (HID Prox) reader; 13.56 MHz iCLASS® Standard / SE / SR / Seos, MIFARE Classic®, MIFARE Plus®, MIFARE DESFire®, MIFARE DESFire® EV1, ISO 14443 A/B, ISO 15693 I read/write encoder; contact smart card encoder reads from and writes to all ISO7816 1/2/3/4 memory and microprocessor smart cards (T=0, T=1) as well as synchronous cards; ISO magnetic stripe encoding, dual high- and low-coercivity, tracks 1, 2 and 3</td>
</tr>
</tbody>
</table>
## Access Control ID Printers

### ID Badging Solutions

<table>
<thead>
<tr>
<th>Supported Access Control Credential Programming</th>
<th>iCLASS® Standard/SE/SR/Seos, MIFARE Classic™, MIFARE DESFire® EV1, HID Prox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>Single wire Ethernet and USB 2.0 interface for inline printing and encoding (note: single wire Ethernet encoding is only available for iCLASS®, MIFARE®, and contact smart card encoding) - Ethernet-enabled printer supports wireless accessory; dual-sided printing module; smart card encoding modules (contact/contactless); magnetic stripe encoding module; printer cleaning kit; ethernet with internal print server; secure proprietary consumables system</td>
</tr>
<tr>
<td>Display</td>
<td>Colour changing status buttons</td>
</tr>
</tbody>
</table>

* Indicates the ribbon type and the number of ribbon panels printed where Y=yellow, M=magenta, C=cyan, K=resin black, O=overlay, B=dye sublimation black.

** Print speed indicates an approximate print speed and is measured from the time a card drops into the output hopper to the time the next card drops into the output hopper. Print speeds do not include encoding time or the time needed for the PC to process the image. Process time is dependent on the size of the file, the CPU, amount of RAM and the amount of available resources at the time of the print.

***Linux versions: Ubuntu 12.04, Debian 7.0, Fedora 18, Mandriva 2011, Red Hat 6.4, Open Suse 12.3
The versatility of the DTC4500 is unsurpassed. Empowered by an extremely robust and highly-reliable print engine, this high-volume printer delivers speed, power and versatility rolled into one. High-capacity ribbons enable the DTC4500 to print twice as many full-colour cards as most printers before the ribbon has to be changed, providing continuous high-quality card printing and encoding.

**The DTC4500 combines high security and convenience to easily print what you need, including:**

Built-in security with passwordprotected printer operation and fluorescent panel printing for a costeffective and dynamic increase in card security. SmartScreen™ graphical display provides easy-to-follow prompts so you’ll always know printer status. Standard dual-input card hopper for increased capacity or management of multiple card types. Easy integration into existing IT infrastructures through the built-in Ethernet and USB connection, allowing for centralized or remote ID card issuance. Included FARGO Workbench diagnostic utility facilitates printer maintenance. Its Colour Assist tool matches spot colours, ensuring accurate prints of graphics such as company logos.

Industry’s first inline card printing and technology card encoding with one connection using USB or Ethernet mconnectivity.

Fully compatible with Asure ID® card personalization software for badge design, database management and technology card encoding.

The FARGO® DTC4500 is built with Genuine HID™ technology and is fully interoperable with other products in the HID ecosystem, enabling organizations to leverage their existing HID technology investments.

**The DTC4500 offers field-upgradeable options for migration to higher levels of security in the future:**

Optional card lamination for applying overlaminates to produce high-secure cards that resist forgery and increase card durability; and unique, dual-sided simultaneous lamination to save time with increased throughput.

Dual-sided printing module provides more space for cardholder information and security features like duplicate photo and digital-signature. Technology encoding modules encode data for magnetic stripe, proximity, contact (factory upgrade) and/or contactless technology cards, such as iCLASS®, for access control or other applications.
**Technical Specifications:**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print Method</strong></td>
<td>Dye-Sublimation / Resin Thermal Transfer</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>300 dpi (11.8 dots/mm) continuous tone</td>
</tr>
<tr>
<td><strong>Colours</strong></td>
<td>Up to 16.7 million / 256 shades per pixel</td>
</tr>
<tr>
<td><strong>Print Ribbon Options</strong></td>
<td>Full-colour with resin black and overlay panel, YMCKO*, 500 prints</td>
</tr>
<tr>
<td></td>
<td>Full-colour half-panel with resin black and overlay panel, YMCKO*, 850 prints</td>
</tr>
<tr>
<td></td>
<td>Full-colour with two resin black panels and overlay panel, YMCKOK*, 500 prints</td>
</tr>
<tr>
<td></td>
<td>Full-colour with fluorescing, resin black and overlay panel, YMCFK*, 500 prints</td>
</tr>
<tr>
<td></td>
<td>Full-colour with fluorescing, two black resin panels and overlay panel, YMCFKOK*, 400 prints</td>
</tr>
<tr>
<td></td>
<td>Full-colour with two resin black panels and overlay panel, YMCKOK*, 500 prints</td>
</tr>
<tr>
<td></td>
<td>Resin black and overlay panel, KO*, 1250 prints</td>
</tr>
<tr>
<td></td>
<td>Dye-sublimation black and overlay panel, SO*, 1250 prints</td>
</tr>
<tr>
<td></td>
<td>Resin green, blue, red, white, silver and gold, 2000 prints</td>
</tr>
<tr>
<td><strong>Print Speed</strong></td>
<td>7 seconds per card (K*); 12 seconds per card (KO*); 24 seconds per card (YMCKO*)</td>
</tr>
<tr>
<td><strong>Accepted Standard Card Sizes</strong></td>
<td>CR-80 (3.375” L x 2.125” W / 85.6 mm L x 54 mm W); CR-79 Adhesive Back (3.313” L x 2.063” W / 84.1 mm L x 52.4 mm W)</td>
</tr>
<tr>
<td><strong>Print Area</strong></td>
<td>CR-80 edge-to-edge (3.36” L x 2.11v W / 85.3 mm L x 53.7 mm W); CR-79 (3.3” L x 2.04” W / 83.8 mm L x 51.8 mm W)</td>
</tr>
<tr>
<td><strong>Accepted Card Thickness</strong></td>
<td>Print Only: .009” - .040” / 9 mil - 40 mil / .229 mm - 1.016 mm; Print/Lamination: .030” - .040” / 30 mil - 40 mil / .762 mm - 1.02 mm</td>
</tr>
<tr>
<td><strong>Accepted Card Types</strong></td>
<td>PVC or polyester cards with polished PVC finish; monochrome resin required for 100% polyester cards; optical memory cards with PVC finish; rewrite</td>
</tr>
<tr>
<td><strong>Input Hopper Card Capacity</strong></td>
<td>Dual-Input Card Hopper (200 cards)</td>
</tr>
<tr>
<td><strong>Output Hopper Card Capacity</strong></td>
<td>Up to 100 cards (.030” / .762 mm)</td>
</tr>
<tr>
<td><strong>Reject Hopper Card Capacity</strong></td>
<td>Up to 100 cards (.030” / .762 mm) - same-side input/output card hopper or lamination module required</td>
</tr>
<tr>
<td><strong>Card Cleaning</strong></td>
<td>Card cleaning roller integrated into ribbon cartridge; cleaning roller is automatically replaced with each ribbon change</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>32 MB RAM</td>
</tr>
<tr>
<td><strong>Software Drivers</strong></td>
<td>Windows® XP / Vista™ (32 bit &amp; 64 bit) / Server 2003 &amp; 2008 / Windows® 7 / MAC OS X 10.5/10.6 / Linux***</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>USB 2.0 and Ethernet with internal print server</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>65° to 80° F / 18° to 27° C</td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>20–60% non-condensing</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>Single-Sided Printer: 9.8” H x 18.1” W x 9.2” D / 249 mm H x 460 mm W x 234 mm D</td>
</tr>
<tr>
<td></td>
<td>Dual-Sided Printer: 9.8” H x 18.7” W x 9.2” D / 249 mm H x 475 mm W x 234 mm D</td>
</tr>
<tr>
<td></td>
<td>Printer + Lam: 18.9” H x 18.7” W x 9.2” D / 480 mm H x 475 mm W x 234 mm D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Single-Sided Printer: 9lbs / 4.1 Kg; Dual-Sided Printer: 11lbs / 5 Kg; Printer + Lam: 20 lbs / 9.1 Kg</td>
</tr>
<tr>
<td><strong>Agency Listings</strong></td>
<td>Safety: UL 60950-1, CSA C22.2 (60950-1), and CE; EMC: FCC Class A, CE (EN 55022 Class A, EN 55024), CCC, BSMI, KC</td>
</tr>
</tbody>
</table>
Environmental Features | All configurations without a lamination module are ENERGY STAR® qualified printers
Supply Voltage | 100-240Vac, 50-60Hz, 1.6 Amps max.
Supply Frequency | 50 Hz / 60 Hz
Warranty | Printer – Two years; Printhead – Two years, unlimited pass with UltraCard™
Encoding Options | 125 kHz (HID Prox) reader; 13.56 MHz (iCLASS®, MIFARE®, ISO 14443 A/B, ISO 15693) read/write encoder; Contact Smart Card Encoder reads from and writes to all ISO7816 1/2/3/4 memory and microprocessor smart cards (T=0, T=1) as well as synchronous cards; ISO Magnetic Stripe Encoding, dual high- and low-coercivity, Tracks 1, 2 and 3
Options | Single Wire Ethernet and USB 2.0 interface for inline printing and encoding (note: single wire Ethernet encoding is only available for iCLASS® and contact smart card encoding); Dual-Sided Printing Module - Upgradeable; Same-Side Input/Output Card Hopper - Upgradeable; Contactless Smart Card Encoding - Upgradeable; Contact Smart Card Encoding - Factory Upgrade; Magnetic Stripe Encoding - Upgradeable; Printer Cleaning Kit; Single- or dual-sided simultaneous lamination - Upgradeable; Secure Proprietary Consumables System
Display | User friendly, SmartScreen™ graphical display
Printer Security | Printer access password protected

* Indicates the ribbon type and the number of ribbon panels printed where Y=Yellow, M=Magenta, C=Cyan, K=Resin Black, O=Overlay, B=Dye Sublimation Black.
** Print speed indicates an approximate print speed and is measured from the time a card drops into the output hopper to the time the next card drops into the output hopper. Print speeds do not include encoding time or the time needed for the PC to process the image. Process time is dependent on the size of the file, the CPU, amount of RAM and the amount of available resources at the time of the print.
***Linux versions: Ubuntu 8.04/9.04, Red Hat 5, Fedora 7/8/9/10/11, Open Suse 10.3, Debian 5.03/5.04, Mandiva one 2009

Order Codes:

**DTC4500 ADT-SS-USBIP-KIT4500**
- ADT kit in S&I & Evolve.
- Includes DTC4500 FAR49000 ID printer (USB & Ethernet), colour print cartridge (up to 500 prints) and a cleaning kit.

**FAR49000**
- DTC4500 Single-Sided Base Model printer, USB and Ethernet Printer with Three Year Printer Warranty, for card Sizes CR-80, CR-79 Adhesive Back

**FAR49100**
- DTC4500 Dual-Sided Base Model printer, USB and Ethernet Printer with Three Year Printer Warranty, for card Sizes CR-80, CR-79 Adhesive Back

**FAR45200**
- YMCKOK: Full-colour ribbon with clear overlay panel – 500 images

**FAR45210**
- YMCKOK: Full-colour ribbon with two resin black panels and clear overlay panel – 500 images

**FAR86177**
- Cleaning kit for DTC range. Includes 4 cleaning swabs and 4 cleaning cards.

* The double sided DTC45000 printer is not stocked and would be subject to delivery lead time.
Card Accessories

Please remember that having increased security on site and providing a corporate image for their business by adding Logo, ID cardholder details etc. The end user will wish to securely display their photo ID cards in an effort to further increase the life expectancy of the card. We stock a wide range of card accessories for this purpose and can provide customised solutions via our preferred partners if required.

Order Codes:

- **CRO180**: Plain white CR80 cards. Order in multiples of 100
- **CRO185**: Plain white CR80 cards c/w mag. Order in multiples of 100
- **IDP-64-BK**: Open fronted single card holder. Order in multiples of 50
- **IDP-64-DS-BK**: Open fronted double card holder. Order in multiples of 100
- **IDS-68**: Enclosed landscape card holder. Order in multiples of 100
- **LAN-BW-BK**: Lanyard with nylon clip-BLK. Order in multiples of 50
- **LAN-CONT-BL**: Lanyard for Contractor - Blue. Order in multiples of 100
- **LAN-STAFF-GR**: Lanyard for STAFF - GREY.. Order in multiples of 100
- **LAN-VISITOR-R**: Lanyard for Visitor - RED.. Order in multiples of 100
- **RSCA**: Card clip - nylon strap metal.. Order in multiples of 100
- **RSCC**: Croc Clip with nylon strap. Order in multiples of 100
- **RW-CARD-CR0180**: Re-write ID cards. Order in multiples of 100
- **VPA**: Landscape vinyl pouch. Order in multiples of 100
- **YOYO-5-BK-STP**: Mini yoyo card strap. Order in multiples of 100
- **LBC-500**: Lockable badge container
Pre Sales and Technical Support

This chapter contains information about Access Control
Pre Sales and Technical Support

• Introduction
• Pre Sales
• Technical Support
Pre Sales and Technical Support Introduction

Pre & Post Sales Support
When selecting a supplier for the Tyco EMEA vendor list, we have to consider not only the products available from that supplier, their pricing and product availability, but also their pre sales and post sales (technical) support.

Our range of solutions for access control range covers standalone to integrated solutions with the capability for full system redundancy. Having taken the suppliers training, our engineers are not constantly working with these product ranges and will from time to time require assistance from a second or third level team.

Our product selection therefore takes into account if the supplier is simply a distributor who can stock product and sell it on, or if they are able to provide pre sales support such as system design, marketing and presentation materials and maybe presentation support at road shows to end users for specific projects. We also require the necessary level of technical support – for product training if required and for telephone support to our onsite engineers and visits if required.

Tyco Security Products are the main supplier of our access control range. As a Tyco group company, they are the preferred partner when their product meets our market needs. Where they are unable to provide the necessary products for a specific market sector or to complete our product portfolio, we have selected items from preferred Global or European partners who can meet our requirements.
Tyco Security Products Pre Sales UK

Pre Sales and Technical Support

Tyco Security Products Pre Sales UK

![ADT Support Organisation Team]

Regional Manager AD T Pre-Sale Support
Pete Hutchinson
phutchinson@tycoint.com
07703 338439

Branches: ADT Ireland, Leeds, East Midlands, Birmingham, Hemel, Sunbury, City, Norwich, Romford, Maidstone and UK National Accounts

Responsible for the relationship with all new and existing global end users and works closely with the ADT Global/Strategic Accounts Team.

National – ADT Business Development Manager
Tom Rockliff
trockliff@tycoint.com
07715 762424

Responsible for developing the working relationship between Tyco Security Products and ADT in the UK & Ireland. Consulting with ADT to identify areas support can be enhanced and implementation of improvements. Co-ordinating support to Sales teams from the Regional Managers and Applications Engineers.

EMEA Global Account Manager
Mark Avison
mavison@tycoint.com
07894 844086

Mark is responsible for the relationship with all new and existing global end users and works closely with the ADT Global/Strategic Accounts Team.

Regional Manager ADT Pre-Sale Support
Steve Harrison
stharrison@tycoint.com
07894 844287

Branches: ADT Scotland, Newcastle, Manchester, Liverpool, Bristol, Cardiff, Portsmouth, Plymouth

Responsible for day to day support to the ADT branch network as well as equipment demonstrations and technical pre-sale enquiries.

National – IP Security Specialist
Phil Hutton
phhutton@tycoint.com
07803 077087

Phil Hutton is responsible for new business opportunities via End Users and Consultants as well as having input into larger complex Integrated and IP Systems.
Pre Sales and Technical Support

Tyco Security Products Pre Sales UK

Applications Engineer
Mick Coleman
mscoleman@tycoint.com
07703 338885

David is responsible for pre-sale technical support to the ADT branch network.

Applications Engineer
Development Manager
David Harrison-Brown
dharrison-brown@tycoint.com
07720 271040

David is responsible for pre-sale technical support to the ADT branch network.

Senior Applications Engineer UK
Chris Cooper
chcooper@tycoint.com
07703 338959

Chris is responsible for pre-sale technical support to the ADT branch network.

Training
Stuart Bettle
stbettle@tycoint.com
07715 546128

Stuart is responsible for all product sales and system design training in the UK.

Technical Sales Trainer
Craig Cairley
ocairley@tycoint.com
07972 858705

Based at our Heathrow Offices, Craig provides demonstrations of Security Products’ access control and video ranges of equipment at our Heathrow Showroom.

Post Sales Tech Support
Three Easy Steps......
1. Call Echt Technical Support on: 00800 22 55 89 26
2. Talk through issue with Technical Support team
3. Obtain case number
# European Pre Sales

For Pre Sales Support outside of the UK

### Germany / Austria / Switzerland

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eli Williams</td>
<td>Sales Director</td>
<td><a href="mailto:eliwilliams@tycoint.com">eliwilliams@tycoint.com</a></td>
</tr>
<tr>
<td>Kester Peter Brands</td>
<td>Regional Manager - ACVS</td>
<td><a href="mailto:kesterbrands@tycoint.com">kesterbrands@tycoint.com</a></td>
</tr>
<tr>
<td>Andreas Kobow</td>
<td>Applications Engineer - ACVS</td>
<td><a href="mailto:akobow@tycoint.com">akobow@tycoint.com</a></td>
</tr>
</tbody>
</table>

### Belgium / Netherlands

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Eli Williams</td>
<td>Sales Director</td>
<td><a href="mailto:dcaigli@tycoint.com">dcaigli@tycoint.com</a></td>
</tr>
<tr>
<td>Domenico Caviglia</td>
<td>Regional Sales Manager - ACVS / Intrusion</td>
<td><a href="mailto:alfrancoi@tycoint.com">alfrancoi@tycoint.com</a></td>
</tr>
<tr>
<td>Alano Franconeri</td>
<td>Applications Engineer - ACVS</td>
<td></td>
</tr>
</tbody>
</table>

### Spain / Portugal

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel Vazquez</td>
<td>Sales Director</td>
<td><a href="mailto:angelvazquez@tycoint.com">angelvazquez@tycoint.com</a></td>
</tr>
<tr>
<td>Jorge Sanz</td>
<td>Regional Manager - ACVS / Intrusion</td>
<td><a href="mailto:jsanz@tycoint.com">jsanz@tycoint.com</a></td>
</tr>
<tr>
<td>Enrique Garcia</td>
<td>Applications Engineer - ACVS</td>
<td><a href="mailto:enrgarcia@tycoint.com">enrgarcia@tycoint.com</a></td>
</tr>
</tbody>
</table>

### Italy

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel Vazquez</td>
<td>Sales Director</td>
<td><a href="mailto:angelvazquez@tycoint.com">angelvazquez@tycoint.com</a></td>
</tr>
<tr>
<td>Valentino Gardini</td>
<td>Regional Sales Manager - ACVS</td>
<td><a href="mailto:vgardini@tycoint.com">vgardini@tycoint.com</a></td>
</tr>
</tbody>
</table>
Pre Sales and Technical Support

Tyco Security Products EMEA Technical Support

EMEA Technical Services - Post Sales Support

Features:
- Local support in our time zone
- Post sales experience in 6+ languages for the approved product ranges
- Software Registration for C.Cure
- SSA quotations for C.Cure
- Testing of third party devices for integration with approved ranges

The Echt Post sales technical support group provide a wide range of services for all products supplied through the Tyco Distribution Services. They also carry out product evaluations and pre release testing of both Tyco and third party products and systems.

Post Sales Technical Support
The dedicated Technical Support group based in Echt designed to support the EMEA region and covers the products available from TSP Distribution Centres. The team is backed up by the Tyco and third party vendors - allowing them to handle the second line support once the ADT engineer is on site needing further assistance. Our engineers can then call in the manufacturer / design authority if required and subject to any support agreements that need to be in place.

If you have any problems or queries with the procedure, please contact: Tyco International EMEA Technical Services

Contact details
Operating Hours: 8am to 6pm CET (Mon-Fri except Public Holidays)
Contact Numbers:
Toll Free: 00 800 CALLTYCO or (+800-2255 8926) or Direct: +31 475 352 722
Visonic UK Support only: +44 (0845 0755 830)
Technical Post-Sales Inquiries: emea.support@tycoint.com
Technical Training Inquiries: emea.training@tycoint.com
All license Inquiries: tspemealicense@tycoint.com

Local Direct Dial Numbers:
- UK (08701 238 787)
- UK Visonic Support only (0845 0755 830)
- Israel (03-6456868)
- Spain (900 99 31 61)
- France (0800 90 79 72)
- Germany (0800 1806 757)
- Italy (0800 874 091)
- Belgium (0800 76 452)
- Ireland (021/4801122)
- Bahrain 00800-31229453
- Greece 81080020521031
- Turkey 0800-31923007
- UAE 800-03107123

Email addresses:
Technical Post-Sales Inquiries: tfsemea.support@tycoint.com
Technical Pre-Sales Inquiries: tfsemea.presales@tycoint.com
Technical Training Inquiries: tfsemea.training@tycoint.com
Website: www.tycosecurityproductsemea.com
www.calltyco.com
Pre and Post Sales Support

**Standalone Solutions:**
**Keypads:**
ICS Security
Unit 1 JBJ Business Park,
Northampton Road,
Bliworth,
Northampton.
NN7 3DW
Tel: +44 (0) 1604 879300

**Sentinel:**
Morley Electronics Limited
Unit 34
Moorland Way
Nelson Park
Cramlington
Northumberland
NE23 1WE.
Tel: +44 (0)1670 732 444

**ioPass:**
See Tyco Security Products contacts

**Software House C.Cure PC based Access Control Solutions:**
All C.Cure business between Tyco Security Products and ADT UK is managed by Tyco Integrated Systems CoE Cambridge for major projects and the Design Centre of Excellence DCoE for extensions and standard systems.

**Kantech PC based Access Control Solutions:**
See Tyco Security Products contacts

**ioProx & SWH Multi Technology Readers**
See Tyco Security Products contacts

**Nedap AVI**
Sales UK, Ireland and Africa:
Michiel Rijpsemus,
michiel.rijpsemus@nedap.com
Eastern Europe & Benelux:
Edwin Siemerink,
edwin.siemerink@nedap.com
DACH, Scandinavia, France, Spain, Portugal and Turkey:
Jan Hofman,
jan.hofman@nedap.com
Italy & Asia Pacific:
Evelien O’Sullivan,
evelien.osullivan@nedap.com
Middle East & Americas:
Maarten Mijwaart,
maarten.mijwaart@nedap.com

**Nedap AVI**
Tel: +31 (0)644 471 704

**L1 Bioscrypt/Morpho**
See Tyco Security Products contacts

**Locking:**
Adams Rite Europe Ltd.
School Street
Willenhall
West Midlands
WV13 3PW
Customer Services: 0845 873 4838
Technical Enquires: 0845 873 4837
E-mail: info@adamsrite.co.uk

**Non PC Networked Solutions:**
Please contact your local Honeywell Security Group Area Sales Manager,
For the UK,
Douglas Gray
Business Development Manager, United Kingdom & Ireland
Office +44(0) 1698 738 200
Mobile +44(0) 7721 753 579
E-mail doug.gray@honeywell.com

The UK Sales Office or the Technical Support Department on:
Tel: 0844 8000 235 or
E-mail securitysales@honeywell.com
HSUKO7TechSupport@honeywell.com

Honeywell Security Group
Newhouse Industrial Estate
Motherwell Lanarkshire
ML1 5SB
United Kingdom
Pre and Post Sales Support

Egress Devices:

Egress buttons
ICS Security
Unit 1 JBJ Business Park,
Northampton Road,
Blisworth,
Northampton,
NN7 3DW

Tel: +44 (0) 1604 879300

3.1 Egress device and Emergency Egress Devices

Pre Sales:
Henry Herouvin
Key Account Manager
Tel: +44 (0) 1527 406655
Fax: +44 (0) 1527 406677
Mobile: +44 (0) 7581 392213
Email: henry.herouvin@kac.co.uk

Post Sales:
Tel: +44 (0) 1527 406711
E-mail: technical@kac.co.uk
www.kac.co.uk

Power Supplies:

Standard PSUs
Elmdene International Ltd
3 Keel Close, Interchange Park
Portsmouth
Hampshire
PO3 5QD

Tel: +44 (0) 23 9269 6638

12Vdc 10Amp PSU
Stontronics Ltd,
Chancerygate Business Centre,
Cradock Road,
Reading,
Berkshire RG2 0AH,
United Kingdom

Tel: +44 (0) 118 931 1199
Email: info@stontronics.co.uk
Global Strength. Local expertise. 
At your service.

Head Offices:

United Kingdom & Ireland 
(Sunbury-on-Thames) 
Tel: +44 800 4587 999 
Fax: +44 (0) 844 800 2999