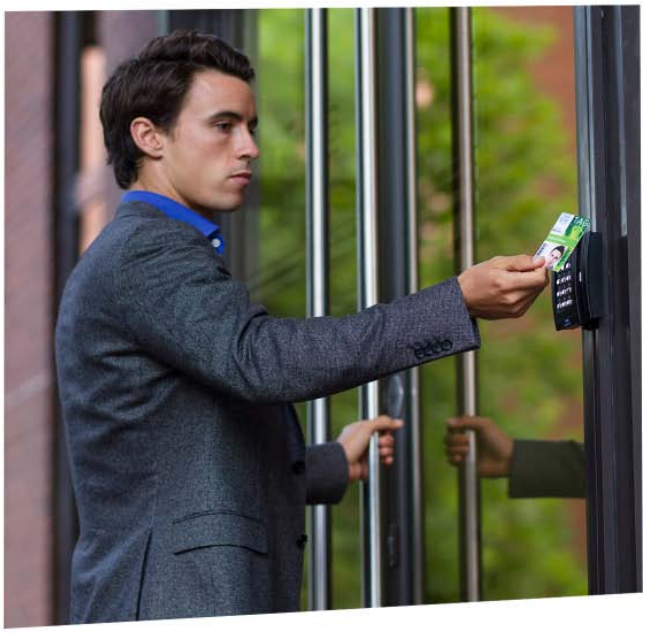
EDGECONNECTOR

Solution Configuration Guide

Door access control truly integrated into the IT domain



Enhanced security **Simple management** **Easy installation**

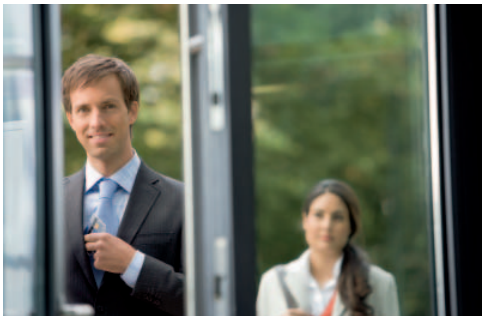
The benefits of truly integrated physical & logical access control

EdgeConnector seamlessly integrates the management of physical door access into your existing IT-user administration tools, typically based on Microsoft Active Directory, with no need for an additional database.

The streamlined EdgeConnector architecture delivers converged, role-based, physical and logical access decision-making in real-time without complexity.

EdgeConnector is intrinsically scalable through its utilization of existing network infrastructure; providing access control for a server rack to whole buildings across multiple sites worldwide, and for any number of users.

Enhanced security & compliance



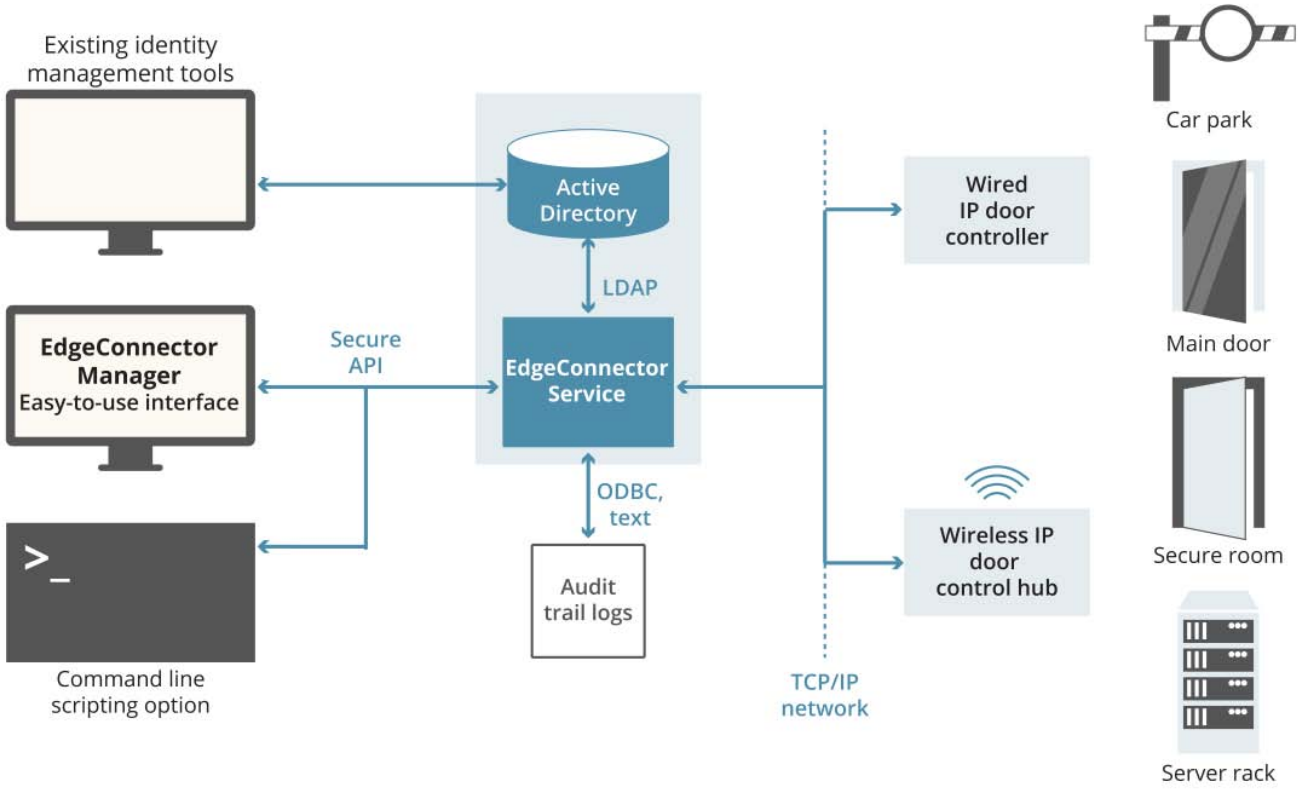
Simple management

Easy installation

EdgeConnector access control systems manage physical access for many hundreds of thousands of users daily, across North America and Europe. Since its launch in 2008 EdgeConnector has been installed in leading large and medium enterprises, central and regional government departments, universities, police and national health services, as well as facilitating compliance requirements within major financial sector companies.

Edge Connector is a product of Dot Origin – a leading technology solutions provider specialising in two-factor authentication, public-key cryptography and data encryption. Dot Origin has operated for over 16 years and built up an extensive role of respected customers as well as establishing partnerships with industry leading vendors (such as ACS, Assa Abloy, Gemalto, HID, Identive and NXP).

The EdgeConnector solution architecture



EdgeConnector Manager

A secure client application that provides an easy-to-use interface for the delegated management of users, visitors, doors and schedules by non-IT staff; without compromising directory security. Other identity management applications that integrate with Active Directory can also be used for day-to-day management.

EdgeConnector Service

Typically runs on an existing Active Directory domain controller and processes door access requests from door controllers and hubs in real-time, unlike traditional access control systems. This enables various converged security applications, including location-based logon restriction and global anti-passback protection.

Doors and cabinets

Any combination of wireless control hubs and wired IP door controllers can be used to connect any number of doors, located anywhere on the WAN. The latest encryption standards secure all access control communication over the network. Wireless door control hubs can each manage multiple doors and offer the greatest ease of installation. Wired controllers each manage a single door and provide wider configuration options, such as fire and intruder alarm integration, plus in-and-out reader operation.

System compatibility

User directory	Microsoft Active Directory including Azure cloud installations No schema extension required API also available for custom database integration
EdgeConnector Service	The service runs on Windows Server 2000 and later, including virtual, clustered and cloud-hosted environments
EdgeConnector Manager	The secure client application runs on Windows XP and later
Wired controllers & card readers	HID Edge and HID EVO controllers, plus any Wiegand or Clock and Data readers to support chosen card technology, including: HID Prox, HID iCLASS, NXP MIFARE, NXP DESFire EV1 and dual interface PKI smartcards
Wireless locks with integral readers	Aperio wireless locks configured for chosen card technology: HID iCLASS, NXP MIFARE, NXP DESFire EV1

Configuration considerations

Complete EdgeConnector solutions including all necessary door hardware and card technology can be supplied direct or through our trained partners and installers. Existing or preferred components may also be incorporated by virtue of the system's industry standards based compatibility. Fitting may also be carried out independently with aid of EdgeConnector's comprehensive support documentation.

Below are the primary considerations for hardware specification. For further advice and guidance on the most suitable components, to meet your specific needs, contact us.

Wired or wireless door control

EdgeConnector supports any combination and number of wired and wirelessly controlled doors, thereby accommodating the most appropriate choice for each opening.

- Wireless options provide easier installation, with many doors able to share a single wireless control hub.
- Wired controllers dedicated to single doors offer wider integration capabilities, with fire and intruder alarms for example.

This makes wireless controls ideal for managing physical access to server racks in a server room or data centre, whilst wired controllers linked to alarm systems can best manage main site entrances. The spectrum of door types between these two extremes may either be handled by wired or wireless solutions depending on their specific situation and control needs.

High security wireless lock and control hub

Wired IP door controller and card reader

Power supply options

Linked to the choice of wired or wireless door control is the consideration of power supply options for door hardware.

- Wireless locks are usually battery powered, with a battery-life of several years, so only require power to the wireless control hub. This can easily be supplied using Power over Ethernet, avoiding the need for any cabling in addition to the hub's data feed. A PoE injector, or switch, can be used to supply power over a specific run of Ethernet cable.
- Wired door control requires cabling to the door and sufficient power to operate a mag lock or door strike. This can be reduced to a single data cable that support s PoE+, with an injector or switch supplying the required power over the cable.
- For resilience in the event of a power outage there are several common approaches: PoE(+) injectors or switches can be backed-up by UPS feeds, or 12V supplies with their own battery back-up can be installed near the door.

PoE and PoE+ injectors and splitters provide power over suitable Ethernet cabling.

12V Supply with battery back-up as an alternative to PoE UPS.

Card technology freedom

EdgeConnector works with an extensive range of industry standard card types, supporting the latest and most secure technologies as well as the commonest RFID tokens in use. This means existing cards and card reader hardware can normally be re-used with EdgeConnector, whilst allowing step-by-step migration to more secure card technologies (such as iCLASS and DESFire) in future.

Card readers must be matched to the chosen card technology.

- Wireless locks with built-in card readers, from the comprehensive Aperio range, support iCLASS and DESFire cards.
- Wired EdgeConnector door controllers are compatible with any readers supporting the Wiegand or Clock and Data interface standards, which opens up a wide-range of card and reader choice.

HID reader for iClass, Prox and MIFARE cards

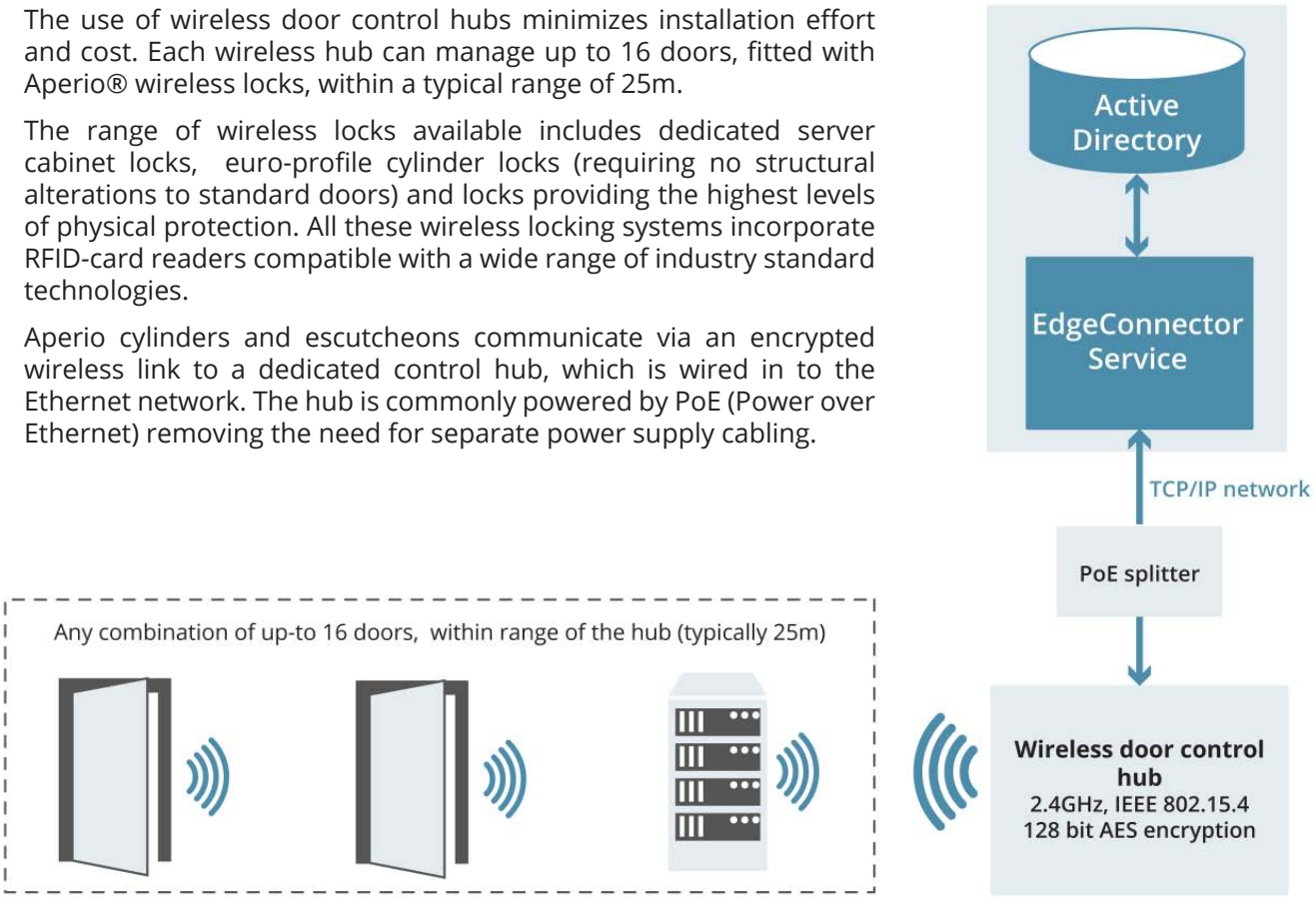
STid reader with scramble pad

Wireless door & server cabinet control

The use of wireless door control hubs minimizes installation effort and cost. Each wireless hub can manage up to 16 doors, fitted with Aperio® wireless locks, within a typical range of 25m.

The range of wireless locks available includes dedicated server cabinet locks, euro-profile cylinder locks (requiring no structural alterations to standard doors) and locks providing the highest levels of physical protection. All these wireless locking systems incorporate RFID-card readers compatible with a wide range of industry standard technologies.

Aperio cylinders and escutcheons communicate via an encrypted wireless link to a dedicated control hub, which is wired in to the Ethernet network. The hub is commonly powered by PoE (Power over Ethernet) removing the need for separate power supply cabling.



Wireless door hardware

	Ideal application		Ease of installation	Door status sensor	Power supply	Card reader	Card technology
KS100 rack lock		Sever rack cabinet	Designed for standard 25 x 150 mm server lock openings	Yes	PoE or 12v supply from rack	Integrated RFID reader	iCLASS® MIFARE™ classic MIFARE™ DESFire™ EV1
L100 lock & escutcheon		Secure room	Standard doors need no alteration		Battery: 40,000 operations, approx. 3 years		
E100 escutcheon		Standard door	Directly compatible with all (DIN) type European mortice locks	Separate option			
C100 cylinder lock		Equipment service access door		No			

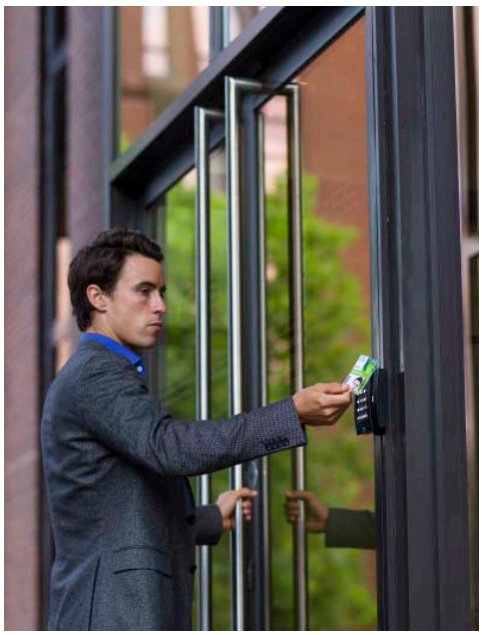
Wired door access control

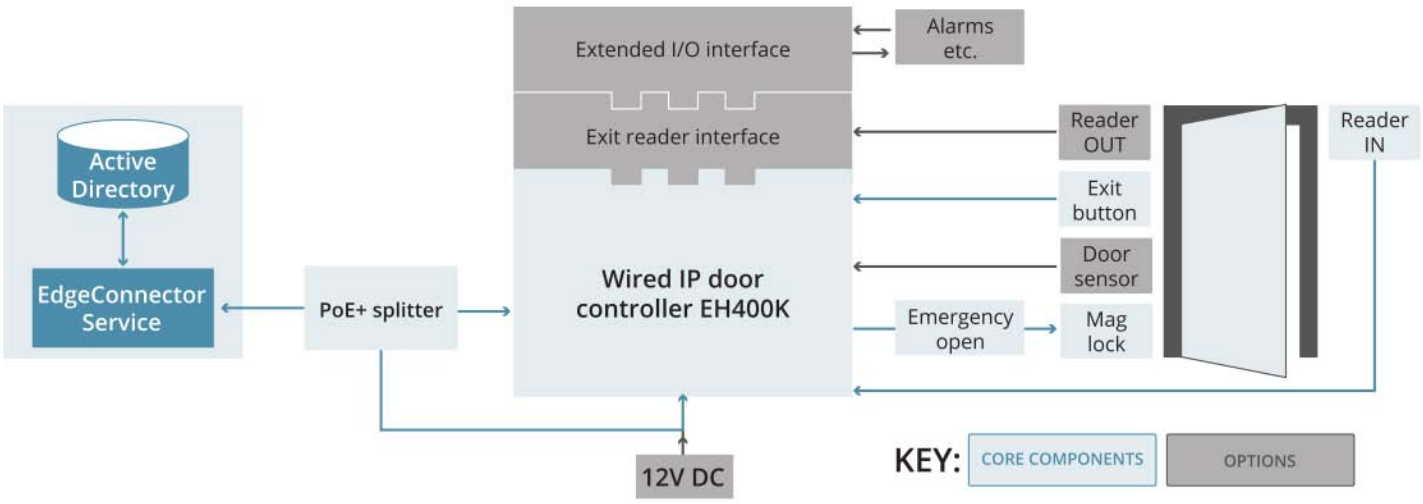
The wired EdgeConnector IP Door Controller's flexible configuration options provide the highest levels of access control and integration; fully exploiting EdgeConnector's real-time, converged physical and logical, access control decision-making capability.

Cabling can be reduced to just a single network connection per controller by using Power over Ethernet Plus (PoE+).

EdgeConnector is compatible with most makes and models of door access card readers that use the industry standard Weigand or Clock and Data interfaces. Based on the choice of card readers, any card technology can be supported. EdgeConnector even handles multiple card technologies concurrently, to facilitate phased migrations to more secure card types that employ the latest security systems.

The basic EdgeConnector IP Door Controller interfaces include door sensor and request-to-exit button inputs, with a door relay to control door strikes and mag-locks. The controller can be expanded to 'reader in-and-out' operation with the addition of the exit card-reader module. Extended integration modules can be added to allow inputs from alarm and other systems to be incorporated.





	Physical size		Power supply	I/O interfaces
Wired IP door controller EH400K		154.9 x 122.5 x 37.1 mm	12V DC input Or PoE+ with enclosure for housing combined splitter & controller	Ethernet (10/100), Reader (Weigand, C&D), Lock relay (changeover, powered or 'dry'), External alarm, REX (Request to Exit), DPS (Door Position Switch), Battery monitor, Power monitor, Expansion bus, Tamper detect
Exit reader interface EWM-M		84.0 x 127.0 x 37.0 mm	12V from EH400K via expansion bus	Reader (Wiegand), red and green LED, beep signals
Extended I/O interface EDM-M		84.0 x 127.0 x 37.0 mm	12V from EH400K via expansion bus	4 inputs and 2 outputs (1 output dedicated to Extended Door Opening for ease of wheelchair access)

Typical wired door control configurations

	Standard door	Secure room	Building entrance
Typical applications			
Required features	Standard card entry validation	- Anti-tailgating - Compliance needs for recording or restricting logical access by user location	- Time & attendance monitoring - Anti-passback - Alarm system integration
EdgeConnector IP door controller	✓	✓	✓
Mag lock	✓	✓	✓
Entry card reader	✓	✓	✓
Door status sensor		✓	✓
Emergency 'Break-Glass' exit switch	✓	✓	✓
Exit button	✓		
Exit card reader		✓	✓
EdgeConnector exit reader interface		✓	✓
EdgeConnector extended I/O interface			✓
Power supply options			
PoE+ (with UPS back-up plus enclosure for combined splitter & controller)	✓	✓	✓
12V Supply with battery back-up			✓
Card technology compatibility			
MIFARE™ DESFire™ EV1, MIFARE™ classic	✓	✓	✓
HiD iCLASS®	✓	✓	✓
Prox	✓	✓	✓

Installation & service

Installation

The EdgeConnector access control hardware is usually fitted by our trained partners and installers, although it is also common for customers to arrange their own installation using the comprehensive guides (including wiring diagrams) provided. The EdgeConnector Service software comes with a configuration wizard as well as incorporating the complete administration documentation. Installation is quick and easy - following a familiar process.

Once the hardware and software have been installed, commissioning can be completed quickly, thanks to the use of existing IT-user database and role-based security policies.

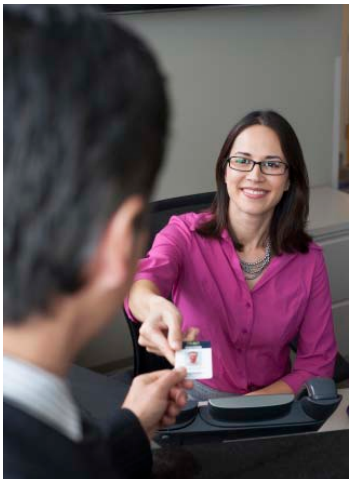
Training

A comprehensive one-day introduction and hands-on training course is available to end users or systems integrators wishing to learn more about EdgeConnector's extensive capabilities. The course can be tailored to specific requirements and is normally given at our training suite which houses a full replica of a typical corporate network, server infrastructure and several EdgeConnector door controllers.

Software support

All new EdgeConnector customers receive 30 days free 'getting started' technical support via web, phone and email. Thereafter, our annual support and maintenance contract is available to keep you current with the latest software updates.

ID-card issuance & printing



Our 'Read-a-Card' software automates the data input required when registering new ID-cards for your access control system and applications. Avoiding the need for manually re-keying card information dramatically speeds up error-free card registration and user enrolment.

The EdgeConnector Manager software includes fully configurable templates to allow user data from Active Directory, together with any logos or artwork, to be formatted for printing on photo ID-cards.

The photo capture feature supports any integrated, or USB, webcam and allows a picture to be saved to an appropriate attribute of the user account properties within Active Directory.

To print ID-cards a suitable printer and EdgeConnector Card Printing Licence are required. The licence comes pre-loaded on a USB key (which is plugged in to the printing station during use) and licenses one workstation.

Evaluation kit

See for yourself just how simple it can be to integrate physical access control into your existing IT access management system. Our evaluation kits comprise full feature software and door control hardware together with step-by-step set-up instructions.

To request either a wired or wireless lock version of the EdgeConnector evaluation kit visit www.edgeconnector.com and submit your details.

Wireless kit

Wired kit

Contact us

To find out more about EdgeConnector from Dot Origin, talk to one of our technical team or get a quotation for your specific requirements, call or e-mail us now.

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DOT ORIGIN

EDGECONNECTOR

Truly integrated physical access management, for any number of users, across server racks, secure rooms, whole buildings and multiple sites worldwide.

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