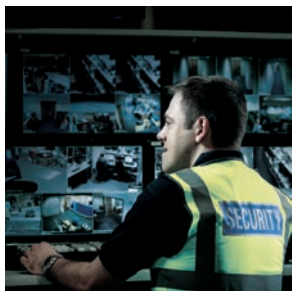




CEM SYSTEMS

From Tyco Security Products



PRODUCT CATALOG

EMEA & APAC
Innovative Access Solutions

2015 · 2016



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About CEM Systems



CEM Systems is a leading provider of access control and fully integrated security management systems. Originating from a computer background and with over 25 years experience in the IT & security industry, CEM is unique in that it has developed a strong understanding of the IT issues and strategies that companies have in place. High quality, innovative security solutions are built with this understanding in mind. As one of the few manufacturers that design and produce all their own hardware and system software, CEM can fully customise solutions depending on customer requirements. With a reputation for designing and developing industry firsts, CEM continuously develops hardware to incorporate the very latest in technology.

CEM Approved Resellers

A dedicated network of 'Approved Resellers' sell, install and service CEM solutions around the world. Approved Resellers are the best of breed in their respective geographic markets and have invested in CEM training to become approved with a certified competency in the CEM product range.



“CEM Systems is a leading provider of access control and fully integrated security management systems.”

CEM Customers...

CEM currently secures sites in over 40 countries around the world. CEM supports customers in a wide range of sectors including Aviation, Healthcare, Education, Petrochemical and Retail.

Petrochemical

CEM's AC2000 System is perfect for petrochemical sites where security is paramount. The CEM AC2000 access control system offers refineries 24 hour security through the use of intelligent card readers and a stable security infrastructure. AC2000 restricts entry to refineries as well as monitoring the movement of authorised visitors, employees and contractors. AC2000 also offers portable access control in unpredictable petrochemical environments where a mains power supply is not always available.

- Lindsey Oil Refinery, UK
- Gasco Ruwais, UAE
- Jurong Island, Singapore



Aviation

CEM offers the industry's only airport specific access control system- AC2000 Airport. AC2000 Airport secures airports around the world including 80% of UK airports. AC2000 Airport features airport specific applications such as Passenger Segregation, Airbridge Monitoring, Check-in Desk Enabling and Airport Link.

- Indira Gandhi Airport T3, India
- Budapest Airport, Hungary
- Keflavik International Airport, Iceland
- Changsha Huanghua Airport, Beijing
- Hong Kong International Airport, China
- Dubai International Airport, Terminal 3, Concourse 3, Dubai
- Auckland Airport, New Zealand



Healthcare

CEM's PoE+ (Power over Ethernet Plus) access control solution offers its healthcare clients an easy to install solution which minimises disruption to the facility and reduces commissioning costs. CEM's biometric options, such as the S610f, can also be used to secure critical areas such a pharmacy or intensive care unit.

- Stobhill & Victoria Hospitals, UK
- Midlothian Hospital, UK
- King Khalid University Hospital, Saudi Arabia
- Baylor Medical Centre at Uptown, USA



Education

CEM solutions are installed in educational facilities around the world, securing students, teachers, equipment and premises. The AC2000 system controls and monitors various buildings so that only those with correct authorisation are permitted access to education buildings, rooms and other restricted areas across campuses.

- Liverpool John Moores University, UK
- Latymer School, UK
- Primary schools around the world



Financial

With high security a requirement for major financial institutions, many have chosen a CEM solution to protect staff and customers and secure areas where security is of the utmost importance.

- Abu Dhabi Investment Council
- Ministry of Finance, Nigeria
- Central Bank of Nigeria



Other Sectors

CEM solutions are suitable for other facilities including ports, retail sites, casinos and corporate premises.

- Marina Bay Sands Casino, Singapore
- Shaw Studio's Movie City, Hong Kong
- Port of Cork, Ireland
- Farmers Trading Company, New Zealand
- Cadbury (Kraft Foods), India

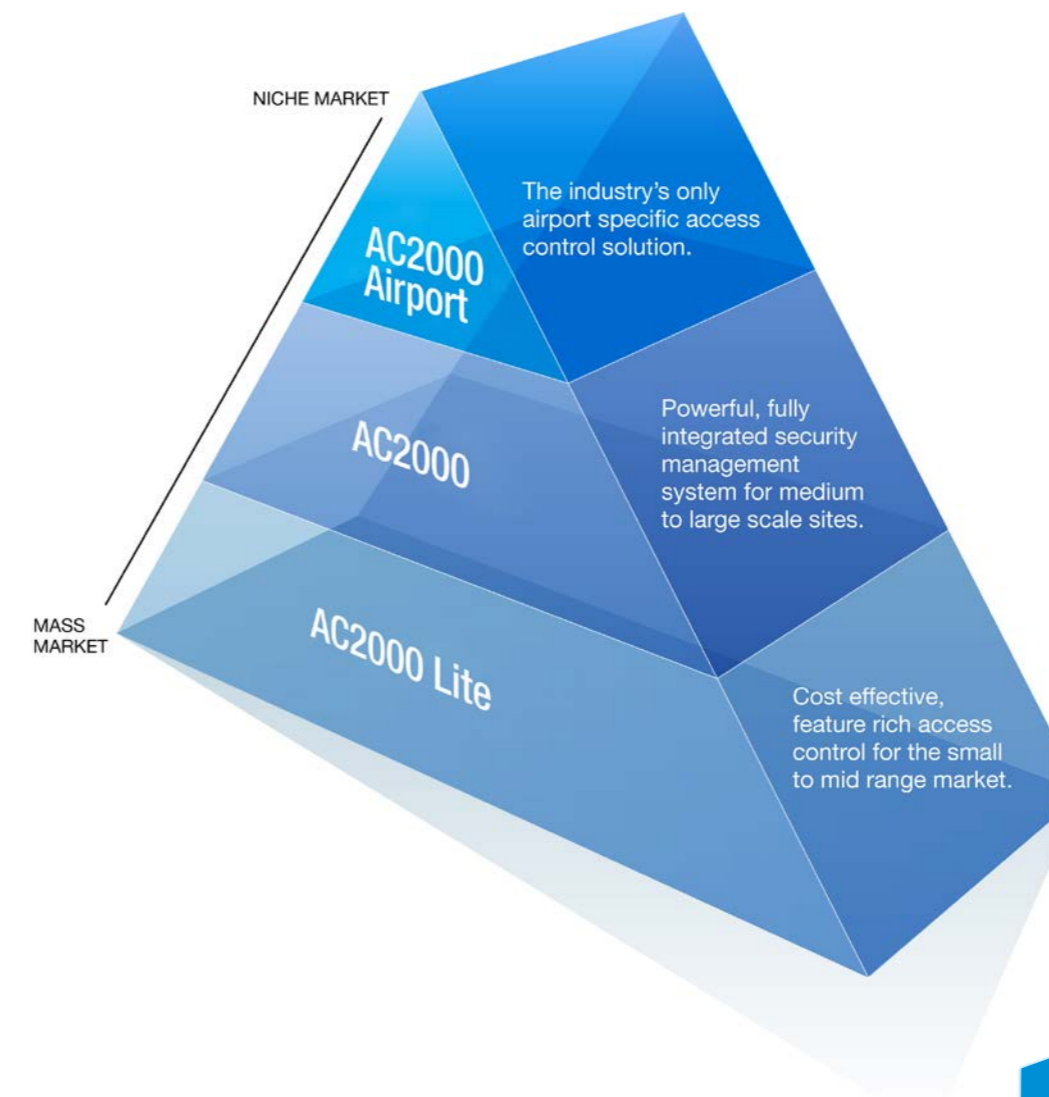


For CEM Customer Project Profiles, please visit www.cemsys.com/casestudies

CEM Solutions...

CEM has a solution for all sizes. The proven CEM AC2000 product range offers reliable security management for small through to large, multi-site applications.

Where does AC2000 fit in the Security Market?



About AC2000

At the heart of the AC2000 system is the Central Database Computer (CDC Server), which is based on a client-server system architecture design. The AC2000 CDC running on a Linux operating system, provides a highly sophisticated level of power and system resilience. AC2000 not only utilizes CEM's advanced range of hardware products including intelligent card readers and Ethernet-ready controllers, but also offers compatibility with read heads from third party manufacturers. The use of distributed intelligence at all levels of the system including the use of card readers with their own database adds to the overall resilience.



Security Management Systems

AC2000 *Powerful and fully integrated security management system*



AC2000 is a powerful access control and security management system (SMS). Continuously developed to meet the most complex of security needs, AC2000 provides a highly stable, proven solution for installations where security is of paramount importance.

Successfully installed at some of the largest facilities around the world, AC2000 offers a powerful suite of client and browser based applications including central alarm monitoring, sophisticated ID badging, visitor management, web reports, integration with third party systems and much more.

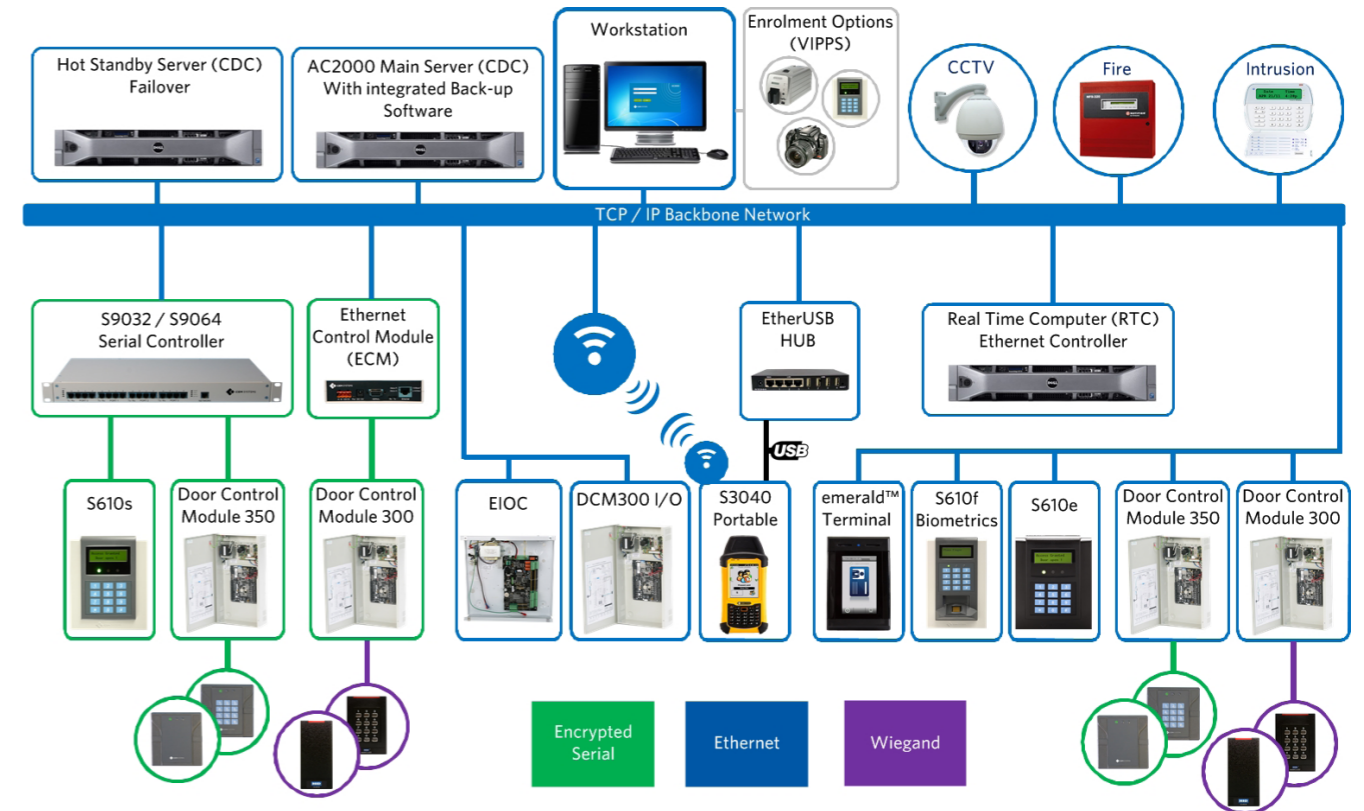
The AC2000 Server, running on the Linux operating system, provides a highly sophisticated level of power and system resilience, whilst Windows® based operator workstations present the user with a familiar, easy to use front-end interface.

AC2000 supports CEM's range of industry leading Serial and Ethernet hardware products.

AC2000 Applications at a Glance

- VIPPS ID Badging
- Vehicle Management
- Visitor Management
- Alarm Event Display (AED)
- Guard Tours
- Rolling Transaction Display
- Zone Monitor
- Occupancy Zones
- Extended Reports
- Time & Attendance
- Unlimited User definable Fields
- Configure reader messages
- Muster Zones
- Threat Levels
- Standard System Link
- Range of American Dynamics Interfaces
- Range of 3rd party video integrations
- WEB Applications
- DSC Intruder Interface
- Third party API (Application Programming Interface)
- Fully Integrated Biometrics
- Lift Control
- Microsoft Active Directory Integration
- And more!

AC2000 System Topology



Product Codes	
SYS/103/064	CDC Server 64 (Incl. Dell Tower Server Hardware and all software licences). Supports up to 64 doors
SYS/105/064	CDC Server 64 (Incl. Dell Rackmount Server & RAID 5 Hardware and all software licences). Supports up to 64 doors
SYS/103/128	CDC Server 128 (Incl. Dell Tower Server Hardware and all software licences). Supports up to 128 doors
SYS/105/128	CDC Server 128 (Incl. Dell Rackmount Server & RAID 5 Hardware and all software licences). Supports up to 128 doors
SYS/105/256	CDC Server 256 (Incl. Dell Rackmount Server Hardware, RAID 5 & all software licences). Supports up to 256 doors
SYS/004/008	AC2000 Workstation Incl. Latest spec PC with AC2000 workstation licence (SWA2WS) installed

AC2000 Language Support

CEM AC2000 is available in several language options including Spanish, Arabic, Russian, Polish, German and Simplified Chinese. Please contact CEM Systems for more information and how to order.

AC2000 Lite *Integrated security management system for small to medium sites*



AC2000 Lite is a feature rich, yet cost effective access control system. Encompassing the core software features of the AC2000 system and supporting CEM's range of leading hardware products, AC2000 Lite is one of the most accomplished security management solutions available for the small to mid range markets.

The AC2000 Lite system supports up to 128 doors. Featuring many of the core AC2000 software modules as standard, AC2000 Lite is ideal for small to medium sized projects that still require a sophisticated level of security; and all within budget. Acting as the Security Management System (SMS), AC2000 Lite is fully integrated with selected external video and intruder detection systems. This offers one powerful central command and control centre for all access control, video and intruder alarms and events.

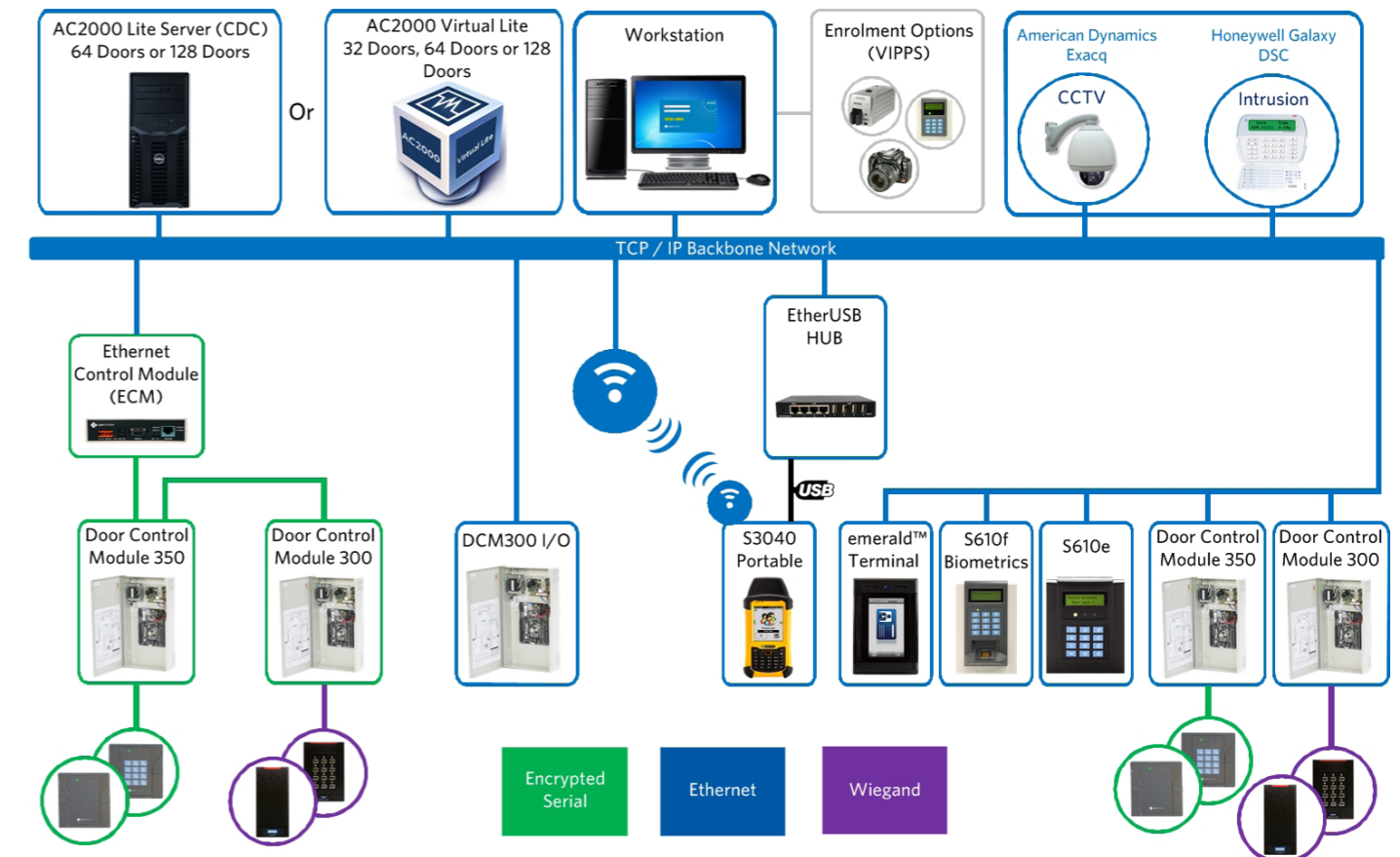
Should customer needs grow, AC2000 Lite can be seamlessly upgraded to the core AC2000 security management system, providing an upgrade path with virtually unlimited expansion capabilities.

AC2000 Lite is also available as a software only solution. The AC2000 Lite software only virtual kit option makes it possible to replace the traditional AC2000 Lite server hardware with a Virtual Machine (VM). This solution means that AC2000 Lite server can be installed on the same PC as the AC2000 Lite workstation and software. Eradicating the need for server hardware, this virtualised AC2000 Lite software option is extremely easy to install as it comes pre-installed and pre-configured, without the requirement for extra configuration or specialist knowledge.

AC2000 Lite Applications at a Glance

- VIPPS ID Badging
- Visitors Management
- Vehicle Management
- Zone Monitor
- Alarm Event Display (AED)
- Rolling Transaction Display
- Time & Attendance
- Advanced Reporting
- Standard System Link
- Integrated Biometrics
- User Definable Fields
- Video and Intruder Integrations
- WEB Applications
- And more!

AC2000 Lite System Topology



Product Codes	
SYS/650/064	AC2000 Lite System Server – Dell Server (64 Door Licence)
SYS/650/128	AC2000 Lite System Server – Dell Server (128 Door Licence)
SYS/500/001	AC2000 Lite System Server Upgrade 64 to 128 Door (Licence)
SYS/500/000	AC2000 Lite Workstation Software Licence (Software Only)
SYS/500/500	AC2000 Lite Bundled Workstation (Hardware & Software)



AC2000 Lite Language Support

CEM AC2000 Lite is available in several language options including Spanish, Arabic, Russian, Polish, German and Simplified Chinese. Please contact CEM Systems for more information and how to order.

AC2000 Airport *Integrated airport-specific security management system*



AC2000 Airport is a powerful aviation-specific access control and security management system (SMS). Used by many of the world's leading airports for over 25 years, AC2000 Airport has a proven record as one of the most reliable and resilient security solutions available. The flexibility and high quality offered by AC2000 Airport is a key factor in its suitability for the aviation environment.

AC2000 Airport encompasses all the core software features of the powerful AC2000 system with a host of additional functions that have been specifically designed for airports including card charging, authorisers, airport utilities and IATA code. AC2000 Airport is more than an access control system. It helps airports to run more effectively in terms of both cost and operations, incorporating features such as Check-In Desk Enabling, Passenger Segregation and Air-bridge Control.

AC2000 Airport provides high levels of integration, providing one powerful command and control front-end for alarm management of multiple airport security systems; including access control, video, intrusion, fire, perimeter detection and much more.

CEM's AC2000 Airport system offers zero downtime when used in conjunction with CEM intelligent and advanced readers. CEM readers feature a large internal database for offline card validation that ensures airports are fully operational in the event of temporary system downtime.

AC2000 Airport operational applications include:

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> ■ Check-In Desk Enabling ■ Luggage Carousel Enabling ■ Passenger Segregation ■ Panic Button Facility ■ Vehicles Management ■ Visitor Management | <ul style="list-style-type: none"> ■ Airport Link ■ Direct Link to Airport Invoicing ■ Card Parking Facility ■ Equipment Enable ■ Integrated biometrics ■ Video Integration | <ul style="list-style-type: none"> ■ Air-bridge Control ■ Airport specific door modes ■ Card Charging And more! |
|--|---|---|

Passenger Segregation

AC2000 Airport allows the airport or airline to segregate arriving and departing passengers by using CEM card readers.

The card readers are interlocked so that if one reader is in Passenger mode (for multiple throughput) the other can only be put in Staff mode (for individual entry).

Check-In Desk Enabling

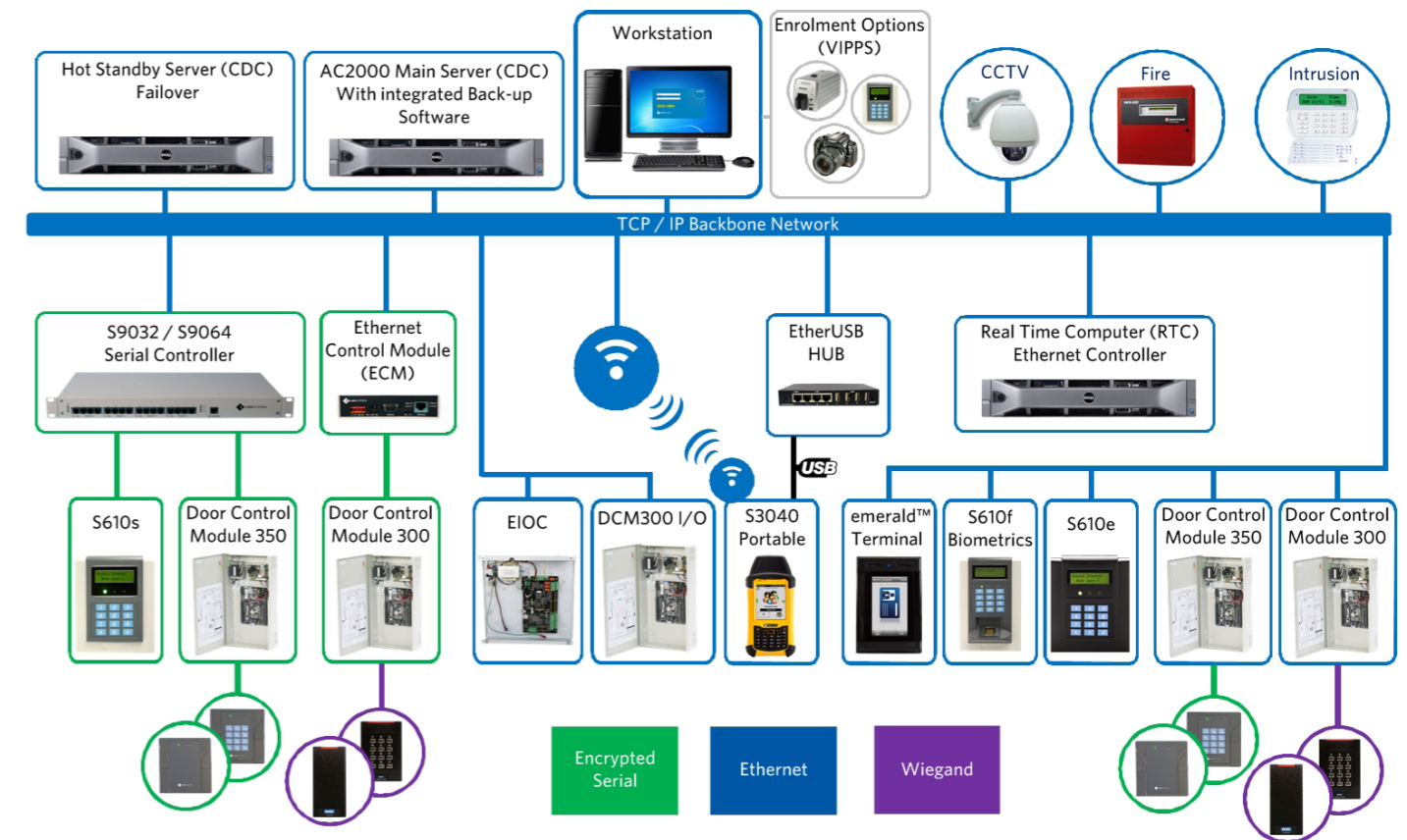
This feature provides control of and reporting on shared check-in desks. CEM card readers can be used to enable/disable check-in desks or luggage carousels and provide data on equipment usage by means of an operator swiping a valid card.

The system can provide a report on check-in desk usage which can be sent to the finance system used to invoice airlines for their use of the check-in desk.

Airbridge Control

The Airbridge Control feature is used to provide control over the use of airbridges ensuring that only authorised and trained personnel can use them. CEM card readers installed at each airbridge ensure that operators must use a valid card before it can be used. The system can provide a report on airbridge usage which can be sent to the finance system used to invoice airlines for their use of the airbridge.

Typical AC2000 Airport Topology



For product codes, please contact CEM Systems.

AC2000 System Comparison

*per single server

Criteria - Size	AC2000 Lite	AC2000
Number of Cardholders	10,000	Unlimited
Number of Doors supported	128	Unlimited
Number of Workstations supported	5	172*

Criteria - Software & Functionality

Standard Software Options

AC2000 Lite comes with a range of software options on one CD as standard. Some AC2000 software options are charged on an application licence basis - see price list for further details.

Code	Description	AC2000 Lite	AC2000
SWAEDG	AED (Alarm Event Display) Graphical Maps Utility	✓	✓
SWVIPPSG	VIPPS - Photo ID Software	✓	✓
SWTANDA	Time and Attendance Reporting	✓	✓
SWVISIT	Visitor Management	✓	✓
SWVISIT-WEB	AC2000 WEB Visitor management	✓	✓

Integrations (additional integrations are available)

SWSSL	Standard System Link (v5.4 upwards & Lite v6.4 upwards)	✓	✓
SWXML	XML Interface		✓
SWAPI	Application Programming Interface (API)		✓
SWOPCDA	OPC DA Interface		✓
SWBACNET	BACNET Interface		✓
SWDKEY	Deister Keysafe Interface (v6.1 upwards)		✓
SWPDS-FFT	FFT CAMS Perimeter Detection System (v6.2 upwards)		✓
SWDVR-AD	DVR Interface (American Dynamics Intellex Range)	✓	✓
SWHDVR-AD	American Dynamics HDVR Interface	✓	✓
SWNVR-AD	American Dynamics VideoEdge Interface	✓	✓
SWVUVS-AD	American Dynamics victor Video Interface	✓	✓
SWADTVR-AD	American Dynamics TVR Interface (v6.5 upwards)	✓	✓
SWINT-GAL	Galaxy Dimension Interface	✓	✓
SWINT-DSC	DSC PowerSeries Interface	✓	✓
SWINT-INTEGRA	Satel Integra Alarm Interface (v6.7 upwards)		✓
SWVINT-MATRI	MatriVideo Interface (v6.4 upwards)		✓
SWFIRE-MX	Minerva MX Fire Interface (v6.4 upwards)		✓
SWVINT-OMNI	Genetec Omnicast Video Interface (v6.3 upwards)		✓
SWVINT-MILE	Milestone XProtect Corporate Video Interface (v6.5 upwards)		✓
SWVINT-MOBO	Mobotix Video Interface (v6.6 upwards)		✓
SWNVR-IV	IndigoVision NVR Interface		✓
SWNVR-BO	Bosch NVR Interface (AC2000 v6.1 upwards)		✓

Other Functions

Lift Control		✓
Database Partitioning		✓
Failover Server software licence		✓

AC2000 Software Modules



AC2000 has a comprehensive set of software applications that enhance site operations.

Windows® based operator workstations present the user with a familiar, easy to use front-end.

ID Badging

AC2000 VIPPS (Visual Imaging & Pass Production System)



The AC2000 VIPPS application gives the operator a range of video imaging facilities for capturing personnel details, including images, company logos and personnel signatures and incorporating these onto professionally designed ID passes.

AC2000 VIPPS also supports fingerprint enrolment via the S610f Fingerprint validation

reader meaning that a biometric data capture can take place at the same time as other data capture.

Key Features

- Sophisticated ID badging for staff, contractors, visitors etc
- Passes can be individually designed and customised to suit customer tastes

Product Codes

SYS/004/007	AC2000 Workstation VIPPS - workstation with VIPPS Software (SWVIPPSG) and video capture card installed.
SWVIPPSG	VIPPS - Photo ID software (Global)

Time & Attendance

AC2000 Time and Attendance

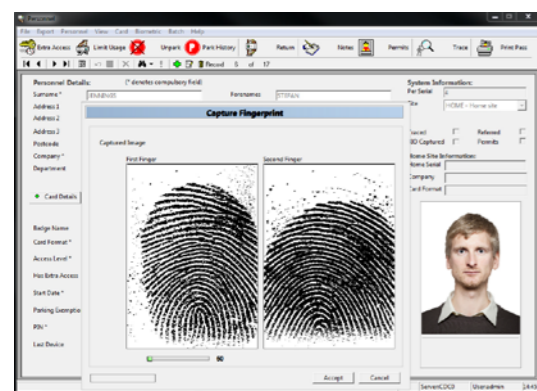
AC2000 Time and Attendance module is a reporting tool that offers administrators statistics on the 'in and out' movements of staff. The module automates time-consuming administrative tasks and provides accurate employee attendance data that can be used with many third party products such as a dedicated payroll system for accounting purposes.

Product Codes

SWTANDA	Time & Attendance Reporting
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Biometrics

AC2000 Biometric Enrolment



Using the CEM S610f reader for biometric enrolment, system administrators can enrol a cardholder's fingerprint template onto the AC2000 server at the same time as capturing personnel details. The AC2000 software captures a unique ID number of the biometric template which is then stored into both the AC2000 central server database and the S610f fingerprint reader database at the door.

AC2000 Biometric Enrolment Requirements:

- AC2000 software v5.7 upwards or AC2000 Lite software v6 upwards
- An S610f Fingerprint Validation Reader

Key Features

- Single integrated solution for both access control & biometric enrolment
- Integrated biometric process removing the need for any third party enrolment software or hardware to be installed

Product Codes

AC2000 Biometric Enrolment comes as standard with AC2000 Software

Visitor Management

AC2000 Visitors



The AC2000 Visitors application provides a powerful tool to monitor and control access for temporary visitor cardholders.

Visitors can be given access levels and/or traced; allowing visitor movements to be monitored and controlled. Images of documents such as appointment cards can also be associated with Visitor records.

Key Features

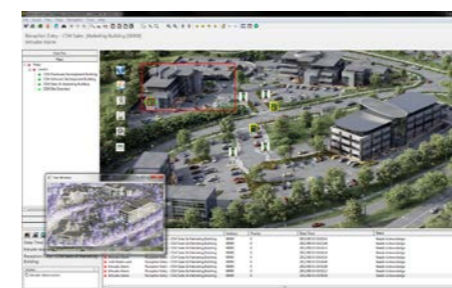
- Enables technology cards to be issued to visitors and then returned for future use; saving on visitor card costs

Product Codes

SWVISIT	Visitor Management
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Integrated Alarm Monitoring

AC2000 AED (Alarm Event Display)



AC2000 AED is the integrated alarm processing software and acts as customer's central Security Management System (SMS), providing one graphical user interface for the integration of third party video systems. AED provides dynamic and real-time graphical, audio and text-based information on all alarms and events that occur on the AC2000 system. AED provides users with a

wealth of useful alarms processing features including dynamic icons representing device status, automatic zoom and advanced navigational tools.

Key Features

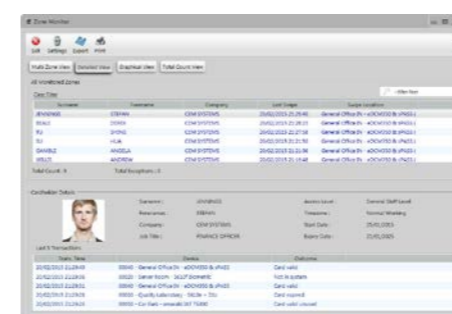
- One user friendly and central command and control interface for access control and video surveillance

See Integrations section for list of CEM compatible integrations.

Product Codes

SYS/004/006	AC2000 Workstation AED (with Maps Utility) - workstation with AED Software (SWAEDG) installed and 19" Monitor
SWAEDG	AED (Alarm Event Display) Graphical Maps Utility (Global)

AC2000 Zone Monitor



Zone Monitoring application offers the ability for operators to monitor the occupancy levels of a pre-defined area of the site. A running total or count will always be visible and updated in real time as cardholders enter or exit the site.

A real time running total of cardholders in a defined area aiding customers health & safety policy.

Product Codes

AC2000 Zone Monitor & AC2000 Muster Zones came as standard with the AC2000 software.

AC2000 Muster Zones

The AC2000 Muster Zones application is used for emergency situations where card holders must congregate in a dedicated 'safe' location. The application can be used both in the evacuation of card holders to a location away from the site (or zone) or when necessary it can be used to enable card holder's to move to a particular safe location within the premises. AC2000 Muster Zones is used in conjunction with the AC2000 Zone Monitoring application.

AC2000 Threat Levels



AC2000 Threat Levels allows for building security to be completely reconfigured at the click of a button.

AC2000 Threat Levels features customisable security levels which can be used to increase or decrease cardholder access and verification requirements at the door (for example Card and PIN and/ or Biometric) quickly and easily.

Key Features

- Remove/Change cardholder access
- Restrict access to certain areas
- Increase verification methods at the door in response to threat

Product Codes
AC2000 Threat Levels comes as standard with AC2000 software v6.6 & upwards

AC2000 Rolling Transaction Display (RTD)



Rolling Transaction Display is designed to offer security a real-time personnel & event monitoring tool. It allows staff to visually identify cardholders prior to their gaining access through a secure door.

AC2000 RTD features a dual window option, allowing users to display full screen image and transaction outcome in addition to the standard view.

Key Features

- Security can visually verify cardholders & associated events in real-time

Product Codes
AC2000 Rolling Transaction Display comes as standard with AC2000 software.

AC2000 Intercom

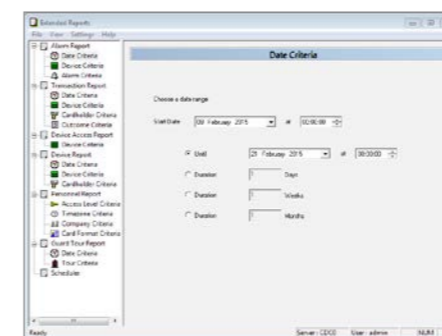


AC2000 Intercom is a software based intercom user interface. AC2000 Intercom is used to provide bi-directional Voice over IP communication between the emerald Intelligent Access Terminal (TS200 and TS300 versions only) and the AC2000 Client Workstation. AC2000 Intercom also provides the ability to remotely open any door that it is currently connected too. Additional features include; the ability to call a local emerald intelligent access terminal directly, call a group of emerald access terminals or call other AC2000 Intercom Clients.

Product Codes
SWINTERCOM AC2000 Intercom

Reporting

AC2000 Extended Reports



The reporting capability of AC2000 is extremely powerful. AC2000 Extended Reports allows all AC2000 transactional history to be automatically stored for future reporting. Reports can be generated to run on Alarms, Personnel, Devices etc, as well as scheduled in advance for regular review.

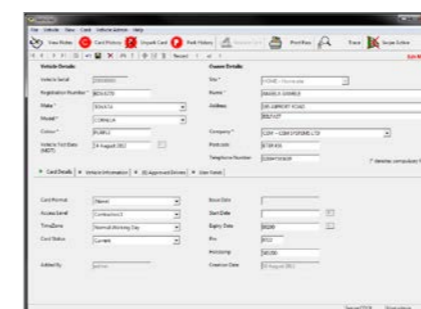
Key Features

- Report Scheduler - Reports can be frequently run & exported for management purposes

Product Codes
AC2000 Extended Reports comes as standard with AC2000 software.

Vehicle Management

AC2000 Vehicles



AC2000 Vehicles allows users to produce a professional pass or vehicle tag for all vehicles, with the ability to associate cardholders to vehicle records. The application stores details of vehicles on the AC2000 system such as Vehicle Make, Model and Registration number.

AC2000 Vehicles also features Vehicle Anti-Passback, customised user definable fields, document import and automatic vehicle pass/tag disabling.

Key Features

- Vehicle passes can be reused on other vehicles providing cost effective use of cards/tags

Product Codes
AC2000 Vehicles comes as standard with AC2000 software.

AC2000 WEB Applications

As part of the AC2000 software, AC2000 WEB Applications allow users to access vital system information quickly and easily, from anywhere in the world using only a web browser.

AC2000 WEB Dashboard



AC2000 WEB dashboard is a central data gathering application providing instant access to system critical information. Information including usage statistics, trending, occupancy, top alarms, card information, licensing and system diagnostics are presented to system operators via a range of dynamic, user friendly graphs and tables.

Key Features

- User-friendly intuitive point & click interface
- Critical system information in a centralised location
- Access via any available web browser that has access to server
- Usage statistics, trending, occupancy, top alarms, card information, and system diagnostics

AC2000 WEB Visitor Management



AC2000 WEB Visitors provides a powerful web based tool to control and monitor visitor access from any location. This powerful application allows the addition of new visitor details, scheduling of visits, issuing of cards, a multitude of reports and much more.

The AC2000 WEB Visitors application is ideal for customers who require quick and efficient access to AC2000 functionality without the need for dedicated software.

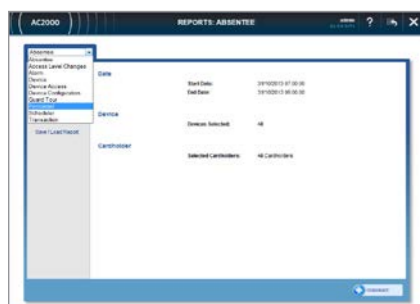
Product Codes	
SWVISIT-WEB	AC2000 WEB Visitor Management (licenced on AC2000 & AC2000 Airport)

AC2000 WEB Room Booking



Rooms are assigned on the AC2000 WEB application and room bookings can be made and viewed on the AC2000 WEB Room Booking application or on the emerald terminal via Remote Applications. This allows specific cardholders to reserve meeting rooms with ease with the ability to search and display room details, add/edit and delete their bookings.

AC2000 WEB Reports



AC2000 WEB Reports is a web based application that allows a system operator to run and create customisable reports on all alarms, transactions, devices, card parking, guard tours, reader activity and much more within the AC2000 System. Using AC2000 WEB reports can be quickly generated based on the user's own criteria. Report templates can also be saved for quick and easy use when required. The user can also choose which time a report will run and

reports can then be scheduled and emailed to any email address either daily, weekly, or monthly at specific time intervals.

Key Features

- Remotely manage visitor access via a standard web browser
- Cost effective way for multiple users within a facility to manage visitors without having dedicated access control software installed
- Remotely upload visitor images via the web prior to a scheduled visit
- Secure web page data transfer utilising Hyper Text Transfer Protocol with Secure Sockets Layer (HTTPS)

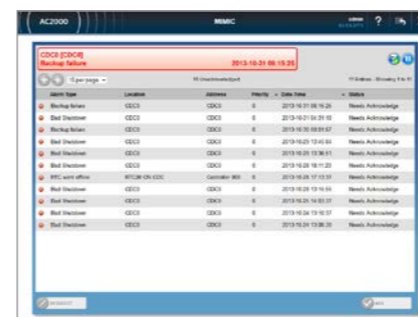
Key Features

- Web based access to view and edit room bookings

Key Features

- Instant web access to Alarm and Transaction reporting
- Choose to email, Print or 'Save As' a CSV file
- Users can choose Date Ranges, Devices, Cardholders and specific card transaction outcomes

AC2000 WEB Mimic



AC2000 WEB Mimic provides web based alarm event display for alarm monitoring, allowing alarm filtering and alarm acknowledgement/cancel from a web browser.

Key Features

- Web based access to alarm filtering, alarm sorting, alarm acknowledgement and alarm cancel functionality

AC2000 WEB Rolling Transaction Display (RTD)



AC2000 WEB RTD gives users the real time monitoring power of the AC2000 RTD in a convenient web interface. AC2000 WEB RTD allows staff to visually identify cardholders prior to their gaining access through a secure door.

Key Features

- Real time monitoring using the AC2000 WEB interface
- Multiple views to choose from
- Automatic display of cardholder details
- Ability to delay door opening until card transaction is verified

AC2000 WEB Personnel XML Export



Using the AC2000 WEB Personnel XML Export tool, system users can export AC2000 cardholder data in standard XML format for use in a third party system, for example Human Resources system.

Key Features

- Web based data export tool
- Extract cardholder data
- Choose to export specific company and department data and filter for different card status

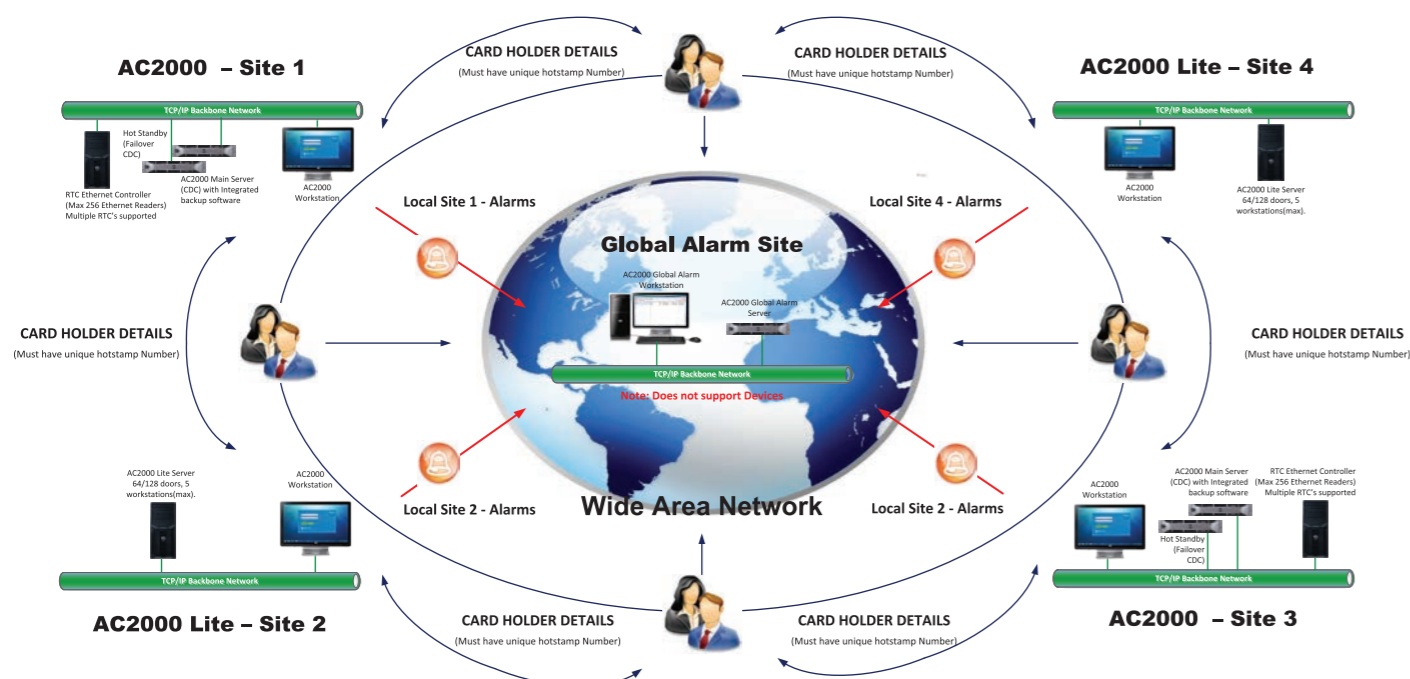
Product Codes	
SWXML-WEB	AC2000 WEB Personnel XML Export

Multiple Site Application

AC2000 Standard System Link

AC2000 Standard System Link offers the ability to link multi-site CEM AC2000 systems together. Designed for companies with multiple sites spread across geographical areas, Standard System Link allows security & IT managers to globally share card holder details/records. This removes this administrative duplication, allowing for seamless multi-site access control.

Product Codes	
SWSSL	Standard System Link



Key Features

- Seamless cardholder use over a globally installed access control system
- Report globally on Transactions and Alarms across sites

Integrations

CEM AC2000 system is available with interfaces to a range of third party security systems. CEM has a dedicated integration team which enables the development of interfaces on request.

Acting as the central security management system, the AC2000 system architecture also supports high levels of integration, offering customers one central command and control centre for access control, video, intrusion, perimeter detection etc.



AC2000 External Systems

The AC2000 External Systems application allows AC2000 to export access control information to third party systems. It allows the user to specify the format of alarm strings that are to be sent to the external system.

Product Codes	
AC2000 External Systems comes as standard with AC2000 software.	

Key Features

- Allows simple integration to third party systems without customisation or development

Video Interfaces

AC2000 exacqVision Interface



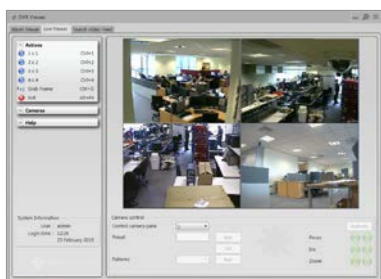
The AC2000 exacqVision interface to exacqVision Hybrid DVR (HDVR) and NVR video servers enables AC2000 to act as a flexible and fully integrated Security Management System (SMS). The interface provides the ability to define video alarm actions, view live footage as alarms occur, control cameras and run camera presets.

Key Features

- Seamless integration with exacqVision HDVR and NVR servers
- Associate access control alarms with digital video footage

Product Codes	
SWNVR-EX	exacqVision NVR/HDVR Interface

AC2000 American Dynamics Intellex DVMS Interface



AC2000 interfaces with American Dynamics Intellex® video management solution, providing the ability to associate access control alarms with digital video clips. Using the central AC2000 AED application, a DVR Viewer gives the operator a range of video imaging facilities to generate alarm reports with associated live video footage, as well as control camera positioning.



Key Features

- Fully integrated and seamless access control and video solution with American Dynamics DVMS Intellex

Product Codes	
SWDVR-AD	DVR Interface (American Dynamics Intellex® range)

AC2000 American Dynamics Hybrid Video Recorders Interface



The AC2000 video interface for American Dynamics Hybrid-DVR (HDVR) provides the ability to associate access control alarms with digital video clips and to view live camera footage. This enables AC2000 to act as the central Security Management System (SMS).

Key Features

- Seamless integration with American Dynamics HDVR
- Associate access control alarms with digital video footage

Product Codes	
SWHDVR-AD	American Dynamics HDVR Interface

AC2000 VideoEdge NVR Interface



The AC2000 video interface for American Dynamics VideoEdge v4.0 Network Video Recorder (NVR) provides the ability to associate access control alarms with digital video clips. AC2000 seamlessly integrates with VideoEdge NVR's, giving the operator a range of video related facilities to generate alarm reports with recorded video playback. The interface also allows system

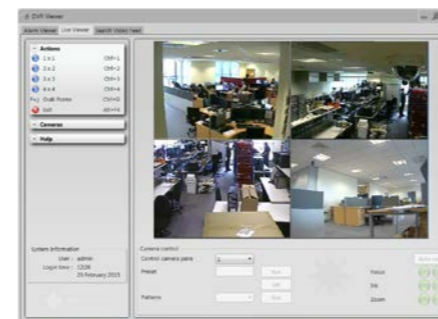
operators to view live video feed, configure live video popup on alarm, export video playback clips, take video snapshots, and control camera positioning and presets.

Key Features

- Seamless integration with American Dynamics VideoEdge Network Video Recorder
- Associate access control alarms with digital video footage
- Display up to 16 individual camera feeds simultaneously in a single screen virtual matrix
- Live video feed activated directly from AC2000 AED (Alarm and Event Display) application

Product Codes	
SWNVR-AD	American Dynamics VideoEdge NVR Interface

AC2000 American Dynamics TVR Interface



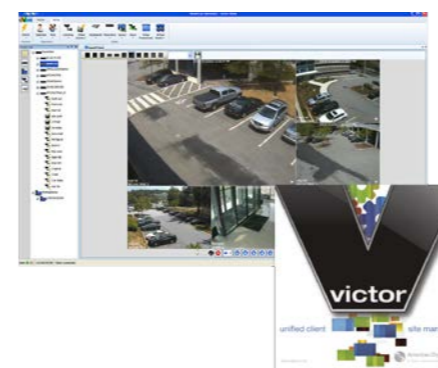
The AC2000 video interface for American Dynamics Embedded ADTVR provides the ability to associate access control alarms with digital video clips and to view live camera footage. This enables AC2000 to act as the central Security Management System (SMS).

Key Features

- Associate access control alarms with digital video footage
- Live video feed activated directly from AC2000 AED application

Product Codes	
SWADTVR-AD	American Dynamics ADTVR Interface

AC2000 victor Video Interface



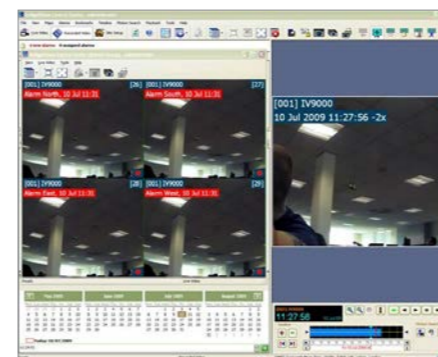
The AC2000 victor interface allows access control alarms to be sent to the American Dynamics victor unified video solution where they can be associated with video actions. Additionally, the AC2000 victor interface allows control of AC2000 devices from within the victor unified client, supporting access control features such as remote door Lock/Unlock and Oneshot-'remote door open'.

Key Features

- Associate access control alarms with live video footage
- Allows Victor users to remotely open/close AC2000 controlled doors

Product Codes	
SWUVS-AD	American Dynamics victor Interface

AC2000 IndigoVision NVR Interface



AC2000 provides the ability to associate access control alarms with IndigoVision digital video. The IndigoVision interface seamlessly integrates to live and recorded video footage on the IndigoVision Control Centre.

The operator is provided with a range of video imaging facilities to generate alarm reports with associated video, while simultaneously viewing live video feed. Utilising two way communications,

AC2000 can send and receive both access control and video alarms, allowing for a complete security and video management system.

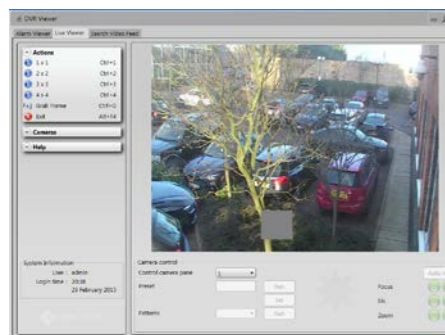


Key Features

- Centrally manage IndigoVision alarms via AC2000

Product Codes	
SWNVR-IV	IndigoVision NVR (Network Video Recorder) Interface

AC2000 Bosch VRM Interface



The AC2000 video interface for BOSCH provides the ability to associate access control alarms with BOSCH CCTV and video clips. If an alarm event contains associated video footage, the operator can access the footage within the AC2000 AED (Alarm Event Display) which will enable a DVR viewer.



Key Features

- Centrally manage BOSCH alarms via AC2000
- Associate live video feed directly from AC2000 AED application

Product Codes	
SWNVR-BO	Bosch NVR (Network Video Recorder) Interface (AC2000 v6.1 upwards)

AC2000 Bosch VMS Interface

The AC2000 video interface for BOSCH Video Management System (VMS) provides the ability to associate access control alarms with Bosch VMS digital video clips enabling AC2000 to act as the central Security Management System (SMS).

Product Codes	
SWINT-BOSCHVMS	AC2000 BOSCH VMS Interface

Key Features

- Live video feed activated directly from AC2000 AED (Alarm Event Display) application
- Live video pop-up based on priority or time

AC2000 Pelco Endura Interface

The AC2000 video interface for Pelco Endura provides the ability to associate access control alarms with Pelco Endura digital video clips, giving the operator a range of video imaging facilities to generate alarm reports with recorded video playback. The interface also allows system operators to view live video feed and control camera positioning.

Product Codes	
SWINT-PELCO	AC2000 Pelco Endura Interface



by Schneider Electric

Key Features

- Live video feed activated directly from AC2000 AED (Alarm Event Display) application
- Live video pop-up based on priority or time

AC2000 MatriVideo Interface

The AC2000 video interface for Instek Digital MatriVideo provides the ability to associate access control alarms with MatriVideo digital video clips, as well as to view live camera footage. This enables AC2000 to act as the central Security Management System (SMS).

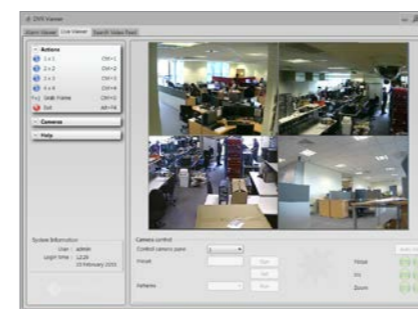
Product Codes	
SWVINT-MATRI	MatriVideo Interface (AC2000 v6.3 & upwards)



Key Features

- Seamless integration with Instek MatriVideo

AC2000 Mobotix Interface



AC2000 Mobotix provides the ability to associate access control alarms with digital video clips. The AC2000 'DVR Viewer' module seamlessly integrates with Mobotix cameras, giving the operator a range of video imaging facilities to generate alarm reports with recorded video playback. The interface also allows system operators to view live video feed and control camera positioning and presets.

Product Codes	
SWVINT-MOBO	Mobotix camera integration (AC2000 v6.6 & upwards)



Key Features

- Full two way integration
- View live and recorded CCTV footage within the AC2000 system

AC2000 Milestone XProtect Corporate Interface

AC2000 Milestone XProtect Corporate provides the ability to associate access control alarms with digital video clips. The interface also allows system operators to view live video feed and control camera positioning and presets.

Product Codes	
SWVINT-MILE	Milestone XProtect Corporate Video Interface (AC2000 v6.5 & upwards)



Key Features

- Full two way integration
- View live and recorded CCTV footage within the AC2000 system

AC2000 Genetec Omnicast Interface

AC2000 Genetec Omnicast provides the ability to associate access control alarms with digital video clips. This enables AC2000 to act as the central Security Management System (SMS).

In addition, AC2000 alarms can be configured to display on the Genetec Omnicast System. This allows for further alarm processing, logging, and cause and effect outside of the AC2000 system.

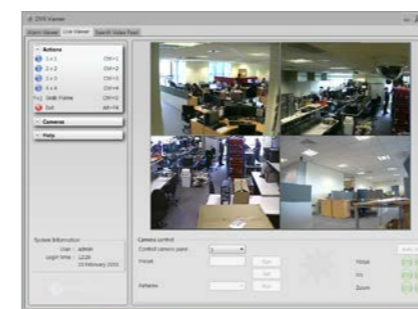
Product Codes	
SWVINT-OMNI	Genetec Omnicast Video Interface (AC2000 v6.5 & upwards)



Key Features

- Full two way integration
- View live and recorded CCTV footage within the AC2000 system
- Display AC2000 alarms through Omnicast System

AC2000 Genetec Security Center Interface



The AC2000 video interface for Genetec Security Center provides the ability to associate access control alarms with Genetec digital video clips. The AC2000 DVR Viewer module seamlessly integrates AC2000 with Genetec Security Center, giving the operator a range of video imaging facilities to generate alarm reports with recorded video playback.

Product Codes	
SWINT-GENETSC	AC2000 Genetec Security Centre Interface

Key Features

- Associate Access Control alarms with digital video footage
- Live video feed activated directly from AC2000 AED application
- Live video pop-up based on priority or time

Intruder Interfaces

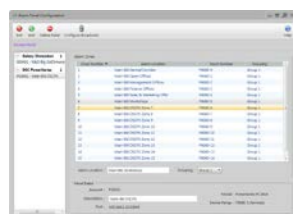
AC2000 Honeywell Galaxy Dimension Interface



The AC2000 Galaxy® Dimension interface enables alarms from Galaxy intruder panels to be integrated with the AC2000 security management system. This enables AC2000 to act as the central Security Management System (SMS).

Product Codes	
SWINT-GAL	AC2000 AC2000 Galaxy Dimension Interface

DSC PowerSeries Intruder Interface



The AC2000 DSC PowerSeries intruder interface enables alarms from DSC intruder panels to be fully integrated with the AC2000 security management system. The AC2000 DSC interface enables inputs from intruder panels to be placed as icons on a single alarm display screen-the CEM AED (Alarm & Event Display) application. This provides a graphical representation of the physical layout of intruder sensors and allows for central alarm monitoring of both access control and intruder alarms.

Product Codes	
SWINT-DSC	AC2000 DSC PowerSeries Intruder Interface licence

AC2000 Permaconn Interface

The AC2000 Permaconn interface allows AC2000 access control alarms to be transmitted to the Permaconn dialler as ContactID event codes. This provides the ability to monitor access control and intruder alarms from a central location.

Honeywell

Key Features

- Fully integrates with Honeywell Galaxy Dimension intruder panels with the access control system. One seamless solution for ease of administration

DSC

Key Features

- Seamless integration of access control system & DSC intruder system
- High level Bi-directional integration of DSC intruder panels
- Integrated virtual DSC keypad used to remotely arm/disarm DSC panels & alarms
- Activated alarms shown instantly within AC2000 AED (Alarm & Event Display) module-DSC panels sensors/icons placed on AED Maps

Key Features

- Integration between AC2000 and remote Central Monitoring Stations (CMS)
- AC2000 Alarms transmitted as ContactID event codes to CMS
- Highly secure, encrypted connection to the CMS

AC2000 Satel Integra Alarm Interface

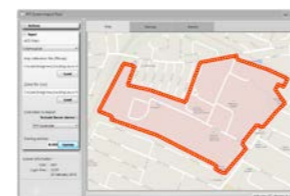


The AC2000 Satel Integra alarm interface enables alarms from Integra alarm panels to be fully integrated with the AC2000 security management system. Using the AC2000 Satel Integra interface and the central AC2000 AED (Alarm Event Display) graphical maps, system operators can quickly identify an intruder alarm and its exact location on site. This allows for a fast response time and a centralised and integrated viewpoint of both security systems.

Product Codes	
SWINT-INTEGRA	AC2000 Satel Integra Alarm Interface

Perimeter Detection

AC2000 FFT Cams 3 Interface



The AC2000 Future Fibre Technologies (FFT) Central Alarms Monitoring System 3 (CAMS 3) interface for perimeter detection allows alarms and events, Controllers and Zones from a FFT CAMS 3 installation to be incorporated into AC2000. This enables AC2000 to act as the central Security Management System (SMS).

Product Codes	
SWINT-FFTCAMS	AC2000 FFT CAMS 3 Interface

Other Interfaces

AC2000 Application Programming Interface (API)



AC2000 Application Programming Interface (API) provides a standardised and convenient way for developers to interface an external system into the AC2000 system.

Product Codes	
SWAPI	Application Programming Interface

Microsoft Active Directory Integration

AC2000 Microsoft Active Directory integration provides tighter system security and support for corporate IT user management and authentication. Based on the Lightweight Directory Access Protocol (LDAP) the AC2000 Microsoft Active Directory integration provides AC2000 cardholder record synchronisation and Microsoft Windows Single Sign-On (SSO). Access to the AC2000 system can be granted to users after using their Windows login credentials.

Product Codes	
SWINT- DIM	AC2000 Active Directory – Data Import
SWINT- SSO	AC2000 Active Directory – Single Sign on

Satel

Key Features

- Seamless integration of AC2000 access control and Satel Integra intruder Alarm System
- Activated alarms and panel condition shown instantly within AC2000 AED (Alarm Event Display) application for central monitoring
- Supports Ethernet networks

Key Features

- Incorporate perimeter defence alarms and events into the AC2000 AED (Alarm Event Display) application
- View real-time activity directly from the AC2000 AED application
- If external CCTV systems are also integrated, AC2000 Video alarm pop-up feature based on priority or time can be activated

Key Features

- This eradicates the need to design and develop custom interfaces

Key Features

- Single sign on using Window credentials
- Allows instant access to AC2000 software without need to enter username and password
- Import and continual updating of cardholder records removing need for data entry duplication

AC2000 Minerva MX Fire Interface

The AC2000 interface to the Tyco Minerva MX Range of Fire Panels enables alarms or events generated for MX Panels, Sensors and Zones to be fully integrated with the AC2000 security management system.

Product Codes	
SWFIRE-MX	Minerva MX Fire Interface

AC2000 Deister Keysafe Interface



The CEM Deister Keysafe Interface allows select personnel details from the AC2000 system to automatically populate the Deister 'proxSafe' system. AC2000 automatically exports a list of authorised keysafe access users, which is imported into the proxSafe server.

Key Features

- Seamless integration of AC2000 software with the Tyco Minerva MX Range of Fire Panels

Key Features

- Integrated solution for access control and securing keys and valuable equipment
- Reduces duplication of records and administration time of two separate systems

Product Codes	
SWDKEY	AC2000 Deister Keysafe Interface (v6.1 upwards)

Salto Sallis Wireless Locks Integration



The AC2000 Salto Sallis Wireless Locks interface enables the monitor and control wireless locks within AC2000. Locks are added into the AC2000 system allowing for remote monitoring of alarms and remote door opening.

Product Codes	
SWSALTO-16	Salto Sallis 16 Door License
SWSALTO-32	Salto Sallis 32 Door Licence
SWSALTO-64	Salto Sallis 64 Door Licence
SWSALTO-128	Salto Sallis 128 Door Licence
SWSALTO-192	Salto Sallis 192 Door Licence
SWSALTO-256	Salto Sallis 256 Door Licence



Key Features

- Seamless integration with AC2000
- Easy to install
- Live door monitoring

AC2000 Salto Off-line locks interface

The CEM AC2000 interface to Salto off-line locks allows communication with the Salto server and control of cardholder access permissions to off-line locks, directly from AC2000 Access Control System. This seamless interface supports bi-directional communication with the Salto system utilizing SHIP (Salto Host Interface Protocol).

Product Codes	
SWSHIP-16	Interface license for up to 16 door Salto Off-line locks
SWSHIP-32	Interface license for up to 32 door Salto Off-line locks
SWSHIP-64	Interface license for up to 64 door Salto Off-line locks
SWSHIP-128	Interface license for up to 128 door Salto Off-line locks
SWSHIP-192	Interface license for up to 192 door Salto Off-line locks
SWSHIP-256	Interface license for up to 256 door Salto Off-line locks

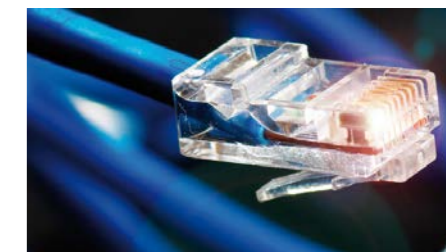
Key Features

- Seamless integration with CEM AC2000 System.
- Unlimited number of off-line locks supported.
- Off-line lock control is suitable for storage areas, lockers and office spaces etc. where real-time security monitoring is not a priority.

CEM Hardware

CEM consistently leads the industry in development of hardware and have developed several industry firsts including:

- Portable 'handheld' card reader
- Ethernet based IP card readers
- Fully Integrated Biometrics
- Power over Ethernet plus (PoE+) door control
- Intelligent card readers with in-built memory



Controllers

S9032/S9064 Controller

When choosing serial card readers, the S9032 and S9064 Controllers are central components of the AC2000 system. The controllers are intelligent networked devices for door entry/exit control and alarm monitoring.

The controllers provide full Ethernet connectivity, allowing users to remotely perform database administration and monitor alarms. The administrator can use web based user interfaces to remotely monitor the controller status at any time. In the event of communications failure with the host server, card transactions and alarms are stored in memory and will be uploaded to the host when communications are restored.

Key Features

- Fully scalable access control solution. To support more doors customers simply add another controller to seamlessly support serial readers
- Battery backup means the unit will continue to function even in the event of power failure



Product Codes	
DAC/390/032	S9032 Controller - supports up to 32 doors (64 readers IN/OUT)
DAC/390/064	S9064 Controller - supports up to 64 doors (128 readers IN/OUT)

RTC - Ethernet Reader Controller licence

The AC2000 RTC (Real Time Computer) is a software controller required for use with Ethernet based CEM readers and devices as part of the AC2000 and AC2000 Airport access control systems. The RTC software provides Ethernet reader controller software which is used by CEM readers and devices to communicate with the central CDC server. It has its own subset of the CDC server database which it uses to communicate to the readers. The RTC is used with CEM Ethernet devices such as the S610e reader, S610f reader, S3040 portable reader range, eDCM 300 (Door Control Module), eDCM 330 (Door Control Module), eDCM 300 Input/Output Module and the EIOC (Ethernet Input/Output Controller).

Key Features

- RTC distributes AC2000 database changes to connected CEM Ethernet readers and devices
- A single CDC server can use 256 RTC's to support up to 60,000+ readers doors-offering a powerful and fully scalable solution

Product Codes	
SWENET128	RTC - Ethernet Reader Controller Licence (1 to 128 doors)
SWENET256	RTC - Ethernet Reader Controller Licence (1 to 256 doors)
SWENETUPG128-256	RTC - Ethernet Reader Controller Upgrade Licence (from 128 to 256 doors)
SYS/101/300	RTC - Ethernet Reader Controller (PC with SWENET256 software installed)

DCM 300 - Low cost, two door controller



Available in both Ethernet and Serial options, the DCM 300 (Door Control Modules) are low cost, two-door intelligent controllers designed to interface third-party read heads with the CEM range of AC2000 access control systems.

eDCM 300

The eDCM 300 has an on-board Ethernet connection and communicates directly with the AC2000 central system. The eDCM 300 gives full off-line validation and decision making capability at the point of entry, when host communication is not available. The eDCM 300 supports third-party access control read heads

conforming to the physical Wiegand/Mag Stripe (data/data) interfaces, covering a range of technologies from RF Proximity to Biometric devices.

sDCM 300

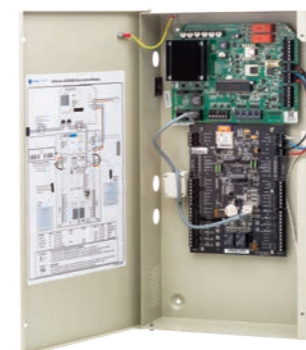
The sDCM 300 communicates with the AC2000 host system via RS485 communications to an S9032/64 serial controller. Like the eDCM 300, the sDCM 300 provides full off-line validation and supports third-party access control read heads conforming to the physical Wiegand/Mag Stripe (data/data) interfaces.

Product Codes	
DCM/310/006	sDCM 300 (Board Only)
DCM/310/101	sDCM 300 (Incl. 12v Power Supply & Enclosure)
DCM/300/006	eDCM 300 (Board Only)
DCM/300/101	eDCM 300 (Incl. 12v Power Supply & Enclosure)

Key Features

- Enables third party readers to be used on the CEM AC2000 system
For critical doors CEM recommends using advanced CEM card readers
- Support for two doors
- Structured database allows storage of large amounts of cardholder records for off-line card validation
- Onboard LED-provides visual status
- Eight Supervised inputs (four available per door)

DCM 380 – PoE+ Two Door Controller supporting sPass Readers



eDCM 380

The eDCM 380 is a low cost, two door controller designed to interface to CEM sPass DESFire smart card readers and the CEM range of access control systems. Power over Ethernet Plus (PoE+) connectivity also has the benefit of eliminating the need for an external local mains power supply at the door. The eDCM 380 supports CEM sPass DESFire smart card readers via encrypted RS485 interface.

Product Codes	
DCM/380/101	eDCM 380 (Incl. Enclosure)

DCM 330 - PoE+ Two Door Controller



eDCM 330

The eDCM 330 is a low cost two door controller that utilises Power over Ethernet Plus (PoE+) connectivity and has the benefit of eliminating the need for an external local mains power supply at the door. The unit can power all door furniture and two heavy duty maglocks via a single CAT 5e/6 network cable.

Key Features

- Enables third party readers to be used on the CEM AC2000 system
For critical doors CEM recommends using advanced CEM card readers
- On-board 10/100 Mbps PoE+ Ethernet connectivity to power the reader and doors via a single CAT5e/6 cable-no local mains power required
- Internal database holds large amounts of cardholder records at the door for off-line card validation
- Easy to install
- Dedicated tamper unit
- Low cost method of controlling up to two doors

Product Codes	
DCM/330/101	eDCM 330 (Intelligent 2 door Power over Ethernet (PoE+) controller) with enclosure

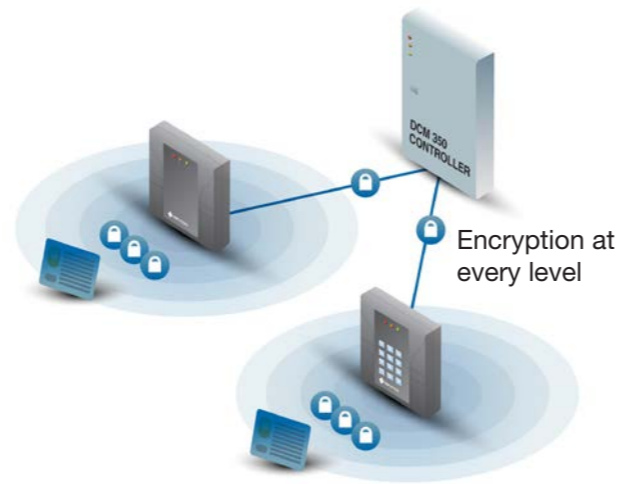
The Solution to Card Cloning...

Card Cloning refers to the copying of an access control card or fob in order to compromise electronic door security on an access control system. Sometimes referred to as 'card spoofing', a device is introduced to either duplicate a card or impersonate it. Card Cloning can best be combated using CEM's intelligent S610 reader range which offers two or three layers of authentication (card & PIN or card, PIN & Biometric). CEM also offers a solution for cases where a panel approach is required using the CEM DCM 350 controller and sPass reader.

sPass reader, DCM 350 controller & CEM DESFire card

Combats against card cloning & Wiegand signal cloning.

The CEM end-to-end DESFire solution offers a low cost, yet highly secure solution when a panel approach is required. When opting for a DESFire solution customers can either use the CEM S610 DESFire reader or the CEM sPass reader with the DCM 350 RS485 encrypted controller. The CEM contactless DESFire smart card completes the solution by utilising 3DES (Triple DES) encryption and featuring a pre-personalised card memory structure for customer convenience.



DCM 350 (Door Control Module)



The CEM DCM 350 (Door Control Module) is a low cost, two-door controller that is designed to interface to CEM sPass DESFire smart card readers. By utilising encrypted RS485 serial communications between the eDCM 350 controller and the sPass reader, the threat of Wiegand controller signal cloning is effectively eliminated. The DCM 350 is available in two options-the sDCM 350 supports serial devices while the eDCM 350 supports IP devices.

Benefits

- Support for two doors
- Enables sPass readers to be used on the CEM AC2000 system.
- RS485 encrypted communications between controller & sPass reader eliminates the threat of Wiegand signal cloning
- Internal database for offline card validation
- Self resetting fuses-saves maintenance time

Product Codes	
DCM/350/005	eDCM 350 (Board Only)
DCM/350/101	eDCM 350 (Includes enclosure, board & power supply/battery charger)
DCM/351/005	sDCM 350 (Board Only)
DCM/351/101	sDCM 350 (Includes enclosure, board & power supply/battery charger)

sPass DESFire Smart card reader



The CEM sPass reader is a low cost, contactless smart card reader with powerful security and encryption features. The sPass reader utilises 3DES (Triple DES) encryption and highly secure DESFire technology. It is designed to be connected to the CEM DCM 350 encrypted two-door controller, with encrypted

RS485 serial communications between the sPass reader and the controller. Combined as one solution, the sPass reader and DCM 350 controller offer a cost effective solution which combats against the threats of card cloning and Wiegand controller signal cloning.

Product Codes	
Grey Version	
RDR/D10/100	sPass DESFire Reader
RDR/D10/101	sPass DESFire Reader with keypad
Black Version	
RDR/D10/110	sPass DESFire Reader
RDR/D10/111	sPass DESFire Reader with keypad

Benefits

- Utilises highly secure DESFire technology-3DES authentication
- Secure RS485 serial encrypted communications to the DCM 350 controller-eliminates the threat of Wiegand signal cloning
- No permanent keys reside in the sPass reader
- No programming or set up required
- Available with keypad for added PIN security
- Available in grey or black

CEM DESFire Smart card



The CEM DESFire 13.56MHz read/write contactless smart card can be used for a range of different applications from access control to other applications such as cashless vending and public transportation. Using a standardised Mifare Application Directory (MAD), the card contains a structured file system offering

security for multiple applications and to support future growth.

Utilising 3DES (Triple DES) encryption, the CEM DESFire card information is securely stored on the card, ensuring that the card cannot be cloned and that only valid cards are granted access.

The CEM DESFire Smart card is available for use on the CEM complete reader range-emerald, S610 range, S610f and sPass reader range.

Product Codes	
CRD/218/004	CEM DESFire Card 4k byte – 3 DES encryption
CRD/218/008	CEM DESFire Card 8k byte – 3 DES encryption
CRD/229/004	CEM DESFire Card 4k byte – AES – 128 – bit encryption
CRD/229/008	CEM DESFire Card 8k byte – AES – 128 – bit encryption

Benefits

- Utilises highly secure 13.56MHz MiFare DESFire smart card technology
- Pre-personalised card memory allowing for usage in other system such as cashless vending
- Highly secure Triple DES (3DES) encryption
- No keys or file management costs

CEM Readers

Which readers to use?

CEM readers are the most advanced readers in the industry, featuring a Keypad for PIN security, an LCD display for reader messages and an internal database for offline operation at the secure door. Some customers may choose to install emerald terminals at the building entrance and S610e readers at the building exit, with S610f fingerprint readers then installed at high security areas in the building such as server rooms.

CEM Reader range

S610f Fingerprint Reader

For security critical areas such as server rooms



S610 Reader

For external doors

“CEM readers are the most advanced readers in the industry.”

DCM (Door Control Module)

Intelligent two door controller

To Interface third party readers or the CEM sPass reader to AC2000 or to monitor inputs e.g. window sensors, PIRs and non access control doors

S3040 Portable Reader range

For roaming checks inside and outside the premises

emerald Intelligent Access Terminal Range



emerald is a multi functional intelligent access terminal, that is revolutionising the security industry. With its sleek design and LCD touch screen, emerald provides a range of features that are truly unique. Available in three options to suit a range of business needs, emerald is a powerful reader and controller in one, featuring a fully integrated VoIP intercom and a range of Remote Applications that provide a whole new multifaceted access control experience.

emerald Requirements

AC2000 software v6.6 upwards

Key Features

- Industry's most advanced multifunctional IP access terminal
- User-friendly 4.3" LCD touch screen
- Intuitive Graphical User Interface enhancing user experience at the door
- Ability to run Remote Applications from AC2000 Central Database Server (TS300 only)
- Maintenance Information/Security Intelligence Point
- Fully integrated VoIP intercom functionality (TS200 & TS300 only)
- PIR motion detection
- Ethernet Reader & Controller in one device
- Four analogue inputs to monitor alarm conditions and two changeover relay outputs to activate door strike or other equipment
- Off-line database for 250,000 cardholder records
- Support for a range of smart card technologies
- Power over Ethernet Plus technology
- Easy to install



Sophisticated LCD Touch screen

A bright, scrollable 4.3" graphical LCD touch screen with hardened glass, displays predefined messages and icons to cardholders depending on their privileges e.g. Wrong Zone, Lost/Stolen Card, Card About to Expire and Access Granted. With a built-in mini PIR sensor, the terminal features motion detection and automatically lights up upon detecting an approaching person.



IP Reader & Controller

emerald communicates directly to the CEM AC2000 host server using Ethernet connectivity, removing the need for an additional controller in the system design. The terminal has a large internal database that enables it to operate in offline mode. In off-line mode the terminal can hold up to 250,000 cardholder records and 50,000 card transactions.



VoIP Intercom (TS200/300 versions only)

The emerald intelligent access terminal has fully integrated audio intercom functionality which provides the ability to initiate bi-directional audio communications upon user requests.



Remote Applications (TS300 only)

Remote Applications are web based applications and services hosted on the AC2000 central database server and accessed directly at the door. The Remote Applications display system information such as card status, scheduled visitors, change PIN. Maintenance Applications also include devices with most alarms and device settings which allow engineers to locally diagnose devices and change network information remotely. This uniquely positions emerald as a security intelligent point, with AC2000 system intelligence available for use at the door.

emerald TS100

Intelligent Access Terminal

emerald TS100 offers high levels of security at the door using the latest technologies, including a scrambled keypad option for PIN verification. As a powerful IP reader and controller in one device, the TS100 features an on-board 100Mbps Ethernet connection and communicates directly with the AC2000 host server. This removes the need for an additional intelligent control panel in the security system design.

Product Codes	
TSR/100/105	emerald TS100 intelligent access terminal (MiFare CSN/ DESFire CSN/CEM DESFire)
TSR/100/108	emerald TS100 intelligent access terminal (iClass & iClass SE)

emerald TS200

Intelligent Access Terminal & VoIP Intercom

emerald TS200 features an innovative LCD touch screen, advanced access control functionality and built-in VoIP intercom, all in one powerful device. The terminal not only controls access to restricted areas but also gives users fully integrated intercom functionality at the door. Featuring a built-in microphone and speaker, the TS200 supports integrated intercom functionality by providing two way communications upon user requests.

Product Codes	
TSR/200/105	emerald TS200 intelligent access terminal (MiFare CSN/ DESFire CSN/CEM DESFire)
TSR/200/108	emerald TS200 intelligent access terminal (iClass & iClass SE)

emerald™ TS300

Intelligent Access Terminal with VoIP Intercom & Remote Applications

With all the features of the emerald TS100 and TS200 as standard, one of the unique features of the TS300 Terminal is the ability to run applications that are remotely hosted on the central AC2000 database server. Available to certain users with specific access permissions, these applications display critical statistics and information important for system maintenance, such as top system alarms and most recent alarms on the terminal.

Product Codes	
TSR/300/105	emerald TS300 intelligent access terminal (MiFare CSN/ DESFire CSN/CEM DESFire)
TSR/300/108	emerald TS300 intelligent access terminal (iClass & iClass SE)

S610 Reader Range



The CEM S610 reader range offer keypad for optional PIN security, a backlit LCD for displaying reader messages such as 'Wrong Zone', 'Lost/Stolen Card', 'Access Granted' and an internal database giving full off-line validation at the door at all times. The readers are designed to suit the look and feel of modern buildings.

Key Features

- LCD to display reader messages such as 'Lost Stolen Card', 'Wrong Time Zone' and 'Access Granted'
- Messages can be configured via AC2000 software & can be translated into local languages
- Internal database allows storage of large amounts of cardholder records for off-line card validation. Over 200,000 card records are stored in the reader's internal database and 8,000 transactions are stored off-line
- Large 4x3 keypad for optional PIN security
- 4 analogue inputs to monitor alarm conditions and 2 changeover relay outputs to activate equipment
- Simplified installation-S610 reader communicates directly to host server; no need for an additional controller in the system design
- IP 66 rated polycarbonate enclosure protects against dust and water
- Available in grey or black



S610e Reader

Multi-technology, intelligent IP card reader

CEM S610e reader utilises Ethernet connectivity allowing it to communicate directly with the AC2000 host server, removing the need for an additional intelligent control panel in the system design-the industry's most advanced IP card reader.



S610s Reader

Multi-technology, intelligent serial card reader

The CEM S610s reader has an RS485 serial port allowing it to communicate with the AC2000 host system via the S9032 or S9064 controller.

S610 Exit Reader

The S610 Exit readers are designed for any area where exit door control is required in addition to entry control. S610 Exit readers can be used in conjunction with the S610s and S610e card readers for associated exit access.

Product Codes	
S610e Reader	
Grey Version	
RDR/610/101	S610e Card Reader with PIN (125kHz HID Proximity)
RDR/610/104	S610e Multi Technology Card Reader with PIN (125kHz Proximity & Mifare CSN)
RDR/610/105	S610e Card Reader with PIN (Mifare CSN) Smartcard
RDR/610/107	S610e Card Reader with PIN (DESFire) Smartcard
RDR/610/608	S610e Card Reader with PIN (iClass SE) Smartcard
RDR/610/109	S610e Card Reader with PIN (No Read Tech) supports 2 wiegand readers
Black Version	
RDR/610/111	S610e Card Reader with PIN (125kHz HID Proximity)
RDR/610/114	S610e Multi Technology Card Reader with PIN (125kHz Proximity & Mifare CSN)
RDR/610/115	S610e Card Reader with PIN (Mifare CSN) Smartcard
RDR/610/117	S610e Card Reader with PIN (DESFire) Smartcard
RDR/610/618	S610e Card Reader with PIN (iClass SE) Smartcard
RDR/610/119	S610e Card Reader with PIN (No Read Tech) supports 2 wiegand readers

S610s Reader	
Grey Version	
RDR/611/101	S610s Card Reader with PIN (125kHz HID Proximity)
RDR/611/104	S610s Multi Technology Card Reader with PIN (125kHz Proximity & Mifare CSN)
RDR/611/105	S610s Card Reader with PIN (Mifare CSN) Smartcard
RDR/611/107	S610s Card Reader with PIN (DESFire) Smartcard
RDR/611/608	S610s Card Reader with PIN (iClass SE) Smartcard
RDR/611/109	S610s Card Reader with PIN (No Read Tech) supports 2 wiegand readers
Black Version	
RDR/611/111	S610s Card Reader with PIN (125kHz HID Proximity)
RDR/611/114	S610s Multi Technology Card Reader with PIN (125kHz Proximity & Mifare CSN)
RDR/611/115	S610s Card Reader with PIN (Mifare CSN) Smartcard
RDR/611/117	S610s Card Reader with PIN (DESFire) Smartcard
RDR/611/618	S610s Card Reader with PIN (iClass SE) Smartcard
RDR/611/119	S610s Card Reader with PIN (No Read Tech) supports 2 wiegand readers

S610 Exit Reader	
Grey Version	
RDR/612/101	S610 Exit Card Reader with PIN (125kHz HID Proximity)
RDR/612/104	S610 Exit Card Reader with PIN (125kHz Proximity & Mifare CSN)
RDR/612/105	S610 Exit Card Reader with PIN (Mifare CSN) Smartcard
RDR/612/107	S610 Exit Card Reader with PIN (DESFire)
RDR/612/608	S610 Exit Card Reader with PIN (iClass SE)
RDR/612/109	S610 Exit Card Reader with PIN (No Read Tech) - supports 2 wiegand readers
Black Version	
RDR/612/111	S610 Exit Card Reader with PIN (125kHz HID Proximity)
RDR/612/114	S610 Exit Card Reader with PIN (125kHz Proximity & Mifare CSN)
RDR/612/115	S610 Exit Card Reader with PIN (Mifare CSN) Smartcard
RDR/612/117	S610 Exit Card Reader with PIN (DESFire)
RDR/612/618	S610 Exit Card Reader with PIN (iClass SE)
RDR/612/119	S610 Exit Card Reader with PIN (No Read Tech) - supports 2 wiegand readers

S610f Fingerprint Reader



Integrated fingerprint card reader

The S610f Fingerprint Reader has all the features of the S610 range but with the added benefit of biometric verification. It is a fully integrated biometric and access control reader that is used to control access to restricted areas where an additional biometric layer of security is required. The reader, which has on-board Ethernet connection, communicates directly with the AC2000 host server removing the need for an intelligent control panel in the system design. Featuring a controller, advanced IP card reader and single biometric solution all in one device, the S610f fingerprint reader meets requirements for three stage identity authentication (card, PIN, and biometric verification).

Key Features

- Industry's most advanced IP fingerprint card reader
- Fast fingerprint verification and offers three layers of security-Card, PIN and fingerprint
- Integrated fingerprint solution- Fingerprints are captured and enrolled on the AC2000 system at the same time as card personnel details captured
- Secure biometric storage- fingerprints captured and securely encrypted and stored on the AC2000 host system

S610f Fingerprint Reader	
RDR/615/101	S610f Fingerprint Card Reader with PIN (with onboard 125kHz HID Proximity)
RDR/615/105	S610f Fingerprint Card Reader with PIN (Mifare CSN) Smartcard
RDR/615/608	S610f Fingerprint Card Reader with PIN (with onboard iClass SE) Smartcard
RDR/615/107	S610f Fingerprint Card Reader with PIN (DESFire) Smartcard
RDR/615/104	S610f Fingerprint Multi Technology Card Reader with PIN (125kHz Proximity & Mifare CSN)

“CEM was the first in the industry to develop a portable reader!”

S3040 Portable Reader



The S3040 is a lightweight and rugged hand-held card reading device for use with the AC2000 access control and security management system.

The S3040 can be used in a wide range of scenarios where mobility is paramount. For example, it can be used by a security guard either in a patrolling mode within predefined zones, or at fixed temporary locations where there is no power, to verify that a cardholder is authorised to be at that location and to record their presence. Other scenarios include construction sites, bus and train stations, airside/landside boundaries, and random checks within large commercial sites.

Key Features

- Authenticate cardholder details anywhere, even if mains power is unavailable
- Encrypted Storage of up to 200,000 cardholders on-board
- Dual credential authentication through card swipe and visual confirmation of cardholder photograph
- Mustering, Occupancy, Roaming and Random Check functionality
- IP68 rated rugged design and lightweight at just over 550g
- High-res 3.5" TFT LCD QuadraClear® sunlight readable display
- LifeSupport™ hot swappable batteries

Product Codes	
RDR/304/001	S3040 Portable Card Reader (125kHz HID Proximity)
RDR/304/005	S3040 Portable Card Reader (13.56MHz MiFare/DESFire CSN)
RDR/304/008	S3040 Portable Card Reader (iClass SE)

CEM Validation Readers



CEM produces a range of card readers which can be connected to an AC2000 workstation to validate cards and biometrics onto the system.

S610 Validation Readers	
RDR/280/608	S610 Validation Reader (iClass SE)
RDR/280/105	S610 Validation Reader (Mifare CSN/CEM DESFire)
RDR/280/109	S610 Validation Reader (No Head)

S610f Validation Reader Options - to add biometric record to the AC2000 System	
RDR/615/201	S610f Fingerprint Validation Reader (125 kHz Proximity)
RDR/615/205	S610f Fingerprint Validation Reader (Mifare CSN/CEM DESFire)
RDR/615/608	S610f Fingerprint Validation Reader (iClass SE)

Power over Ethernet Plus (PoE+) Access Control

Power over Ethernet Plus (PoE+) is an innovative technology which allows devices to receive power and communications via a single CAT 5e/6 cable. CEM currently offers two complete PoE+ solutions to accommodate both CEM readers and third party readers.

Industry First...

DIU 230 (PoE+ Door Interface Unit)

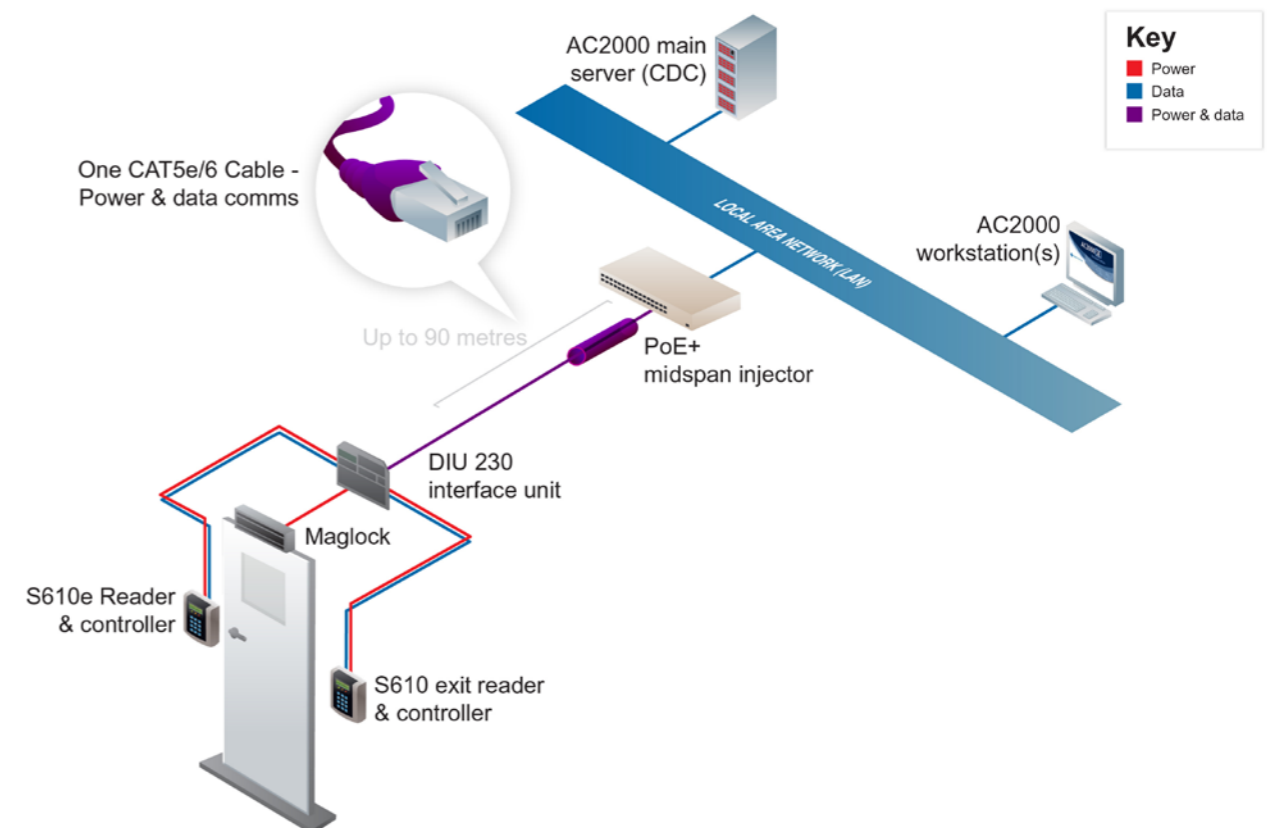


CEM offers an innovative Power over Ethernet Plus (PoE+) solution. Using the CEM DIU 230 (Door Interface Unit) within the AC2000 system architecture offers substantial project cost savings. DIU 230 utilises PoE+ connectivity, which delivers up to 2 amps at the door-powering all door furniture and two heavy duty maglocks via a single CAT 5e/6 network cable. As power can be provided to the door via the same Ethernet cable which provides communications, this has the benefit of eliminating the need for an external local mains power supply at the door-reducing significantly installation costs. The DIU 230 requires the use of a central Midspan Injector between the server and the door. (See price list for Midspan options.)

Key Features

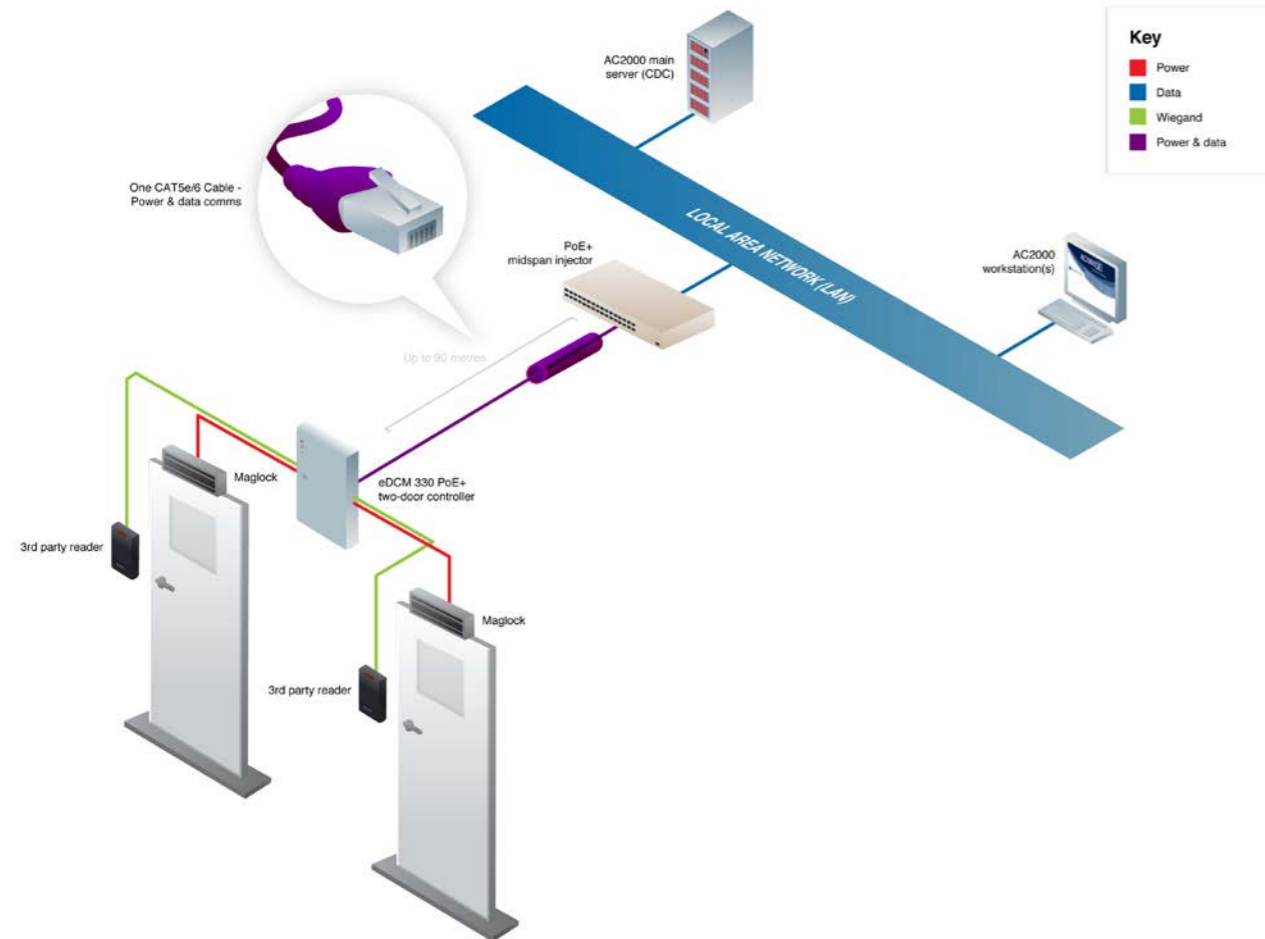
- Industry's first PoE+ door controller
- Simplifies installation-No mains or power supply unit required at the door. CEM Ethernet readers, heavy duty maglocks and door furniture can all be controlled from one PoE+ device (located up to 90m away)
- Can be installed by IT network installers without the expense of an electrician or electrical contractor
- Where local power is not readily available, the DIU 230 can offer significant cost savings

Product Codes	
DIU/700/230	DIU 230 PoE + (Board only)
DIU/700/231	DIU 230 PoE + (with enclosure)



eDCM 330 - PoE+ Two Door Controller

The eDCM 330 offers the benefit of PoE+ technology combined with the flexibility of using third party readers. The eDCM 330 eliminates the need for an external local mains power supply at the door. For further details, please see the Controller section.



CEM Lift Control

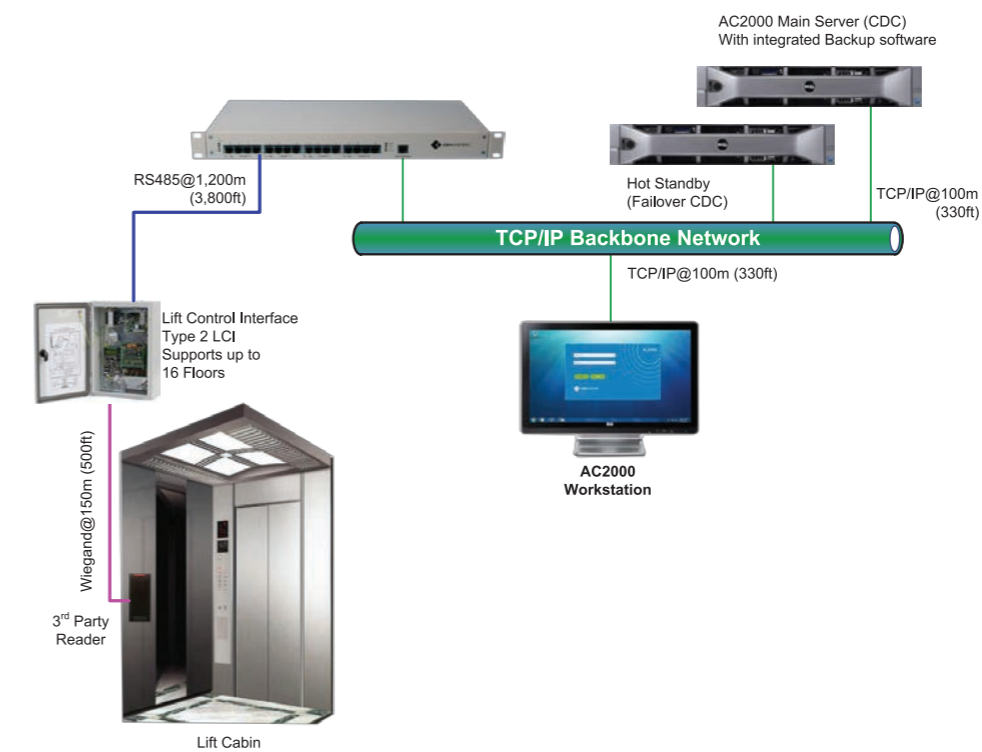
The CEM lift control solution allows seamless control and monitoring of access between elevator floors.

S9032 Lift Controller

At the heart of the CEM lift control solution is the S9032 Lift Controller. The S9032 controller is used in conjunction with CEM's range of lift interface units and can control up to 128 floors.

Each lift controller supports up to 2 lifts and depending on how many floors need controlled, customers can choose from a range of lift control interfaces (LCI's) including; Type 2 Interface-up to 16 floors, Type 3 interface-up to 32 floors, Type 4 interface-up to 64 floors or Type 5-controlling up to 128 floors.

Product Codes	
DAC/390/L32	S9032 Lift Controller



Lift Control Interface



Used in conjunction with the S9032, the AC2000 Lift Control Interface (LCI) allows seamless control and monitoring of access between elevator floors. An LCI unit directly connects to a lift floor selection panel. The LCI unit outputs activate buttons on the lift floor selection panel according to the access permissions of the card holder. LCI inputs then record which button was pressed.

Product Codes	
IOC/000/008	Lift Control Interface Type 2 (up to 16 floors)
IOC/000/009	Lift Control Interface Type 3 (up to 32 floors)
IOC/000/010	Lift Control Interface Type 4 (up to 64 floors)
NCN/100/203	Lift Control Interface Type 5 (up to 128 floors)

Auxiliary

Ethernet Communications Module (ECM)



The ECM (Ethernet Communication Module) is a serial to Ethernet converter that enables CEM serial communication devices (such as the S610s reader range and the sDCM 300), to connect to the AC2000 central system via an Ethernet LAN. A chain of up to 16 RS485 CEM devices can be connected to a single ECM (up to a maximum distance of 1.2 KM). This provides a cost effective means of connecting groups of serial readers to the AC2000 system from a single Ethernet point.

Product Codes	
ECM/200/000	ECM Ethernet Communications Module - includes board, box & PSU

DCM 300 I/O Modules



The CEM DCM 300 Input/Output Module provides a flexible means to monitor and control a wide array of external equipment. Like the standard DCM 300, the DCM 300 I/O Module is available in Ethernet and Serial options. The DCM 300 I/O features eight analogue inputs and four outputs that are used to give spare inputs/outputs on the access control system.

The eDCM 300 I/O Module can connect directly to the AC2000 Server via the IP network while the sDCM 300 I/O Module connects to the 9032/9064 controller.

Product Codes	
IOC/300/101	eDCM 300 Ethernet Input Module (Incl. 12v Power Supply & Enclosure)
IOC/300/006	eDCM 300 Ethernet Input Module (Board Only)
IOC/310/101	sDCM 300 Serial Input Module (Incl. 12v Power Supply & Enclosure)
IOC/310/006	sDCM 300 Serial Input Module (Board Only)

Benefits

- Enables serial devices to be used on an AC2000 Ethernet system
- Customers can use a Hybrid system with Ethernet readers and serial readers where serial is required to meet distance requirements

Benefits

- Control external equipment such as intruder panels, PIR detectors, heating controls etc
- Input to Output mapping allows functionality such as proximity sensors being used to turn on lights; break glass switches, sounders and releasing door locks

Benefits

- Sends SMS text messages in the event of an alarm
- Plug and Play
- Web based configuration and management
- Integrated quad-band GSM modem
- Desktop or Panel mounting

SMS Server



The SMS Server empowers CEM AC2000 products with the ability to send SMS text messages in the event of an alarm. The ready-to-use solution simply plugs into the Ethernet network and connects to the wireless network via an integrated quad-band GSM modem. This allows quick and easy communication of alarm events to designated mobile cell phones.

Product Codes	
CEQ/060/100	SMS Server

DIU 200/DIU 210 (Door Interface Units)



The DIU 200 and DIU 210 door interface units are designed to provide power to a door lock, as well as local power to a CEM reader. It has onboard inputs which can be used to monitor conditions such as a fire alarm or activated break-glass condition.

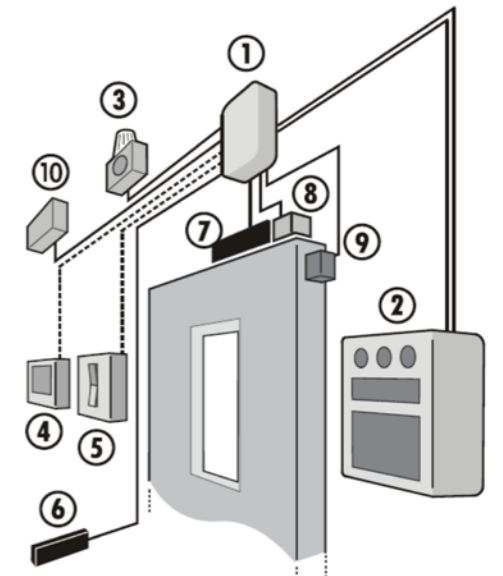
The DIU 210 is provided in a steel enclosure complete with power supply backplane and an output for an additional door holder, where as the DIU 200 is supplied as a board only version.

Product Codes	
DIU/700/200	DIU 200 (Compact Board Only DIU module)
DIU/700/210	DIU 210 Full DIU incl Enclosure/PSU (Does not include backup batteries)

Key Features

- Improved door security-Controls and monitors door locks and furniture, as well as intelligent CEM card readers
- Additional anti-tamper protection at the door
- Battery back-up for emergency power to the door
- Direct interfaces to CEM card readers, electric door locks, fire alarm systems, break glass units, exit push button and inputs from alarm devices

- DIU210 Unit Enclosure with PSU and Tamper Switch
- Reader
- Sounder
- Break Glass Unit Secure side
- Rex/Secure side push button or Exit Reader
- Door Holder
- Door Lock (12V or 24V)
- Lock Sense
- Door Position sensor
- Fire alarm system



EIOC (Ethernet Input Output Controller)



The Ethernet Input Output Controller (EIOC) is an addition to the Ethernet suite of devices for use on the AC2000 system. Connecting to the nearest network point the EIOC provides a flexible means to monitor and control an array of equipment. The EIOC features 16 analogue inputs and 8 digital outputs. The 16 analogue inputs can be cross-mapped to one or many of the outputs upon activation/deactivation.

Key Features

- Ethernet connectivity to host
- Backup battery connection for emergency power (optional)
- Dedicated tamper input
- 16 Inputs (2 or 4 state)
- 8 Outputs (4 Relay NO/NC and 4 Open Collector)

Product Codes	
IOC/010/000	EIOC (Complete with PSU Enclosure)



CEM SYSTEMS

From Tyco Security Products

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