

# CEM Systems DCM 400

## Four-Door Intelligent Encrypted IP Controller



### Key Features

- Intelligent true four-door controller
- Reader communications via encrypted RS485 OSDP v2 or Wiegand
- Onboard 10/100 Mbps Ethernet host connection
- Three way Ethernet Layer 2 switch
- Smart power management automatically detects supply
- Onboard battery charging and switchover
- Encrypted host communications with TLS and AES encryption
- Database supports 500,000 cardholder records for full off-line card validation
- Sixteen monitored inputs
- Eight outputs (2 per door) with user selectable current limits
- Overlay wiring guide
- Onboard LEDs and LCD display provides status information
- Twelve character keypad
- Active optical tamper with option for external tamper
- Suitable for use with AC2000 access control suite of products

\*DCM 400 supports CEM Systems approved and supplied OSDP v2 compliant readers only.

### Intelligent true four-door controller

The CEM Systems DCM 400 (Door Control Module) is an intelligent four-door controller designed to directly interface CEM Systems AC2000 access control system (version 10.2 and higher) with Wiegand or CEM Systems approved and supplied Open Supervised Device Protocol (OSDP v2) smart card readers.

The DCM 400 supports eight Wiegand or OSDP compliant readers (Entry/Exit configuration) for bi-directional control on four doors.

Using powerful 32-bit processors, the DCM 400 gives full off-line verification and decision making at the point of entry, even when host communication is not available.

### Network communication

Three onboard network ports provide reliable network communications. Host communications are secured with TLS and AES encryption. Digital certificates secure hardware based key storage with FIPS SP800-56A Elliptic Curve Diffie-Hellman and NIST standard P256 elliptic curve.

### OSDP v2 support

OSDP is an Open Supervised Device Protocol for peripheral devices. With added secure AES 128 encryption, it provides bi-directional communications and advanced security features for connecting OSDP compliant card readers to DCM 400 control panels, eliminating the threat of Wiegand signal cloning.

### Off-line card verification

The card database is initially downloaded to the DCM 400 internal memory from the AC2000 host server, with subsequent changes to card data automatically sent as updates. This



### Dedicated onboard tamper

An active proximity sensor measures relative distance from the board to the door. There is also an option to add an additional wired tamper sensor.

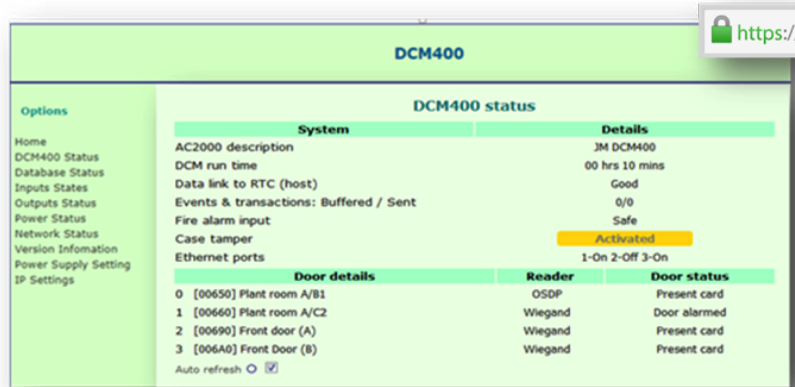
### Fire relay interface

Dedicated fire relay on board that drops power to the locks via a single connection for ease of installation.

### Web dashboard

The DCM 400 dashboard can assist with local and remote troubleshooting, monitoring and configuration of the DCM 400, and equipment connected to it. The dashboard provides users with visual indicators and details on power supply status, door status, input states, output status, network status, and database status.

The dashboard also allows users connected to the DCM network the ability to remotely configure network settings and current limits for outputs (read heads, locks and auxiliary outputs).



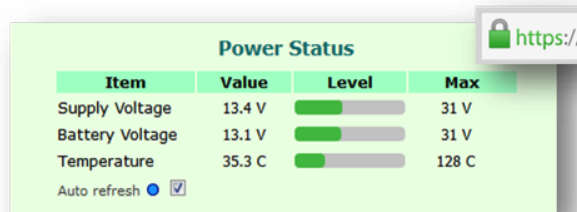
DCM 400 web dashboard

### Smart power management

Power options\* available for the DCM 400 include mains PSU option and board only option. The DCM 400 automatically detects supply from 10VDC to 28VDC, simplifying installation without the need for jumper-links or configuration.

The power status for the DCM 400 supply and batteries can be monitored via the Power Status web page of the DCM 400 Dashboard, providing clear visual indicators for troubleshooting and monitoring of supply voltage, battery voltage, battery charge level and battery status.

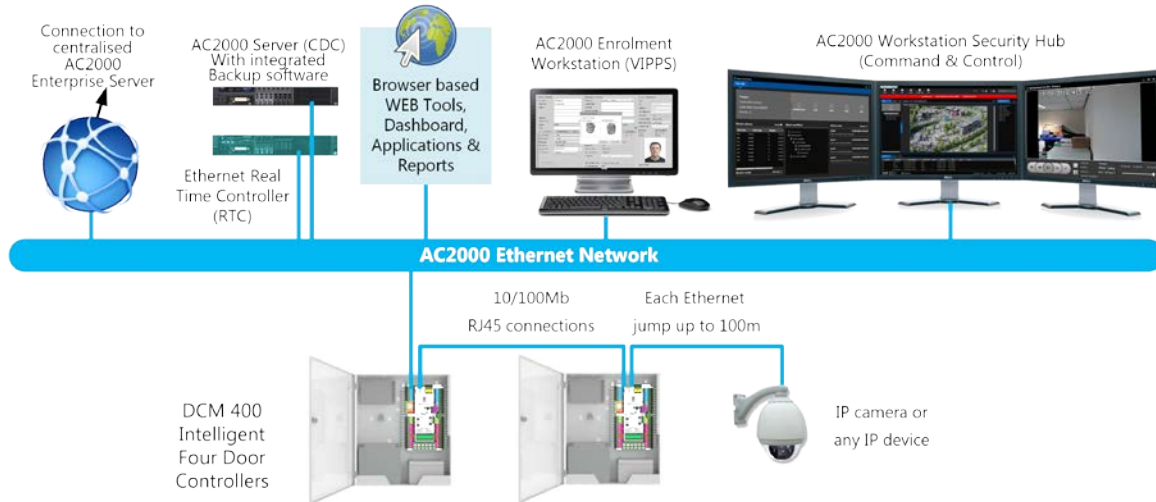
\*Power Over Ethernet (POE+) PSU option is currently in development.



DCM 400 Dashboard 'Power Status' webpage

## Integral Ethernet switch

DCM 400 includes three 10/100Mb RJ45 connections for Ethernet networking. The built-in layer-2 switch allows for ease of access for web diagnostics and for connection to downstream controllers and IP cameras.



DCM 400 daisy chain network configuration

## Installer led enclosure design

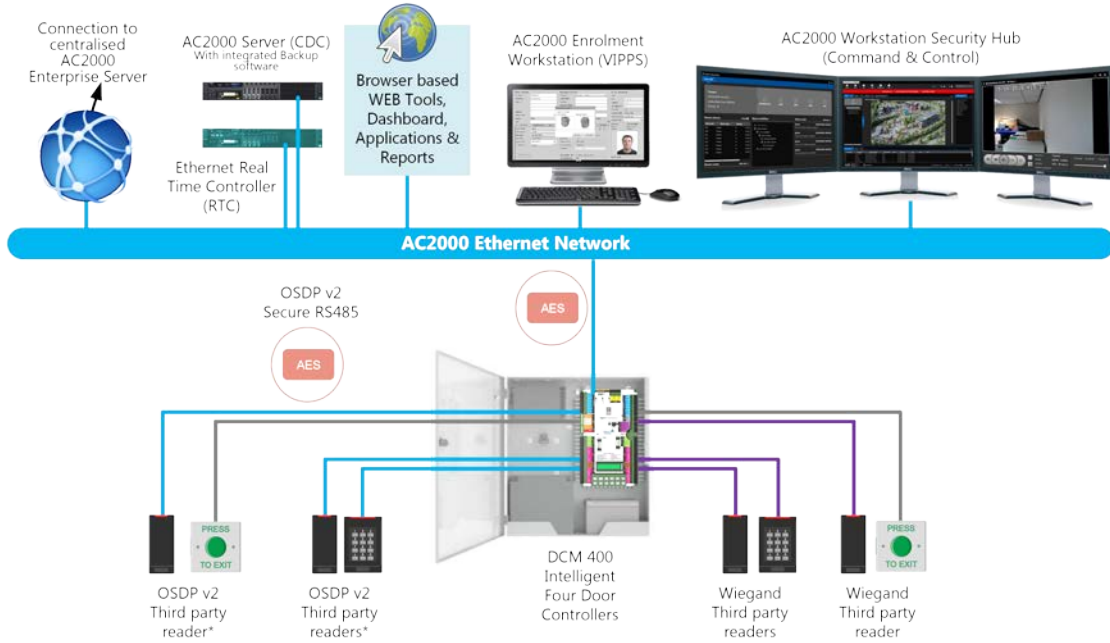
The lockable DCM 400 enclosure has been designed with the installer in mind. A removable door improves access to the DCM 400 board when working in confined spaces. Light pipes on the enclosure door that align with status LEDs on the DCM 400 board provide visual confirmation on the power and connectivity status of the door controller without the need to open the enclosure. Strategic punchouts on the sides of the enclosure allows for 20mm or 25mm conduit and cable tie points within the enclosure provide flexible cable management options for installers.



DCM 400 lockable enclosure with LED light pipes and punch outs for cabling

## Future proof migration

Both OSDPv2 and Wiegand readers can be supported on the same DCM 400 controller (OSDPv2 or Wiegand readers per door). This provides a future proof solution for those that wish to migrate from Wiegand readers to more secure OSDPv2 readers.



\*DCM 400 supports CEM Systems approved and supplied OSDP v2 compliant readers only

## Specifications

Physical	
Dimensions – Board only (HxWxD)	275 x 160 x 30 mm (10.8 x 6.3 x 1.2 inches)
Dimensions – Enclosure (HxWxD)	430 x 405 x 85 mm (16.9 x 15.9 x 3.3 inches)
Weight	5.9 kg (13.0 lbs)
Housing	Steel enclosure
Power	
Supply Input Voltage – Board only	12 to 28 VDC
Supply Input Voltage – Enclosure	Input: 100-120 VAC / 200-240 VAC (selectable) 50/60 Hz 150 W Output 13.5 VDC
Power Over Ethernet Option <i>(In development)</i>	IEEE 802.3.bt POE++ 90 W / 72W at PD
Environmental	
Operational Temperature	-20°C to 50°C (-4°F to 122°F)
IP Rating	IP20
Functionality	
LED indicators	Power – visible externally on enclosure Link to Host, Comms RX/TX Fault/Tamper
LCD Display & Keypad	Fitted - 2x16 ASCII text with backlight Diagnostics and Setup Twelve character capacitive light-touch keypad
Inputs	Sixteen supervised inputs (4x4) – voltage supplied Giving four state – supervised
Outputs	Eight outputs ( 4 x 2 with shared current limiting) • 4x Relay @ 10-28 V @ 2A with high side switching or dry contact • 4x FET @ 10-28 V @ 5A Switchable ground Current monitored Current limited (stabilised ) Surge protected
Reader capacity	Eight readers – combination of RS485 OSDP compliant readers* (per door) or Wiegand readers (per door)
Configuration	Operational parameters are downloaded from host computer
Cardholders	500,000 cardholders
Transactions	80,000 offline events (transactions and alarms)
Real time clock	Accurate RTC with rechargeable battery backup
Communication Interface	
To Readers	Encrypted OSDP RS485 Wiegand (Data /Data)
To System Host	10/100 Base-T TCP/IP using CAT5 Unshielded twisted pair cable
Host Connection	RJ45
Regulatory	
Agency Certifications	CE (Designed for UL294)

\*DCM 400 supports CEM Systems approved and supplied OSDP v2 compliant readers only.  
Contact [cem.sales@tycoint.com](mailto:cem.sales@tycoint.com) for full list of supported OSDP v2 readers available from CEM Systems.

## Requirements

- AC2000 v10.2 software and higher
- AC2000 Lite v10.2 software and higher
- AC2000 Airport v10.2 software and higher
- RTC Ethernet Reader Controller
- CEM Systems approved and supplied OSDP v2 compliant readers or Wiegand readers

## Ordering Information

Product Code	Description
DCM/400/004	DCM400 Board only
DCM/400/104	DCM400 Board and Enclosure
DCM/400/114	DCM400 Board, Enclosure and 12V Power supply unit
DCM/400/124	DCM400 Board, Enclosure and 24V Power supply unit

To order contact [cem.sales@tycoint.com](mailto:cem.sales@tycoint.com) or call +44(0) 2890 456 767

## Approvals



## Related Products



- AC2000
- AC2000 Airport
- AC2000 Lite

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## About Johnson Controls

Johnson Controls is a global diversified technology and multi-industrial leader serving a wide range of customers in more than 150 countries. Our 120,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat.

For additional information, please visit [www.cemsys.com](http://www.cemsys.com) or follow CEM Systems on LinkedIn and Twitter.