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Data Sheet

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 touchpad
- 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





ensures that the DCM 400 has up-to-date card information when operating in off-line mode. While operating in off-line mode, the controller can hold 500,000 cards and store 80,000 offline events (transactions and alarms).

Intelligent features for installation and maintenance

The DCM 400 is designed for ease of installation. The installer simply enters the unit's unique ID and device configuration on the server, sets the networking configuration on the panel, and connects to the network. The controller then self-configures and can receive a database of up to 500,000 cardholders.

The backlit LCD, twelve character keypad, intuitive overlay, LED status indicators, and web pages on the DCM 400 help to reduce time of installing and troubleshooting. Installers can quickly see the status of doors connected to the DCM 400 via the LEDs on the enclosure and the backlit LCD 2x16 character display on the DCM 400 board. External LED indicators provide visual confirmation of power and connectivity without the need of opening the enclosure, while the backlit LCD display on the DCM 400 board provides easy to read status and troubleshooting information.

The on-board keypad allows configuration and troubleshooting to be handled directly on the board for ease of installation and maintenance. Spare network points allow for local access to diagnostic web pages and connection to downstream controllers.

The installer led design of the DCM 400 enclosure also includes a removable enclosure door for ease of access and an increased number of punchouts in the enclosure for improved cable management.



DCM 400 board with intuitive wiring overlay, LCD display and capacitive touch keypad





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 are available for the DCM 400 include mains PSU option, board only option, and Power Over Ethernet (IEEE 802.3 af/at/ bt) 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 Status				nups.//	
Item	Value	Level	Max	-	
Supply Voltage	13.4 V		31 V	- 10	
Battery Voltage	13.1 V		31 V	- 8	
Temperature	35.3 C		128 C	- 84	
Auto refresh 🔵 🗹				- 84	







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. The extra ports can be individually restricted for security, if not required. When daisy-chaining DCM400 device there is no restriction on the number of devices that can be daisy-chained butstandard networking traffic rules apply.



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		
	Input: 100-120 VAC / 200-240 VAC (selectable) 50/60 Hz		
Supply Input Voltage – Enclosure	150 W Output		
	13.5 VDC		
	IEEE 802.3.bt		
Power Over Ethernet Option	90 W / 72W at PD		
Environmental			
Operational Temperature	-20°C to 50°C (-4°F to 122°F)		
IP Rating	IP20		
Functionality			
	Power – visible externally on enclosure		
LED indicators	Link to Host, Comms RX/TX		
	Fault/Tamper		
	Fitted - 2x16 ASCII text with backlight		
LCD Display & Keypad	Diagnostics and Setup		
	Twelve character capacitive light-touch keypad		
	Sixteen supervised inputs (4x4) – voltage supplied		
Inputs	Giving four state – supervised		
	Eight outputs (4 x 2 with shared current limiting)		
	\cdot 4x Relay @ 10-28 V @ 2A with high side switching or dry contact		
	\cdot 4x FET @ 10-28 V @ 5A Switchable ground		
Outputs	Current monitored		
	Current limited (stabilised)		
	Suge protected		
Reader capacity	Light readers - combination of K3483 OSDF compliant readers (per door) of Wiegand readers		
Configuration	(per door) Operational parameters are downloaded from host computer		
Cardbolders	500.000 cardholders		
Transactions	80,000 offline events (transactions and alarms)		
Real time clock	Accurate RTC with rechargeable battery backup		
Communication Interface	Accurate with rectail Scaple particly packap		
To Readers	Encrypted OSDP RS485		
	Wiegand (Data /Data)		
To System Host	10/100 Base-T TCP/IP using CAT5		
	Unshielded twisted nair cable		
Host Connection	RJ45		
Regulatory			

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Contact 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
- For the DCM/400/134 (POE PSU variant) a power injector is required between the AC2000 server and DCM 400. Microsemi midspans are recommended by CEM Systems (contact for guidance on recommended units).

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
DCM/400/134	DCM400 Board, Enclosure and POE PSU

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

Approvals



Related Products



- AC2000
- AC2000 Airport
- AC2000 Lite

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For additional information, please visit www.cemsys.com or follow CEM Systems on LinkedIn and Twitter.