tyco | CEM Systems

Data Sheet

CEM Systems EIOC400
Ethernet Input Output Controller

Key Features

- Intelligent input output controller
- 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
- Sixteen general purpose inputs
- Eight outputs 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

Intelligent Ethernet Input Output Controller

The CEM Systems EIOC400 (Ethernet Input Output Controller) is an intelligent I/O controller designed to directly interface CEM Systems AC2000 access control system (version 10.3 and higher).

The EIOC400 features 16 inputs and 8 outputs. The 16 inputs can be cross-mapped to one or many of the outputs upon activation /deactivation. The 8 digital outputs are a combination of 4 NO/NC relay contacts and 4 open collector switches that can all be controlled by the EIOC400. The outputs can be used to control all kinds of equipment including Intruder panels, PIR detectors, or switching on/off heating and lighting.

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.

Input output mapping

It is possible to have more than one input controlling the same output on the EIOC400 controller. In this scenario the DCM400 IO receives an input signal from one of the 16 inputs and transitions an associated predefined output to an active state. Custom alarms can be configured on the AC2000 Alarm Configuration application and assigned to any of the 16 inputs on the EIOC400.

Input masking

The EIOC400 input masking feature allows an input to override other inputs which in turn will prevent the activation of any associated outputs which have been configured using the IO mapping feature. This feature will allow the DCM400 IO controller to receive a deactivation signal from a key-switch which in turn will mask all input alarms from PIR sensors.

Johnson Controls

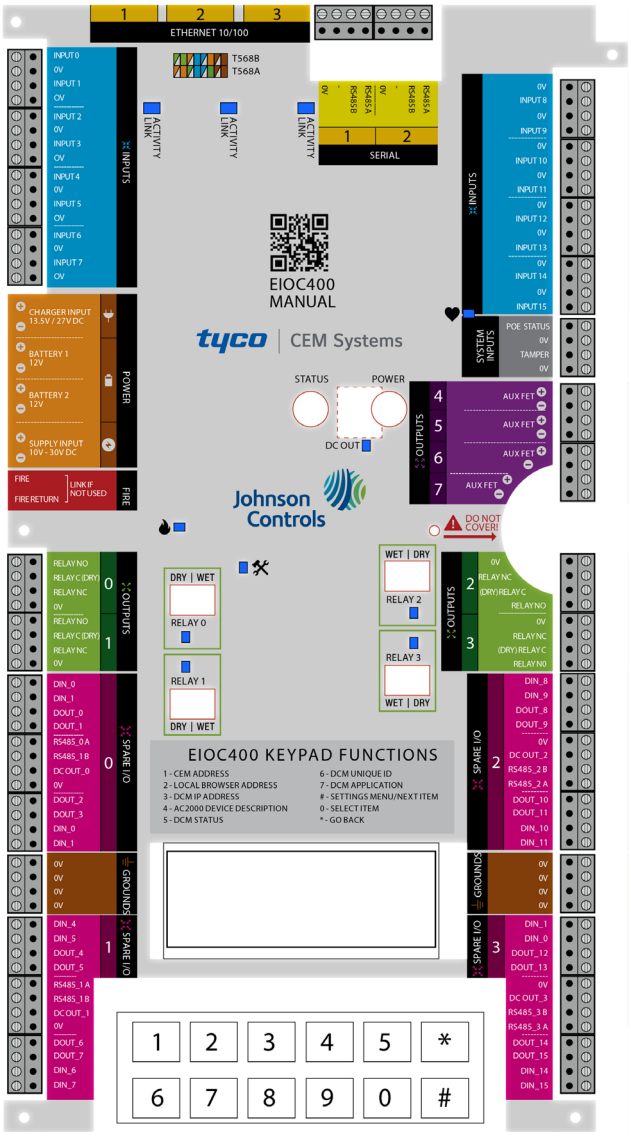
Broadcasts

Any combination of outputs can be broadcast active or inactive at any time when the EIOC400 is online. When an output has been broadcast active a state change of any related input will have no effect on the output state as a broadcast will be given priority. Broadcasting the output inactive will revert back to the last configured input mapping condition. During the period when an output is broadcast active the mapped inputs can still be configured to send input alarms to the system.

Intelligent features for installation and maintenance

The EIOC400 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 backlit LCD, twelve character keypad, intuitive overlay, LED status indicators, and web pages on the EIOC400 help to reduce time of installing and troubleshooting.



EIOC400 Intuitive PCB overlay layout

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 can be used to drop power to the outputs via a single connection for ease of installation.

Web dashboard

The EIOC400 dashboard can assist with local and remote troubleshooting, monitoring and configuration of the EIOC400, 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.

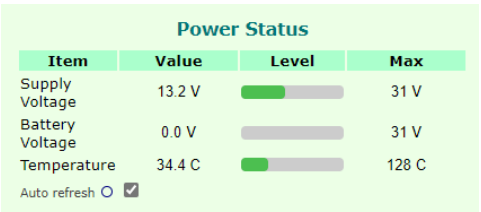
The dashboard also allows users connected to the EIOC network the ability to remotely configure network settings and current limits for outputs (read heads, locks and auxiliary outputs).

EIOC400 Web dashboard

Smart power management

Power options are available for the EIOC400 include mains PSU option and board only option. The EIOC400 automatically detects supply from 10VDC to 28VDC, simplifying installation without the need for jumper-links or configuration.

The power status for the EIOC400 supply and batteries can be monitored via the Power Status web page of the EIOC400 Dashboard, providing clear visual indicators for troubleshooting and monitoring of supply voltage, battery voltage, battery charge level and battery status.



EIOC400 Dashboard 'Power Status' webpage

Integral Ethernet switch

EIOC400 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.

Installer led enclosure design

The lockable EIOC400 enclosure has been designed with the installer in mind. A removable door improves access to the EIOC400 board when working in confined spaces. Light pipes on the enclosure door that align with status LEDs on the EIOC400 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.

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	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
Configuration	Operational parameters are downloaded from host computer
Real time clock	Accurate RTC with rechargeable battery backup
Communication Interface	
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)

Requirements

- AC2000 v10.3 software and higher
- AC2000 Lite v10.3 software and higher
- AC2000 Airport v10.3 software and higher
- RTC Ethernet Reader Controller

Ordering Information

Product Code	Description
IOC/400/004	EIOC400 (Ethernet Input Output Controller) board only
IOC/400/114	EIOC400 (Ethernet Input Output Controller) enclosure build c.1 12v DC PSU

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

Approvals

CE

Related Products

- AC2000
- AC2000 Airport
- AC2000 Lite

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** or follow CEM Systems on LinkedIn and Twitter.