

# Next-Generation Access Control Panel

## ICM-MP4502



Reference image only\*

IDCUBE's ICMMP Series, built on the Authentic Mercury MP Series Intelligent Controller (MP4502), is a future-ready, open-architecture access control platform natively integrated with Access360. Supporting 2 million cardholders and up to 64 access points, it unifies access control, alarm management, elevator dispatch, and power analytics in a single solution. Combining Mercury's proven hardware with IDCUBE's open framework.

### HIGHLIGHTS

**Open Architecture:** Built on Authentic Mercury hardware, the ICMMP-4502 works seamlessly with IDCUBE Access360 and OEM software partners for maximum flexibility.

**Enhanced Cybersecurity:** ARM TrustZone, secure boot CPU, crypto chip, and data-at-rest encryption provide multi-layered security.

**Edge Processing:** Advanced on-device intelligence allows running custom applications directly on the controller, driving enterprise-ready integrations.

**Business Continuity:** Equipped with a long-life processor, dual-footprint design, and Mercury's trusted LP/EP interface for consistent uptime.

**Enterprise Scalability:** Supports 2 million cardholders, High Assurance Credential Authentication\*, and BACnet/IP building integration with built-in support for elevator destination dispatch and power analytics

\* In process

### FEATURES

#### Security and Network

- IPv4/IPv6 network support
- Host communications secured by TLS 1.2/1.3 or AES-128/256
- AES-protected controller/IO expansion connections
- Custom peer certificate generation for TLS
- Port-based network access control (802.1X)
- FIPS 140-3 (OpenSSL\*)

#### Local Access Control Processing

- 2 million cardholder capacity, 500,000 transaction buffer
- Supports multiple card formats, paired and alternate readers
- Compatible with elevators, turnstiles, and biometric devices
- Anti-passback support (area, reader, and time-based)
- Programmable keypad user commands and threat level modes
- Power cycle capability for each reader port

#### Third-Party Integration Supported

- Wireless locks
- FICAM strong authentication (FIPS-201, firmware update\*)
- Elevator destination dispatch (firmware update\*)
- Power supply alerts and events
- Building automation via BACnet/IP

# TECHNICAL SPECIFICATIONS

## Intelligent Controller

<b>Card Holders Capacity</b>	2,000,000 cardholder capacity 500,000 transaction buffer
<b>Door Control</b>	Natively supports up to 4 readers and 2 openings and can support up to 32 additional RS-485 expansion modules for a maximum of 64 readers and openings.

## General

<b>Primary Power</b>	12-24 VDC +/- 10%, 550mA maximum (reader and USB current not included)
<b>Reader Ports</b>	600mA maximum (add 600 mA to primary power current)
<b>Micro USB Port</b>	5 VDC, 500 mA maximum (add 270 mA to primary power current)
<b>Battery</b>	Memory/Clock Backup: Super Capacitor (10 hours)
<b>microSD Card</b>	Format: microSD or microSDHC; 2GB to 8GB
<b>Host Communication</b>	Ethernet: 10-BaseT/100Base-TX and Micro USB port (2.0) with optional adapter: pluggable model USB2-OTGE100
<b>Serial I/O Device</b>	Two each: 2-wire RS-485, 2,400 to 115,200 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit
<b>Inputs</b>	Eight unsupervised/supervised, standard EOL: 1k/1k ohm, 1%, ¼ watt. Two unsupervised dedicated for cabinet tamper and UPS fault monitoring
<b>Output Relays</b>	Four relays, Form C, NO 5 A @ 30 VDC resistive, NC 3 A @ 30 VDC resistive

## Environmental

<b>Temperature</b>	-55 to +85 °C, storage, 0 to +70 °C, operating
<b>Humidity</b>	5 to 95% RHNC

## Mechanical

<b>Dimensions(Board)</b>	8.0 in. (203mm) W x 6.0 in. (152mm) L x 1.0 in. (25mm) H
<b>Weight</b>	10.65oz (302 g) nominal, board only
<b>Part Code</b>	ICM-MP4502-EXXXXXX <sup>1</sup> (Mercury Controller Part number: MP4502)

<sup>1</sup> EXXXXXX refers to enclosure type along with accessories such as power supply, charging circuit, battery, and tamper switch; Please refer to the enclosure datasheet for details

## Reader Interface

<b>Reader Power</b>	12-24 VDC +/- 10% regulated, 600 mA maximum.
<b>Data Inputs</b>	TTL compatible, F/2F or 2-wire RS-485
<b>RS-485 Mode</b>	9,600 to 115,200 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit. Maximum cable length: 2000 ft. (609.6 m)
<b>LED Output</b>	TTL levels, high > 3 V, low < 0.5 V, 5 mA source/sink maximum
<b>Buzzer Output</b>	Open collector, 12 VDC open circuit maximum, 40 mA sink maximum

## Cable Requirements

<b>Power and Relays</b>	1 twisted pair, 18 to 16 AWG
<b>Ethernet</b>	CAT-5, minimum
<b>Reader TTL</b>	6-conductor, 18 AWG, 500 feet (150 m) maximum
<b>Reader F/2F</b>	4-conductor, 18 AWG, 500 feet (150 m) maximum
<b>I/O Devices RS-485</b>	1 twisted pair, shielded. 24 AWG, 120 ohm impedance, 2,000 feet (610 m) maximum
<b>RS-485 I/O Devices</b>	1 twisted pair, shield. 120-ohm impedance, 24 AWG, 4,000 ft. (1,219 m) maximum
<b>Alarm Input</b>	1 twisted pair, 30 ohms maximum, typically 22 AWG @ 1000 ft. (304.8 m)

## Compliance and Warranty

<b>Product Compliance</b>	UL 294 Recognized, FCC Part 15 Class A, CE Compliant, RoHS (2011/65/EU & 2015/863), EU REACH (1907/2006), California Proposition 65, NIST Certified Encryption (in process)
<b>Warranty</b>	The product is warranted free from defects in material and workmanship under normal use and service with proper maintenance for one year from the date of factory shipment.

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