Authentic Mercury LP Series Intelligent Controllers are Mercury Security's next generation advanced access control platform that runs on embedded Linux. The enhanced platform offers an improved processor, increased memory, and an embedded crypto memory chip that provides a secured layer of encryption to onboard sensitive data.

The LP4502 supports a variety of extended features including High Assurance Credential Authentication and complies with the BACnet IP communication protocol. A USB-to-Ethernet IP adapter provides a redundant host IP connection. It has direct hardware support for 2 openings and can scale to 64 access points. This high-performance intelligent controller embeds elevator destination dispatch and provides integrated power management analytics to proactively detect failure before it occurs.
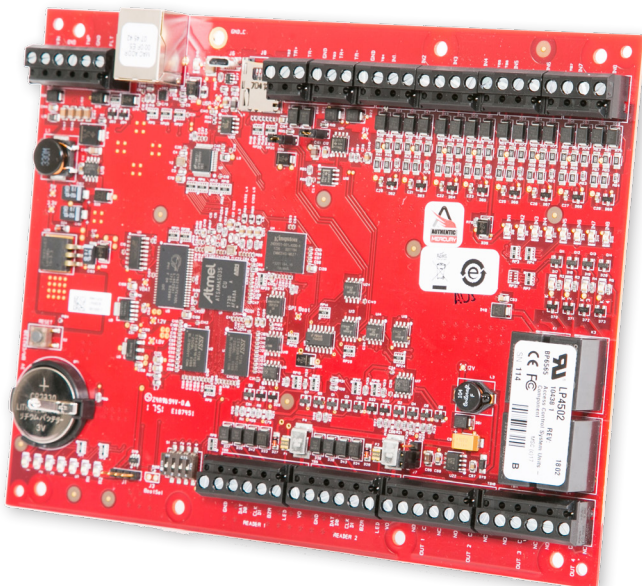
- **Open Architecture:** High performance, reliable platform enables use of hardware with PremiSys access control software

- **Device Integration:** Supports a wide range of third party integrations and applications

- **Enhanced Security:** Embedded crypto memory chip and data at rest encryption provides secured layer of protection of sensitive data

- **OSDP Protocol:** Secure channel security for reader connectivity and extended applications such as biometrics and US government (FICAM)

- **Versatile Interoperability:** Same reliable interface and identical footprint as the EP controllers, enabling seamless upgrades for existing deployments

Features

Third Party Integration Supported

- Wireless Locks
- FICAM Strong Authentication for FIPS-201 US Government
- Elevator Destination Dispatch
- Power Supply Alerts and Events
- Building Control using BACnet IP
- IPv4/v6

Security and Network

- Host communications protected by TLS 1.2/1.1 or AES-256/128
- Controller/IO Expansion connection protected by AES
- Generate and load custom peer certificates for TLS
- Port based network access control using 802.1X
- FIPS 140-2 user of OpenSSL

Card Reader Functions

- Supports multiple card formats, paired and alternate readers, elevator, turnstile and biometric devices
- Anti-passback support (area, reader and time based)
- Programmable keypad user commands
- Threat level and operating modes

PremiSys® LP4502 Intelligent Controller

PREM-CTLR4502-LP

PremiSys® LP4502 Intelligent Controller

Access Control	2,000,000 cardholder capacity 50,000 transaction buffer Supports up to 2 RS-485 IO protocols 255 access levels per cardholder Cardholder - 19 Digit (64 Bit) User ID with 15 digit PIN MAX Activation/Deactivation If/Then macro capabilities Anti-passback support Nested, area, hard, soft and timed forgiveness Adjustable cardholder capacity Supports up to 1024 inputs and 1024 outputs
Door Control	Natively supports up to 4 readers and 2 openings Expands to support up to 64 readers and openings

General

Primary Power	12-24 VDC +/- 10%, 550mA maximum (reader and USB current not included)
Reader Ports	600mA maximum (add 600 mA to primary power current)
Micro USB Port	5 VDC, 500 mA maximum (add 270 mA to primary power current)
Battery	**Memory/ Clock Backup:** 3 Volt Lithium, type BR2330 or CR2330
microSD Card	Format: microSD or microSDHC; 2GB to 8GB
Host Comm.	Ethernet: 10Base T/100Base-TX and micro USB port (2.0) with optional adapter: pluggable model USB2-OTGE100
Serial I/O Device	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
Inputs	Eight unsupervised/supervised, standard EOL: 1k/1k ohm, 1%, ¼ watt. Two unsupervised dedicated for cabinet tamper and UPS fault monitoring
Output Relays	Four relays, Form C, NO 5 A @ 30 VDC resistive, NC 3 A @ 30 VDC resistive

Reader Interface

Reader Power	12-24 VDC +/- 10%, 300 mA maximum for each reader
Data Inputs	TTL compatible inputs, F/2F or 2-wire RS-485 standards supported

Reader Interface (Cont'd)

RS-485 Mode	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)
LED Output	TTL levels, high>3 V, Low<0.5 V, 5 mA source/sink maximum
Buzzer Output	Open collector, 12 VDC open circuit maximum, 40 mA sink maximum

Cable Requirements

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

Environmental

Temperature	-55 to 85 °C storage, 0 to 70 °C operating
Humidity	5 to 95% RHNC

Mechanical

Dimensions	8.0 in. (203mm) W x 6.0 in. (152mm) L x 1.0 in. (25mm) H
Weight	10.65oz (302 g) nominal, board only

Compliance and Warranty

Product Compliance	UL294 Recognized, FCC Part 15 Class A, CE Compliant, RoHS, NIST Certified Encryption
Warranty	Mercury Security warrants the product is free from defects in material and workmanship under normal use and service with proper maintenance for one year from the date of factory shipment.

Network Switch
To PremiSys
CAT5/CAT 6
RS-485
Door 1
Door 2
PREM-CTLR4502-LP
PREM-BRD2RDR-S3
Door 1
PREM-BRD1RDR-S3
PREM-BRDIN-S3
PREM-BRDOUT-S3
Door 1
PREM-BRD1POE-S3
Door 2

The Authentic Mercury open platform delivers quality assurance derived from the most proven and reliable hardware in the industry. Driven by our engineering excellence and technology leadership, Authentic Mercury hardware is designed as an access control platform that easily encompasses emerging technologies, changing