# HID® Mercury™ LP1502 Intelligent Controller

Intelligent controller (4 readers, 8 inputs, 4 outputs)

The HID Mercury LP Series Intelligent Controllers are HID Global's next generation advanced access control platform that runs on embedded Linux. The enhanced platform offers an improved processor and increased memory, plus feature an embedded crypto memory chip that provides a secured layer of encryption to onboard sensitive data. Built on the HID Mercury open platform, LP Series controllers provide the necessary flexibility for OEMs, channel partners and end customers to choose the controller configuration that best fits their needs.

The multi-port LP1502 is a 2-4 card reader panel for controlling two connected doors and managing up to 64 doors/openings. Built on the HID Mercury platform, the intelligent controller uses on-board Ethernet port to connect to cloud or server based access control hosts. The intelligent controller performs access control, alarm management and scheduled operations—all in a single package.

With native connectivity, the high-performance LP1502 functions independently of the host for performing numerous access control applications and supports OSDP, OSDP Secure Channel, keypads, biometric readers, Wiegand, clock and data, magnetic stripe, F/2F and supervised F/2F reader technologies. System configuration and setup are provided through HID Mercury OEM partner software applications.

For partners seeking a comprehensive and open access control platform, and a reliable hardware platform running in a secure environment, the LP1502 is the clear solution. It delivers a complete security and access control solution as well as innovative application extensions, interoperability and data security.
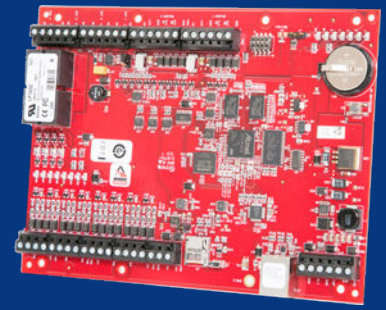
KEY BENEFITS:

- Open Architecture – High performance, reliable platform enables use of hardware with HID Mercury OEM partners' software solutions.
- Enhanced Security – Embedded crypto memory chip and data at rest encryption provides secured layer of protection of sensitive data.
- OSDP Protocol – Secure channel communications for reader connectivity.
- Versatile Interoperability – Same reliable interface and identical footprint as the EP Controllers, enabling seamless upgrades for existing deployments.

HIGHLIGHTS

Third Party Integration Supported

- Wireless Locks
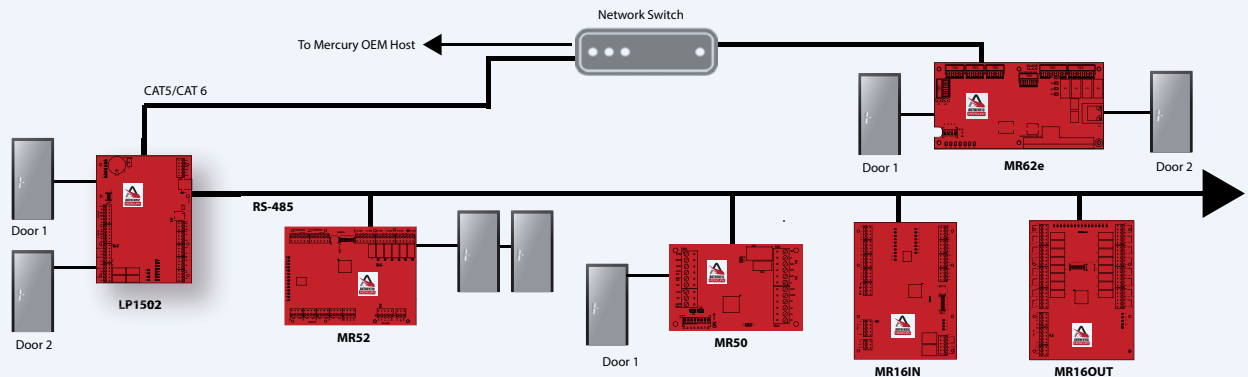- Power Supply Alerts and Events

Security and Network

- IPv4/v6
- 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 mode

HID

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Access Control	240,000 cardholder capacity 50,000 transaction buffer Supports total of 1 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 520 inputs or 516 outputs
Door Control	Natively supports for up to 4 readers and 2 openings. Expands to support up to 64 readers and openings.
GENERAL	
Primary Power	12 to 24 VDC ± 10 %, 500 mA maximum (reader and USB ports not included)
Reader Port	600 mA 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	microSD or microSDHC; 2GB to 8GB
Host Communication	Ethernet: 10-BaseT/100Base-TX and USB port (2.0) with optional adapter: pluggable model USB2-OTGE100
Serial I/O Device	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 % regulated, 300 mA maximum each reader
Data Inputs	TTL compatible, F/2F or 2-wire RS-485
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, 120 ohm impedance, 24 AWG, 2,000 ft. (610 m) max.
I/O Devices	1 twisted pair with drain wire and shield, 120 ohm impedance, 24 AWG, 4,000 ft. (1,219 m) maximum
Alarm Input	1 twisted pair, 30 ohms maximum
ENVIRONMENTAL	
Temperature	-55 to +85 °C, storage, 0 to +70 °C, operating
Humidity	5 to 95% RHNC
MECHANICAL	
Dimensions	8 in. (203.2 mm) W x 6 in. (152.4 mm) L x 1 in. (25 mm) H
Weight	9 oz. (255 g) nominal, board only
COMPLIANCE AND WARRANTY	
Product Compliance	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
Warranty	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.