

The **Lock Manager/Power Adaptor** circuit board has a small footprint and is designed to be mounted with the electric door lock or strike. Alternatively it can be housed together with the "Press to Exit" switch in a half gang electrical wall box.

It performs the following functions:

- Breaks out the power and data supplied down a standard CAT5e/6 cable by a Borer Midspan Bridge.
- Monitors door status settings (Door Open, Lock Status and Request to Exit button).
- Manages the power supplied to operate electric door locks and strikes. These need an initial high current to engage the solenoid and then a reduced static current to maintain it. The power delivered by most systems is not current restricted which will cause the lock, after it has been switched, to continue to consume power. The extra energy consumed raises the temperature of the solenoid. By managing and limiting the power delivered, less heat is generated. As a result, less energy is used and the lock is not stressed, extending its operational lifespan.

Power over CAT5e/6 Cable technology is used to power equipment where it is inconvenient, expensive or not possible to provide a separate mains power outlet. It transmits electrical power and data to devices, such as card readers and electric door locks, over standard CAT5e/6 cable.

This solution requires two components as follows:

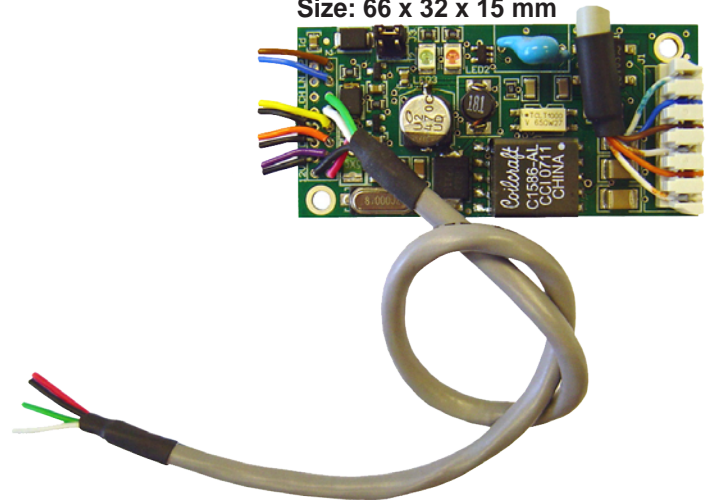
- **A Midspan Bridge** at the source that injects power into a standard CAT5e/6 cable system without affecting the data
- **A Lock Manager/ Power Adaptor** at the destination that splits power and data for delivery to local devices.

The power management chipset employed (IEEE 802.3 PoE plus standard), is designed for Power over Ethernet applications, providing protection against short circuit, polarity reversal and the accidental connection of non-compliant equipment.

For door access control applications the Power Adapter/Lock Manager is located on the secure side, either in the "Press to Exit" switch housing or installed into the door jam above the electric lock or strike.

Communications between the Lock Manager and Borer Card Access Reader is via a four core cable which supplies encoded data and power. This enhances security by removing the opportunity to gain access by dismantling the card access reader head and shorting out the lock or power supply cable ends.

Size: 66 x 32 x 15 mm



Benefits

Enhances Security preventing door access by tampering with the card access reader head or controller

Safeguards the Electrical Equipment connected to the circuit by only supplying power following device identification and evaluation

Protects the CAT5e/6 Cable by measuring the energy delivered providing a 48 Volts current limited power source

Reduces Equipment Cost by eliminating the requirement for local main outlets, power supply and battery at every door

Reduces Installation Cost by eliminating the local mains wiring, which in most countries, for legal or insurance reasons, has to be installed by a qualified and/or licensed electrician

Up to 80% Reduction in Energy Consumption by managing the power being supplied to operate the electric door release

Technical

Installation:	For door access control applications the Lock Manager/Power Adapter is located on the secure side, either in the "Press to Exit" switch housing or installed into the door jam above the electric lock or strike.
Dimensions/Weight:	66 x 32 x 15 mm / 24g
Environmental Humidity Range: Operating Temperature	Interior / 10% to 80% non-condensing -20 to 60 C (-4 to 140 F)
CAN Network/Network Connection:	1 channel CAN, ISO 11898 standard for serial data communications
Transmission Network Data Rate:	CSMA-CA (Carrier Sense Multiple Access with Collision Avoidance) 125kbps
Cable Type/Power/Delivery:	Point to Point connection using CAT5e/6 Cable Max 13.5 Watts, 48 Volt, Max. 300m cable length
Diagnostic Indicators:	CAN TX, CAN RX, CAN Fault
Inputs:	4 state supervised inputs, door monitor, REX and TAMPER/Spare
Lock Control:	12 Volt DC, Current Limited (Variable under Program Control)
Alarm Reporting:	Door Ajar, Door Forced, Tamper, Egress Made (Handle or Push to Exit Switch)

How it works

Installation:	The Lock Manager (LM) when used with an electric lock or a magnetic lock, should be mounted within the Request to Exit (REX) housing switch on the secure side of the door. When used in conjunction with an electric strike, it should be mounted in the door jam adjacent to the strike. The REX, door open monitor and lock power supply are connected to the LM and a separate power/data cable connects the LM to the IN and/or OUT readers. A CAT5e/6 cable connects the LM to a port on the Midspan Bridge.
Commissioning:	Following installation, power is applied to the LM by plugging the CAT5e/6 cable into the Midspan Bridge. Once powered, the LM and connected card readers will automatically connect and log on to the database server. The user will then, via software, create a logical association between the LM and its card readers.
Operation:	Communications between the central server, the LM and its associated readers are conducted over the LAN and CAN networks using a encrypted (optional) datalink. An access request at a card reader will be referred to the server and if the server verifies the request, the card reader will instruct the LM to open the door, thereby providing a uniquely secure (<i>card to database server</i>) solution, which is resistant to gaining unauthorized access by either tampering with the reader head or injecting data into the signal wires.

