

PoE-McBasic

with LFPT

USER MANUAL



B+B SMARTWORX

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INTRODUCTION - POE-MCBASIC - LFPT

ABOUT POE-MCBASIC - LFPT

The PoE McBasic with LFPT is a solution for network applications that requires Power-over-Ethernet (PoE) (IEEE802.3af) for locations inside buildings where PoE Power Sourcing Equipment (PSE) is required to power an Ethernet device. The standalone unit offers 3 ports: a 100 Mbps fixed fiber transceiver (1x9) uplink for the network connection, one 10/100Base-T copper port that provides PSE/PoE, and one standard Ethernet 10/100 Mbps copper port.

This unmanaged unit provides both power and data to a remote device over a standard CAT5 copper line, eliminating the need for a power connection to the remote device. The PoE McBasic with LFPT provisions up to 15.4 Watts on one PSE copper port, and is powered by an internal power supply, supporting 100-240 VAC. The copper port auto negotiates to the connected device's speed and duplex mode: 10 Mbps or 100 Mbps, HDX or FDX (including Flow Control). The PoE McBasic with LFPT supports jumbo frames up to 10240.

NOTE: *Some options require items that are sold separately, available from B+B SmartWorx.*

INSTALLATION

PoE McBasic with LFPT is a compact media converter that can be installed as a standalone, table-top device, with rackmount ears, or using a wallmount bracket. The rackmount ears and wallmount bracket are optional accessories available from B+B SmartWorx.

Several models of the PoE McBasic with LFPT support single-strand fiber for operation. Since single-strand fiber products use optics that transmit and receive on two different wavelengths, single-strand fiber products must be deployed in pairs. The two connected products must also have the same speed and distance capabilities.

DIP SWITCH CONFIGURATION

DIP Switch	Name	Description	Default	DIP Switch
1	PoE Reset	ON forces Port 2, PSE/PoE, to OFF on LOS of fiber input	OFF	
2	LFPT Port 1	ON enables LFPT for Port 1 and the FX Port.	OFF	
3	LFPT Port 2	ON enables LFPT for Port 2 and the FX Port	OFF	
4	Factory Set	Do not change.	OFF	
5	Factory Set	Do not change.	OFF	
6	Factory Set	Do not change.	OFF	
7	Factory Set	Do not change.	OFF	
8	Factory Set	Do not change.	OFF	

POE RESET DSW

When set to ON, it will force the PSE output power on the copper port OFF when the LINK state is lost on the fiber segment. By default, the DSW is set to OFF.

LFPT DIP SWITCHES

There are two DIP Switches for Link Fault Pass Through (LFPT), each located near the copper (TX) ports. LFPT is a diagnostic feature that, when enabled, allows a fault to be passed through the unit. When enabled, if link is lost on the FX (fiber) port, the transmit on the TX (copper) port is disabled. If link is lost on a TX port, the transmit on the FX Port is disabled.

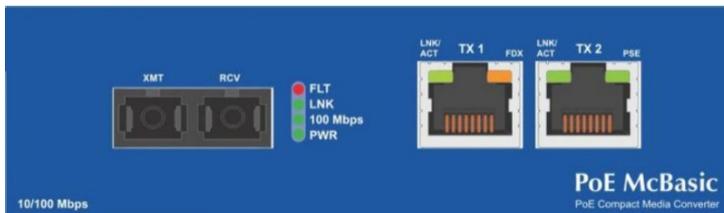
NOTE: Fault DIP Switches – PoE Reset, LFPT Port 1 and LFPT Port 2: only one fault condition is recognized at a time. The first fault condition to occur is in charge. So, if TX Port 1 has no link and then the FX Port loses link, the loss of TX on Port 1 link causes the FX Port to disable the transmit.

FAR END FAULT

Far End Fault (FEF) is a troubleshooting feature for the fiber segment that is permanently enabled. If one strand of fiber fails, the error is reported back down the other strand of fiber in the form of an FEF signal.

LED OPERATION

The PoE-McBasic LFPT includes LEDs for three ports, as shown below:



NOTE: The fixed twisted pair port labeled PSE is the only port capable of providing Power Over Ethernet.

LED Functions	
FLT	Glows red when a fault has been detected on the unit.
LNK	Glows green with a valid link.
100 Mbps	Glows green when SFP is running at 100Mbps.
PWR	Glows green when unit is powered.

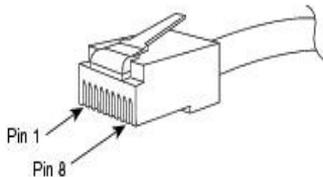
RJ-45 LED Functions	
LNK/ACT (TX1, TX2)	<p>Glows green with a valid link.</p> <p>Blinks green when activity is detected.</p>
PSE (TX2)	<p>Glows green when port is supplying PoE power.</p> <p>Blinks green during fault conditions: 1 Hz flashes to indicate an overload or short; 4 Hz flashes to indicate out-of-range voltage or over-temperature.</p> <p>Off if the port is not supplying power.</p>
FDX (TX1)	<p>Glows amber when port is running full-duplex.</p>

TROUBLESHOOTING

- PWR LED glows green when the unit is powered. If this LED is not lit, contact B+B SmartWorx Technical Support.
- Blinks green during fault conditions: 1 Hz flashes to indicate an overload or short; 4 Hz flashes to indicate out of range voltage or over-temperature.
- The PSE LED should maintain solid green to indicate consistent power. Check the PD device and its requirements.
- The following table lists the pin configuration for the RJ-48 connector.

RJ-45 PINOUTS

The following table lists the pin configuration for the RJ-48 connector.



Pin#	Signal Name 1000M	Signal Direction 10/100M	PoE (ALT-B)
1	TXD1+	Out*	
2	TXD1-	Out*	
3	RXD2+	In*	
4	D3+		+V
5	D3-		+V
6	RXD2-	In*	
7	D4+		-V
8	D4-		-V

SPECIFICATIONS

Ethernet Connections

- 10/100BaseT
- Auto Negotiation
- Auto Cross
- Flow Control
- 10240 MTU
- Full Line-Rate Forwarding

Input Specifications

100 to 240 \pm 10% VAC Input, 50/60 Hz, 0.5A to 0.2A

Operating Temperature

0 to +50 °C (+32 to +122 °F)

Storage Temperature

-40 to +85 °C (-40 to +185 °F)

Humidity

5 to 95% (non-condensing); 0 to 10000 ft. altitude

Dimensions

3.71H x 12.09W x 18.59D cm (1.46H x 4.76W x 7.32D in)

Power Characteristics

Consumes <10 Watts (heating) plus PSE power
IEEE802.3af Power to Field < 15.4 Watts

Standards Compliance

- IEEE 802.3af Power-over-Ethernet
- IEEE 802.3 Ethernet Standards
- IEEE 802.3u Auto Negotiation
- RFC-2474
- RFC-2475 DiffServ QoS

B+B SMARTWORX TECHNICAL SUPPORT

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STATEMENTS, PRECAUTIONS, GUIDELINES, REGULATORY**FCC RADIO FREQUENCY INTERFERENCE STATEMENT**

This equipment has been tested and found to comply with the limits for a Class A computing device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

The use of non-shielded I/O cables may not guarantee compliance with FCC RFI limits. This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par le ministère des Communications du Canada.

POE PRECAUTION (INSIDE BUILDING INSTALLATION ONLY)

The PoE McBasic with LFPT is for inside-a-building installation only. It cannot be installed in an outside-a-building environment, as it cannot meet the PoE requirements, per the PoE standard. If installing the device outside, serious damage can occur and void any B+B SmartWorx warranty.

ELECTROSTATIC DISCHARGE (ESD) PRECAUTIONS

Electrostatic discharge (ESD) can cause damage to any product, add-in modules or stand alone units, containing electronic components. Always observe the following precautions when installing or handling these kinds of products.

1. Do not remove unit from its protective packaging until ready to install.
2. Wear an ESD wrist grounding strap before handling any module or component. If the wrist strap is not available, maintain grounded contact with the system unit throughout any procedure requiring ESD protection.
3. Hold units by the edges; do not touch the electronic components or gold connectors.
4. After removal, always place boards on a grounded, static-free surface, ESD pad or in a proper ESD bag. Do not slide the modules or stand-alone units over any surface.



WARNING! Integrated circuits and fiber optic components are extremely susceptible to electrostatic discharge damage. Do not handle these components directly unless you are a qualified service technician and use tools and techniques that conform to accepted industry practices.

FIBER OPTIC CLEANING GUIDELINES

Fiber Optic transmitters and receivers are extremely susceptible to contamination by particles of dirt or dust, which can obstruct the optic path and cause performance degradation. Good system performance requires clean optics and connector ferrules.

1. Use fiber patch cords (or connectors, if you terminate your own fiber) only from a reputable supplier; low-quality components can cause many hard-to-diagnose problems in an installation.
2. Dust caps are installed at the factory to ensure factory-clean optical devices. These protective caps should not be removed until the moment of connecting the fiber cable to the device. Should it be necessary to disconnect the fiber device, reinstall the protective dust caps.
3. Store spare caps in a dust-free environment such as a sealed plastic bag or box so that, when reinstalled, they do not introduce any contamination to the optics.
4. If you suspect that the optics have been contaminated, alternate between blasting with clean, dry, compressed air and flushing with methanol to remove particles of dirt.

REGULATORY, STANDARDS, COMPLIANCES

UL/cUL: Listed to Safety of Information Technology Equipment, including Electrical Business Equipment.



**Class 1 Laser product, Luokan 1 Laserlaite,
Laser Klasse 1, Appareil A' Laser de Classe 1**

CE: The products described herein comply with the Council Directive on Electromagnetic Compatibility (2004/108/EC) and the Council Directive on Electrical Equipment Designed for use within Certain Voltage Limits (2006/95/EC). Certified to Safety of Information Technology Equipment, Including Electrical Business Equipment. For further details, contact B+B SmartWorx.

European Directive 2002/96/EC (WEEE) requires that any equipment that bears this symbol on product or packaging must not be disposed of with unsorted municipal waste. This symbol indicates that the equipment should be disposed of separately from regular household waste. It is the consumer's responsibility to dispose of this and all equipment so marked through designated collection facilities appointed by government or local authorities. Following these steps through proper disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about proper disposal, please contact local authorities, waste disposal services, or the point of purchase for this equipment.



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