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PoE McBasic with LFPT

Operation Manual





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CONTENTS

FCC RADIO FREQUENCY INTERFERENCE STATEMENT	4
WARRANTY	4
ABOUT THE POE MCBASIC WITH LFPT	6
INSTALLATION	6
DIP SWITCH CONFIGURATION	7
POE RESET DSW	7
FAR END FAULT (FEF)	8
LED OPERATION	9
LED FUNCTIONS	9
RJ-45 LED FUNCTIONS	10
TROUBLESHOOTING	11
SPECIFICATIONS FOR THE POE MCBASIC WITH LFPT	12
POE PRECAUTIONS (FOR INSIDE-A-BUILDING INSTALLATION ONLY)	13
B&B ELECTRONICS TECHNICAL SUPPORT	13
FIBER OPTIC CLEANING GUIDELINES	13
ELECTROSTATIC DISCHARGE PRECAUTIONS	14
SAFETY CERTIFICATIONS	15

FCC RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B 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 B 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 B prescrites dans le Règlement sur le brouillage radioélectrique publié par le ministère des Communications du Canada.

WARRANTY

Limited Lifetime Warranty

Effective for products of B&B Electronics shipped on or after May 1, 2013, B&B Electronics warrants that each such product shall be free from defects in material and workmanship for its lifetime. This limited lifetime warranty is applicable solely to the original user and is not transferable.

This warranty is expressly conditioned upon proper storage, installation, connection, operation and maintenance of products in accordance with their written specifications.

Pursuant to the warranty, within the warranty period, B&B Electronics, at its option will:

1. Replace the product with a functional equivalent;
2. Repair the product; or
3. Provide a partial refund of purchase price based on a depreciated value.

Products of other manufacturers sold by B&B Electronics are not subject to any warranty or indemnity offered by B&B Electronics, but may be subject to the warranties of the other manufacturers.

Notwithstanding the foregoing, under no circumstances shall B&B Electronics have any warranty obligations or any other liability for: (i) any defects resulting from wear and tear, accident, improper use by the buyer or use by any third party except in accordance with the written instructions or advice of the B&B Electronics or the manufacturer of the products, including without limitation surge and overvoltage conditions that exceed specified ratings, (ii) any products which have been adjusted, modified or repaired by any party other than B&B Electronics or (iii) any descriptions, illustrations, figures as to performance, drawings and particulars of weights and dimensions contained in the B&B Electronics' catalogs, price lists, marketing materials or elsewhere since they are merely intended to represent a general idea of the products and do not form part of this price quote and do not constitute a warranty of any kind, whether express or implied, as to any of the B&B Electronics' products.

THE REPAIR OR REPLACEMENT OF THE DEFECTIVE ITEMS IN ACCORDANCE WITH THE EXPRESS WARRANTY SET FORTH ABOVE IS B&B ELECTRONIC' SOLE OBLIGATION UNDER THIS WARRANTY. THE WARRANTY CONTAINED IN THIS SECTION SHALL EXTEND TO THE ORIGINAL USER ONLY, IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ALL SUCH WARRANTIES AND INDEMNITIES ARE EXPRESSLY DISCLAIMED, INCLUDING WITHOUT LIMITATION (I) THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY AND (II) ANY WARRANTY THAT THE PRODUCTS ARE DO NOT INFRINGE OR VIOLATE THE INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY. IN NO EVENT SHALL B&B ELECTRONICS BE LIABLE FOR LOSS OF BUSINESS, LOSS OF USE OR OF DATA INTERRUPTION OF BUSINESS, LOST PROFITS OR GOODWILL OR OTHER SPECIAL, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES. B&B ELECTRONIC SHALL DISREGARD AND NOT BE BOUND BY ANY REPRESENTATIONS, WARRANTIES OR INDEMNITIES MADE BY ANY OTHER PERSON, INCLUDING WITHOUT LIMITATION EMPLOYEES, DISTRIBUTORS, RESELLERS OR DEALERS OF B&B ELECTRONIC WHICH ARE INCONSISTENT WITH THE WARRANTY, SET FORTH ABOVE.

ABOUT THE POE MCBASIC WITH LFPT

The PoE McBasic with LFPT is a solution for network applications that require power over Ethernet for locations inside buildings where Power Sourcing Equipment (PSE)/ Power over Ethernet (PoE)/ 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 (IEEE802.3af), 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 ports autonegotiate to the connected device's speed and duplex mode:

10 Mbps or 100 Mbps, and HDX or FDX (including Flow Control). The PoE McBasic with LFPT supports jumbo frames up to 10240.

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 through B&B Electronics distributors.

Installation Tip

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. For example, connect a PoE McBasic with LFPT, TX/SSLX-SM1310-SC (which has 1310 xmt and 1550 rcv) to a product which has 1550 xmt and 1310 rcv, and is a single strand 10/100 MediaConverter that offers TX/SSLX/SM1550-SC. The two connected products must also have the same speed and distance capabilities (i.e. both are single-mode [20km] or both are single/PLUS [40km]).

DIP SWITCH CONFIGURATION

DIP Switch	Name	Description	Default Setting	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.

Link Fault Pass-Through (LFPT) DSW for PoE McBasic with LFPT

There are two DIP Switches for LFPT, each located near the copper (TX) ports. LFPT is a diagnostic feature that when enable, 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.

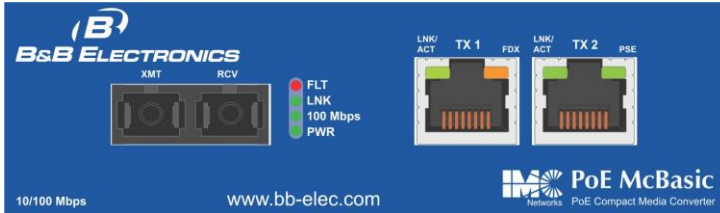
NOTE
Regarding the fault DIP Switches – PoE Reset, LFPT Port1 and LFPT Port 2: only one fault condition is recognized at a time. The first fault condition to occur is in charge. So if TX Port1 has no link and then the FX Port loses link, the loss of TX on Port 1 link causes the FX Port to disable the transmit.

FAR END FAULT (FEF)

Far End Fault 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 with 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 fiber port of the unit
LNK	Glows green with a valid link
100 Mbps	Glows green when is running at 100 Mbps
PWR	Glows green when unit is powered

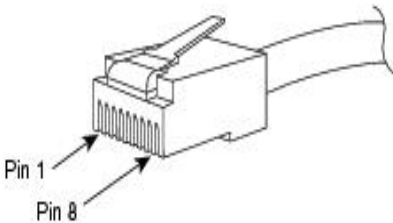
RJ-45 LED FUNCTIONS

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

TROUBLESHOOTING

- PWR LED glows green when the unit is powered. If this LED is not lit, contact B&B Electronics Support.
- Blinks green during fault conditions: 1 Hz flashes indicate an overload or short; 4 Hz flashes 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.



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 FOR THE POE MCBASIC WITH LFPT

Ethernet Connections

10/100BaseT
Auto Negotiation
AutoCross
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

+32°F to +122°F (0°C to +50°C)

Storage Temperature

-40°F to +185°F (-40°C to +85°C)

Humidity

5% to 95% (non-condensing); 0 to 10,000 ft. altitude

Dimensions

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

Power Characteristics

Consumes less than 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

POE PRECAUTIONS (FOR INSIDE-A-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 the B&B Electronics' warranty.

B&B ELECTRONICS TECHNICAL SUPPORT

Phone: 1-800-346-3119 (Monday-Friday, 7:00 a.m. -6:30 p.m. CST)

Fax: 815-433-5109

Customer Service: orders@bb-elec.com

Tech Support: support@bb-elec.com

General Inquiries: info@bb-elec.com

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 B&B Electronics 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.

ELECTROSTATIC DISCHARGE 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 the units by the edges; do not touch the electronic components or gold connectors.
4. After removal, always place the 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.

SAFETY CERTIFICATIONS

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

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 Electronics.



Class 1 Laser product. Luokan 1

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.

