



FiberPlex™ Model FP102EBT Industrial 10 Gigabit Media Converter with 90W PoE Injector

User Manual

FCC MARKING

This Equipment has been tested and found to comply with the limits for a Class A digital 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 case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

CE MARKING

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55032/24 class A for ITE, the essential protection requirement of Council Directive 2014/30/EU on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Trademark Statement

The term FiberPlex is a trademark of Patton Electronics Company. All other trademarks presented in this document are the property of their respective owners.

Copyright © 2021, Patton Electronics Company. All rights reserved.

The information in this document is subject to change without notice. Patton Electronics assumes no liability for errors that may appear in this document.

Key Features

- Hardened design enclosure
- Supports 52V-56VDC
- Supports automatically switch mode and converter mode
- Adjustable SFP speed 1G or 10G
- Surge protection on power input
- ESD protection on RJ-45 port
- Provides increased Noise Immunity

Introduction

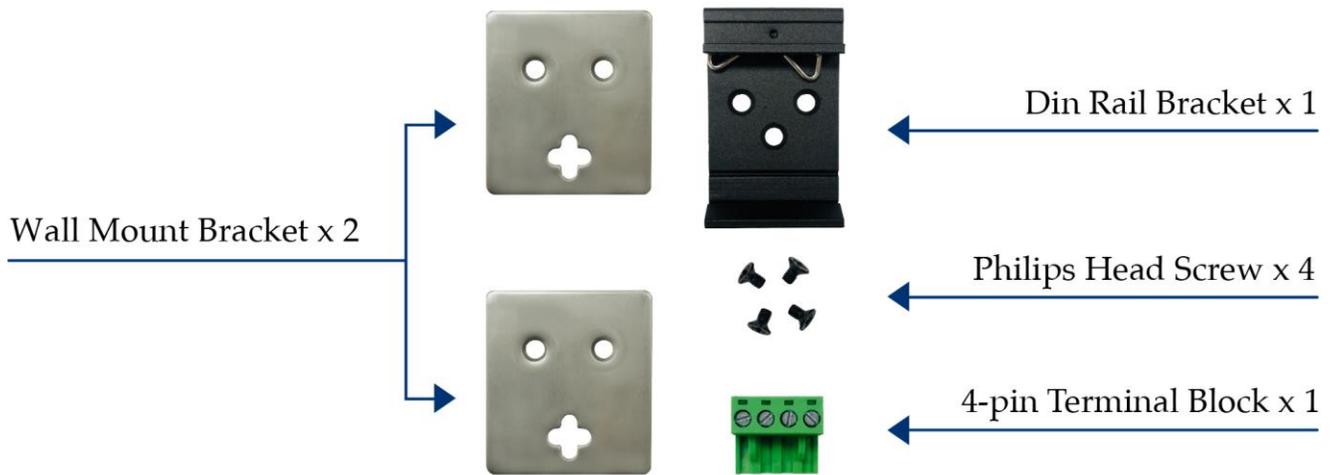
Patton's FP102E/BT90 converts singlemode or multimode fiber to a copper Ethernet signal. With the built-in high power PoE (Power over Ethernet) injector and a local power source, you can easily and reliably extend both power (90 watts/high power PoE) and 1–10 gigabit Ethernet to any PoE enabled end point including devices such as IP security cameras, IP speakers, digital signage, VoIP phones, wireless access points, POS kiosks, BACs, PLCs, and more.

Because 10-gigabit Ethernet over Cat6a cables is limited to about 50 meters (164 feet), using fiber as a backhaul allows for a massive increase in distances. SFP options for multimode can reach up to 1.24 miles (2 km), and singlemode options can range as far as 37 miles (60 km). In addition to the reach, you get fiber's superior immunity to noise and harmful transients (surges).

The FP102E/BT90 is housed in an IP30-rated DIN-rail or wall-mount enabled enclosure, and has a wide operating temperature of -40 to 167°F (-40 to 75°C). Its rugged design and wide temperature range makes it an ideal media converter for industrial or harsh environments. Its bandwidth capabilities make it suitable for bandwidth hungry applications like telecom backhaul, data centers, and AVoIP technologies that require 10-gigabit networks—like SDVoE and HDBase-T.

Installation package

This unit can be din-rail or wall mounted. Din-rail brackets and wall mount brackets are included.



Power connection

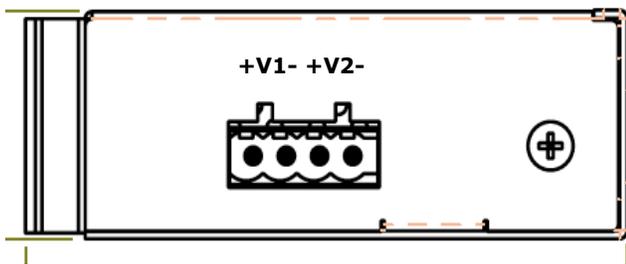
This unit provides a 4-pin terminal block. It can be operated using 48-56VDC power source. Always make sure your input voltage is within this supported voltage range.

To connect power: Follow the printed polarity for V+, V- and Ground. Connect positive wire to V+, connect negative wire to V- and connect neutral wire to ground.

+V- is for power input connection, this unit has only one power input.

RLY is for relay connection.

Power connecting procedure:



STEP 1 – Take out 4 pin terminal block located in the included mounting kit package.

STEP 2 – Connect power wire to +V- with correct polarity and connect RLY for relay. Connect the grounding wire to the ground screw.

STEP 3 – Plug into terminal block socket shown above. Polarity needs to match V+ and V-.

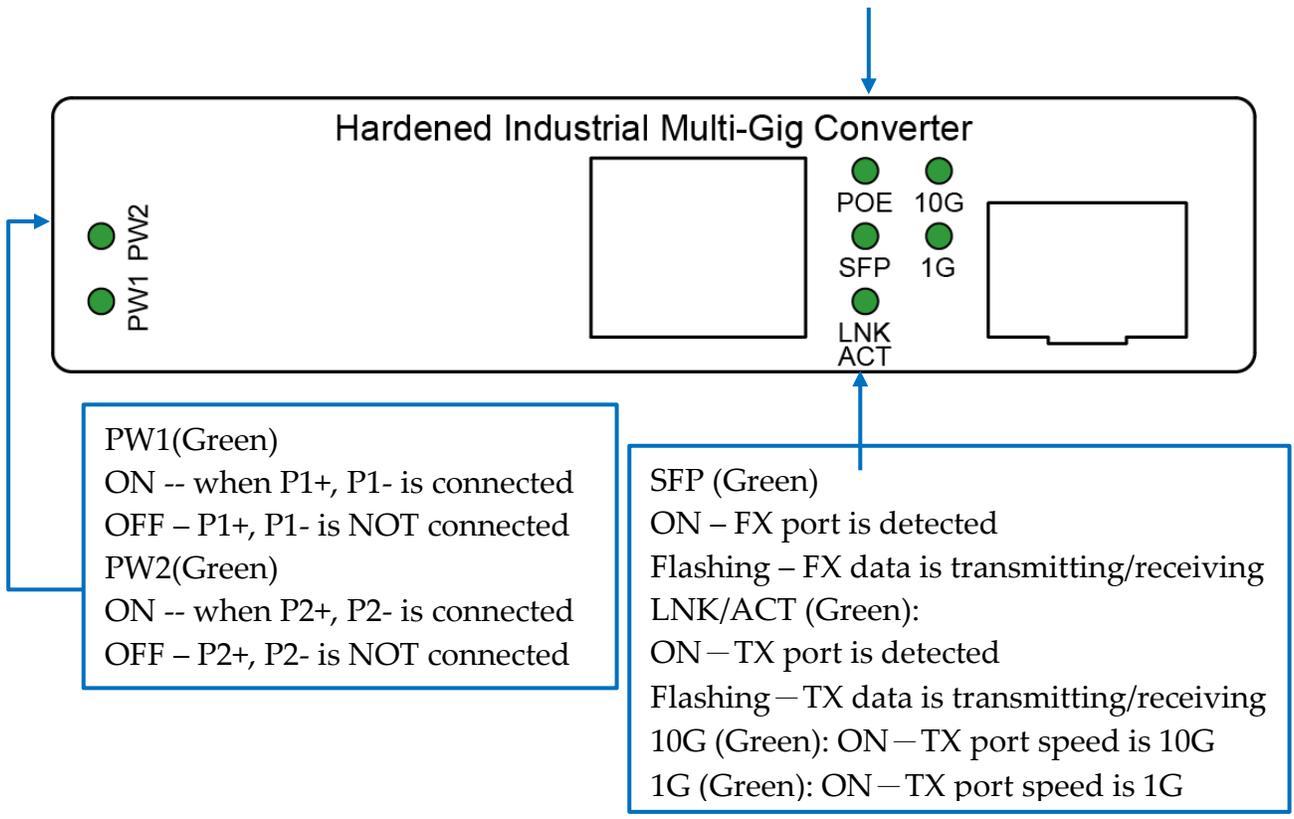
WARNING -- Always **SHUT OFF** power source to

connect power wire.

WARNING -- Any exceeded input voltage will not make this unit function and may damage this unit.

LED Indicator

PoE (Green)
ON – PD is detected on designated port
OFF – no PD is detected

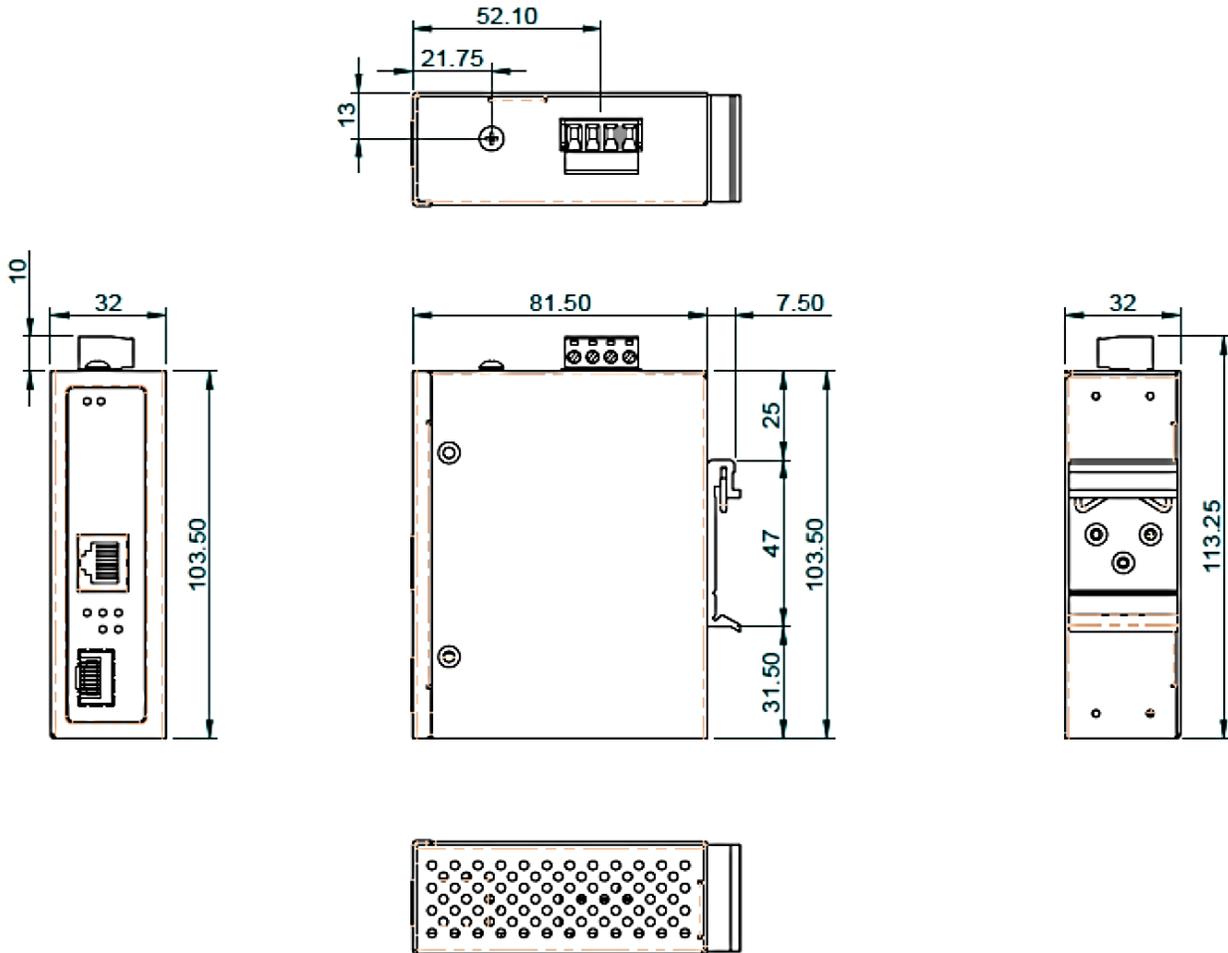


Specifications

IEEE Standard	IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3an 10GBase-T Ethernet IEEE 802.3af for PoE IEEE 802.3at for PoE+/PoE++ IEEE 802.3bt Compliant with 60W uPoE standard Compliant with 95W Power over HDBaseT (PoH) standard
Media Supported	1000Base-T: Cat5 UTP/STP, max. 100 m (330 ft.) 10GBase-T: Cat6a UTP/STP, max. 50 m (164 ft.)
Work Mode	1000Base-T to 1000Base-X 10GBase-T to 10GBase-R
Network Connector	1 xRJ-45 1G/10GBase-T auto negotiation, Auto MDI/MDI-X function, Full/Half duplex 1 x 1G/10GBase-X SFP
Protocol	CSMA/CD
LED	PW1 (Green): ON – Power 1 is detected PW2 (Green): ON – Power 2 is detected
	RJ-45 port: PoE: ON – PSE is in active mode. OFF – PSE is in idle mode. LNK/ACT (Green): ON – TX port is detected Flashing – TX data is transmitting/receiving 10G (Green): ON – TX port speed is 10G 1G (Green): ON – TX port speed is 1G
	SFP port: SFP (Green): ON – SFP port is detected Flashing – data is transmitting/receiving
PoE Power	Maximum 70Watts with 56VDC input at environment 75°C Maximum 90Watts with 56VDC input at environment 60°C
PoE Pin Assignment	Pin 1 (V-), 2 (V-), 3 (V+), 6 (V+) Pin 4 (V+), 5 (V+), 7 (V-), 8 (V-)
Reverse Polarity Protection	Present
Overload Current Protection	Present
Power Supply	4 pin terminal block with 52-56VDC Power Input
Power Consumption	3 W@52 VDC full load
Removable Terminal Block	Provide 4 pin terminal block Wire range: 0.34mm ² to 2.5mm ² Solid wire (AWG):12-24/14-22 Stranded wire(AWG): 12-24/14-22 Torque:5lb-In/0.5Nm/0.56Nm Wire Strip length: 7-8mm
Operating Temperature	-40°C to 75°C
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40°C to 85°C
MTBF (mean time between failure)	>500,000 hrs (Telcordia (Bellcore), GB) at 50°C

Housing	Rugged Metal, IP30 Protection
Case Dimension (LxWxD)mm	103.5 x 32 x 81.5 mm (LxWxD)
Installation	DIN-Rail and wall mount brackets included
Certifications	
Safety	LVD (EN62368-1)
EMC	CE, FCC, EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6KV; Air: 8KV IEC 61000-4-4 EFT: Power: 2KV; Signal: 2KV IEC 61000-4-5 Surge: Power: 2KV; Signal: 2KV
Vibration	EN 60068-2-6
Shock	EN 60068-2-27
Free Fall	EN 60068-2-32

Housing Dimension (mm)



NOTE:

Housing dimension is for purpose of showing product Length, Width, Height, din-rail, and terminal block's position and dimension. Please reference the LED Indicator Page for correct port order.