User Manual: PC-BTPMCRP101-GE
Industrial Media Converter

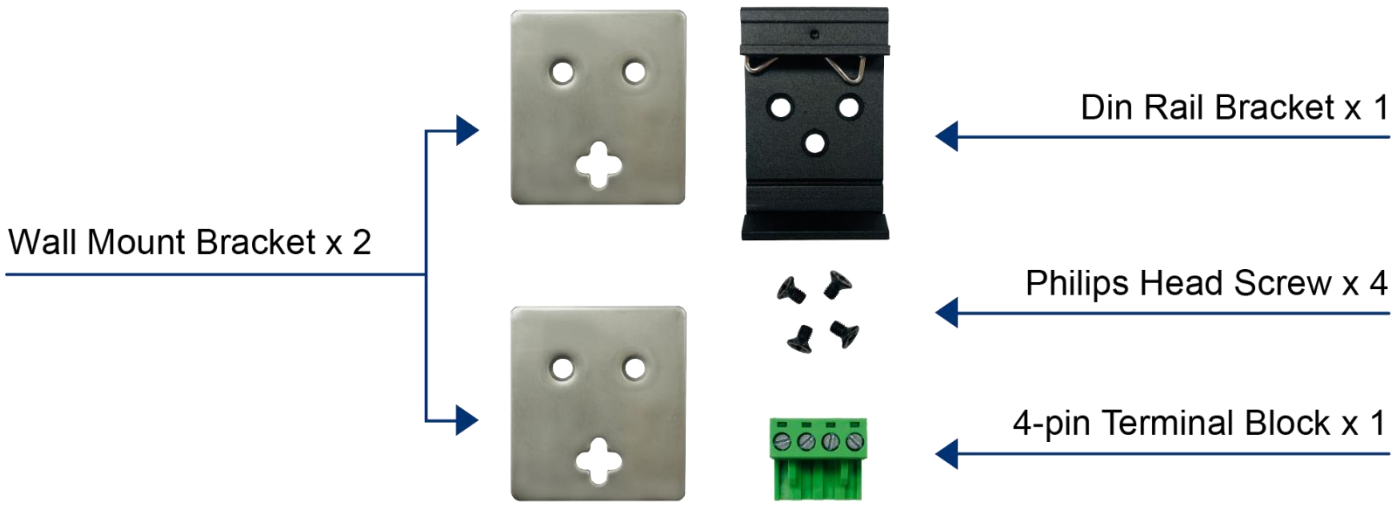
Version 12.2024

Introduction

This Hardened PoE media converter series offers both 802.3bt 90W and 802.3at 30W versions. They feature PD Off-Site Reboot (PDOR) function, allowing you to reset communication between connected devices remotely by simply reinserting the connected SFP transceiver. The PoE media converter can power outdoor speed domes, surveillance cameras, and other high power PD devices. It is designed for security, transportation, and telecom applications, helping to extend your network range. With its versatile design, it can be DIN-Rail or wall mounted. It is ideal for IP surveillance, traffic monitoring, and security applications in critical environments. The unit can operate in temperatures ranging from -40°C to 75°C, ensuring reliable performance in harsh conditions.

Installation package

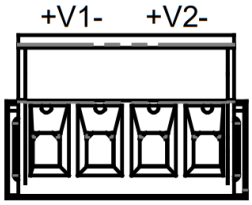
This unit can be din-rail or wall mounted. Din-rail brackets and wall mount brackets are included.

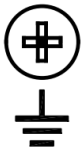


Power connection

This unit provides a 4-pin terminal block. It can be operated using 52-56VDC power sources. Always make sure your input voltage is within this supported voltage range.

To connect power: This unit supports two power inputs. Follow the printed polarity for +V1-, +V2- and ground. Connect positive wires to V1(2)+, connect negative wires to V1(2)-, and connect a wire from the unit's chassis ground to the earth ground*.*





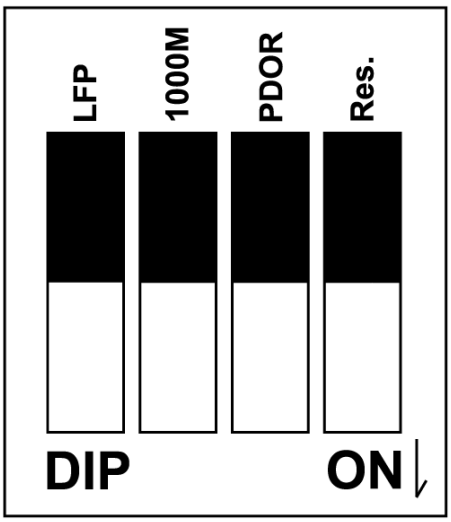
Power connecting procedure:
STEP 1 – Pull out 4-pin terminal block.
STEP 2 – Connect wire to V1+, V1-, V2+, V2- and Ground.
STEP 3 – Plug connected 4-pin terminal block back to its place.

WARNING -- Always SHUT OFF power source to connect power wire.

WARNING -- Always ground the power source to maintain a clean power input. Cheaply made power supplies create too much noise and will cause the power input to fluctuate when connected to this unit. To avoid this, always ground the power source to maintain a clean power input.

Dip Switch Function

This unit is equipped with DIP switches located on the front panel. Adjusting the DIP switches will modify the default functions of the unit. Please ensure the unit is power cycled to activate the changed settings. For the default settings of the DIP switches, please refer to the graph below:



LFP	**OFF (Default)**	Link Fault Pass Through (LFP) – Disabled
	ON	Link Fault Pass Through (LFP) – Enabled
1000M	**OFF (Default)**	SFP speed 1000M
	ON	SFP speed 100M
PDOR	**OFF (Default)**	PD Off-Site Reboot (PDOR) – Disabled
	ON	PD Off-Site Reboot (PDOR) – Enabled
Res.	**OFF (Default), NO FUNCTION** Reserved for modification.	

PDOR (PD Off-Site Reboot) Function

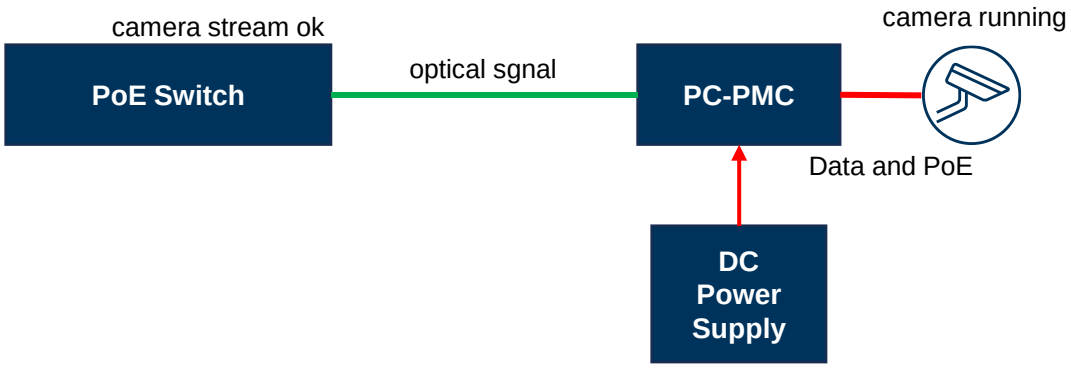
When the DIP switch 'PDOR' is set to 'ON', the following mechanism is activated:

- As soon as the optical connection to the media converter is interrupted, the media converter switches off the PoE power supply at its copper port.
  The interruption of the optical connection can be caused intentionally, for example by disabling the corresponding port on the connected switch. However, it is also possible that the connection is interrupted unintentionally, for example, due to a broken fibre cable.
- As soon as the optical connection is re-established, the media converter reactivates the PoE power supply at its copper port.

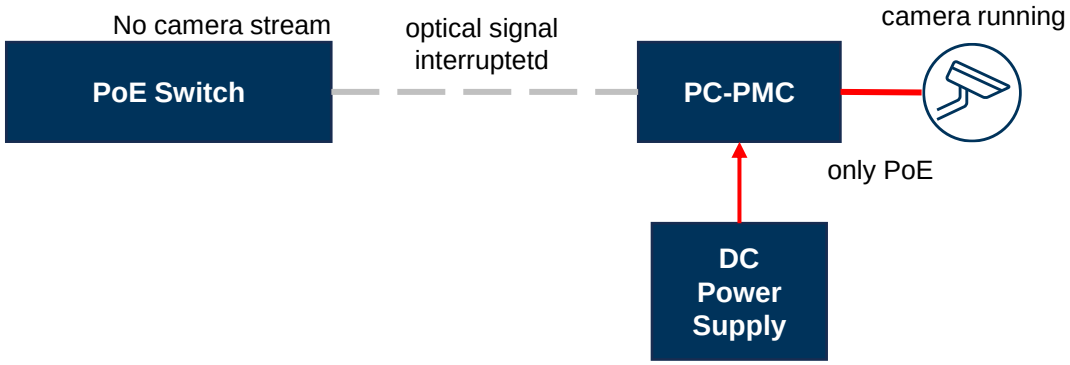
This way, a terminal device, such as a surveillance camera, connected to the media converter can be remotely switched off and on. This can be used to force the camera to reboot. In certain cases, there may be legal reasons, e.g. privacy reasons, to switch a camera off completely.

Description of the PDOR function

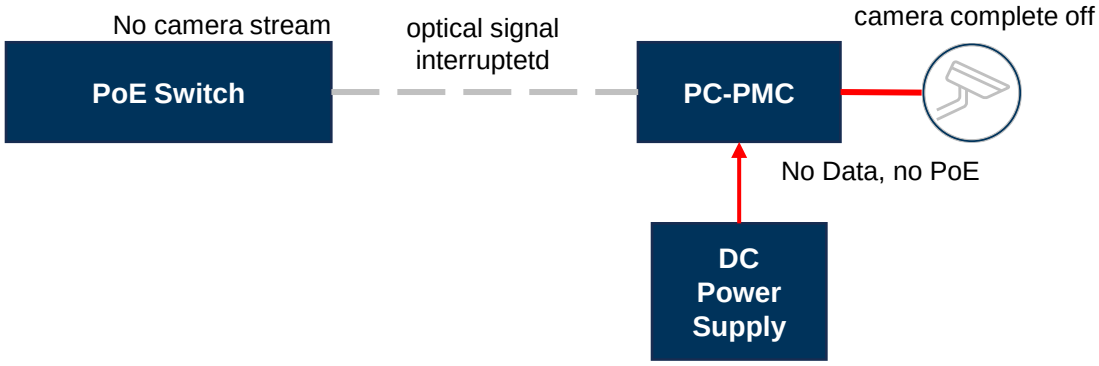
Normal function



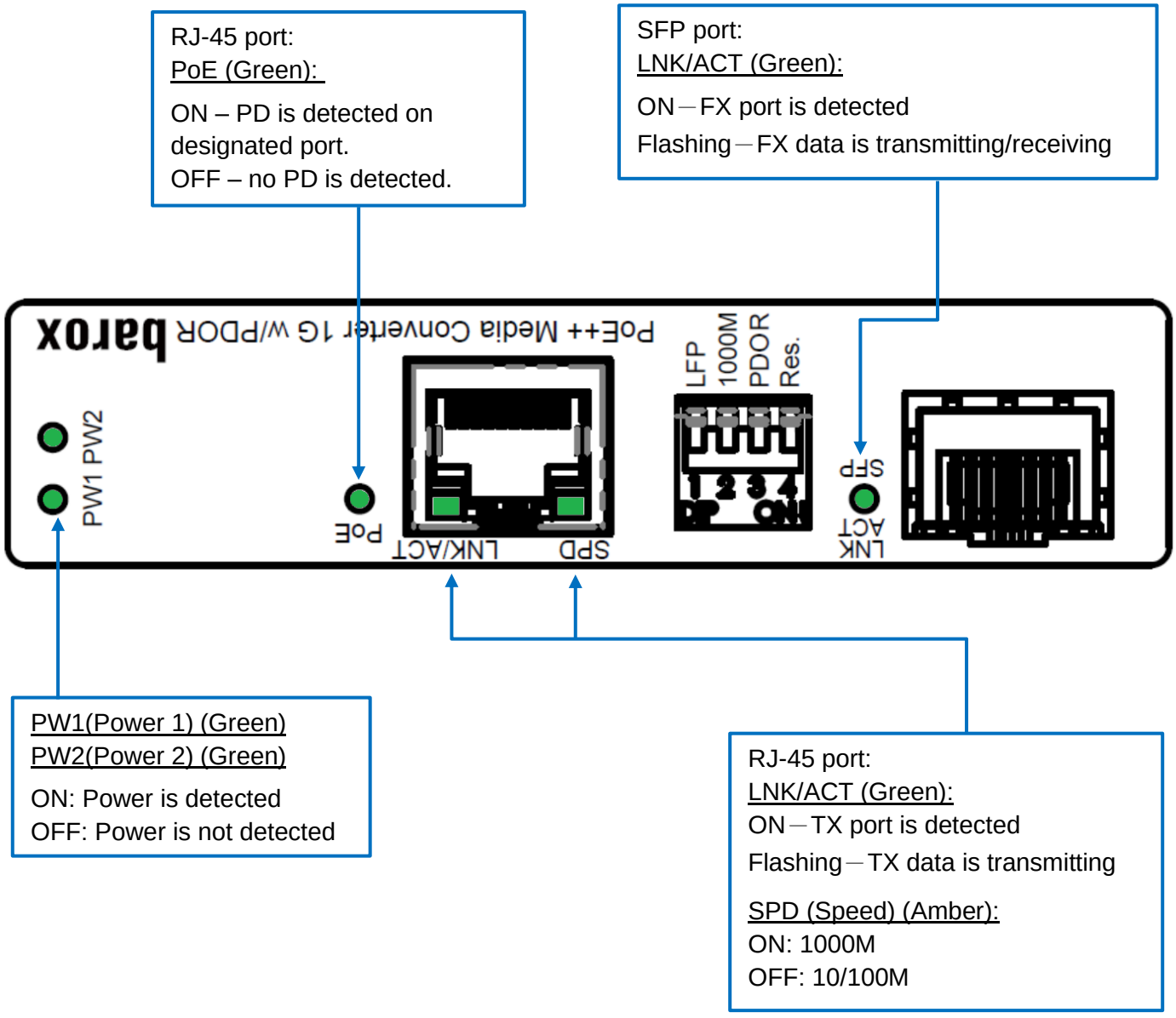
Optical signal interrupted
PDOR OFF



Optical signal interrupted
PDOR ON



LED Indicator



Specifications

IEEE Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3z 1000Base-X Gigabit Ethernet IEEE 802.3x Flow Control and Back Pressure, IEEE 802.3af PoE IEEE 802.3at PoE+ IEEE 802.3bt PoE++
Switch Architecture	Back-plane (Switching Fabric): 4Gbps
Data Processing	Ports speed are the same: Converter mode Ports speed are not the same: Switch mode (store and forward)
Flow Control:	IEEE 802.3x Flow Control and Back Pressure
Jumbo Frame	16KB
MAC Address Table Size	1K
Packet Buffer Size	512Kbits
Network Connector	1 x RJ-45 10/100/1000BaseT(X) auto negotiation, Auto MDI-MDI-X function, Full/Half duplex, Support 802.3af/at/bt PSE 1 x 100/1000M SFP
Network Cable	UTP/STP Cat.5e or above Cable EIA/TIA-568 (100m)
Protocol	CSMA/CD
LED	PW1 (Green): ON—Power 1 is detected PW2 (Green): ON—Power 2 is detected SFP Lnk/Act (Green): ON—FX port is detected Flashing—FX data is transmitting/receiving RJ-45 port: Lnk/Act (Green): ON—TX port is detected Flashing—TX data is transmitting SPD (Speed) (Amber): ON – 1000m OFF – 10/100m PoE (Green): ON – PD is detected on designated port. OFF – no PD is detected.

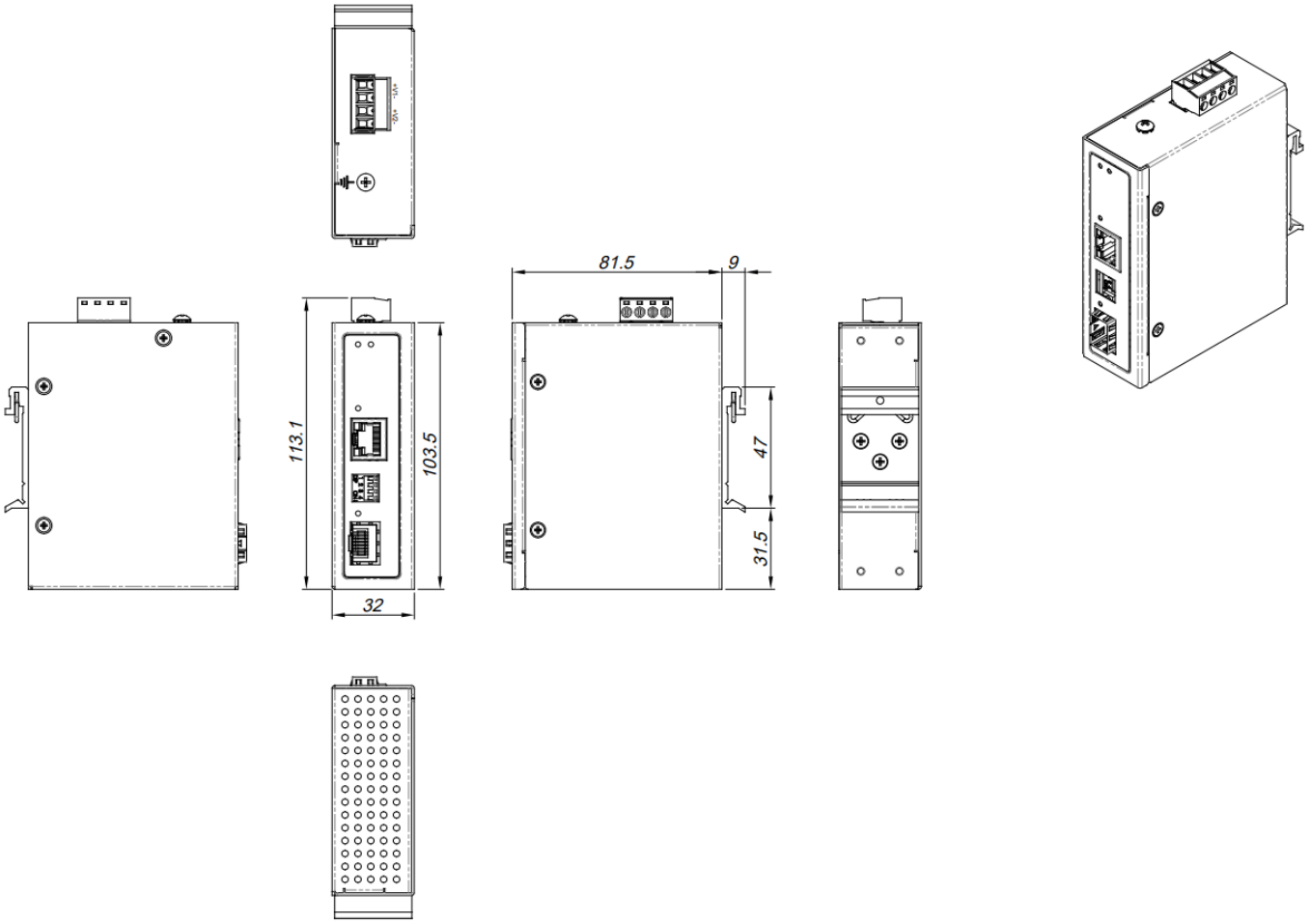
PoE Pin Assignment	Pin 1 (V-), 2 (V-), 3 (V+), 6 (V+)
DIP	DIP 1: OFF—LFP disabled (Default) ON—LFP enabled DIP 2: OFF—SFP speed 1000M (Default) ON—SFP speed 100M DIP 3: OFF—PD Off-site Reboot(PDOR) disabled (Default) ON—PD Off-site Reboot(PDOR) enabled DIP 4: Reserved for future modifications (RES.)
Link Fault Pass Through (LFP)	Link Fault Pass Through (LFP) is when copper side signal lost or disconnect, fiber side link signal will actively off, when fiber side signal lost or disconnect, copper side link signal will also actively off
PD Off-site Reboot (PDOR)	Manually re-insert the connected SFP transceiver to reset the communications between the Media Converter and PD devices
Reverse Polarity Protection	Present
Overload Current Protection	Present
Power Input	Redundant power input 52VDC-56VDC
Power Consumption	3 W@56 VDC Without PoE
PoE power	Maximum PoE power 90 Watts at 56VDC input
Removable Terminal Block	Provide 4 pin terminal block Wire range: 0.34mm^2 to 2.5mm^2 Solid wire (AWG):12-24 Stranded wire (AWG): 12-24 Torque:5lb-In/0.5Nm/0.56Nm Wire Strip length: 7-8mm
Operating Temperature	-40℃ to 75℃
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40℃ to 85℃
MTBF (mean time between failure)	546,835.16 hrs (Telcordia (Bellcore), GB) at 50°C

Housing	Rugged Aluminum, IP30 Protection
Case Dimension (L X W X D) mm	103.5 x 32 x 81.5 mm (LxWxD)
Installation mounting	DIN-Rail and wall mount brackets included

Certifications

Safety	LVD (EN62368-1)
EMC	CE, FCC, EN 55032/35
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 refer to the LED Indicator Page for correct port order.