



PoE Extender

Component of CommScope's Powered Fiber Cable System

The PoE Extender is a component of CommScope's powered fiber cable system, a hybrid optical fiber/copper cable system for remote powering of network access devices. It is designed to simply and easily function with the powered fiber cable system to extend the distance of PoE (Power over Ethernet) enabled devices. The PoE Extender encompasses four primary elements:

- Environmentally sealed closure - IP67
- Electrical power management
- Circuit protection electronics
- Optical to electrical Media Conversion

When coupled with any standard NEC Class II 48V DC power supply CommScope's powered fiber cable system can power and communicate with PoE standard devices at far greater distances than "category style" copper cabling systems which are typically limited to 100 meters, and still meet NEC Class II and SELV standards, eliminating the need for qualified electricians during installation.

The PoE Extender also contains circuit protection and DC/DC conversion electronics which automatically condition electrical voltage to the correct level needed for PoE input to the device under load (such as a small cell, high definition security camera, Wi-Fi hot spot, etc.).

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Why protect remotely powered circuits?

Long length DC low voltage electrical systems are at increased risk of:

- AC cross from high voltage cables
- Higher current in the event of a short circuit
- Strong electrical surges due to lightning strikes or other EM events in close vicinity

The PoE Extender provides three levels of electrical protection:

- Primary Protection:

- 1
- Gas discharge tube - will activate for high voltage surges
 - Protects both differential and common mode
 - GDT component rated to 40kA surge protection

- Secondary Protection:

- 2
- Metal oxide varistors - operates for slower surges as well as fast surges
 - Protects both differential and common mode
 - MOV components rated to 4.5kA

- Tertiary Protection:

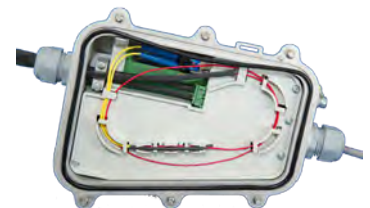
- 3
- Transient voltage suppressors - works at relatively low/slow surges, adds an extra layer of protection against voltage spikes
 - Protects differential mode only
 - Prevents the voltage from rising above 80-100V

Additional protection elements include:

- Cross-polarity protection to simplify installation - the circuit will work regardless of the input polarity
- AC cross protection:
 - 6A replaceable fuses (TR5 package)
 - No exposed high voltage pads
- High power inductors used as coordinating elements to maximize energy efficiency
- Sealed enclosure for environmental protection



Interior Electrical Board



Interior Cable Routing Tray

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Specifications

Environmental Characteristics

Storage Temperature:	-40° to 70°C
Operating Temperature:	-40° to 65°C 65°C assumes 45°C ambient air temperature, plus 20°C sun loading
Installation Temperature:	-5° to 45°C
Ingress Protection:	IP67

Mechanical Characteristics

Weight:	0.9kg
Closure Dimensions:	170mm x 125mm x 69mm

Electric Transmission Characteristics

Maximum Output:	25.5W, PoE+ rated output NEC Class II requires a power supply unit (PSU) limited to less than 60V DC. In practice, some commercial "48V" power supplies may be configured to output from 48V up to about 57V. A range of PSU voltage outputs is represented, along with the two Powered Fiber Cable copper gauge options, with supported maximum distances in meters. Note: PoE standard (IEEE 802.3af) assumes 15.4W power consumption PoE+ standard (IEEE 802.3at) assumes 25.5W power consumption.
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Input Voltage	Cable Gauge (AWG)	PoE/PoE+	Max Recommended Cable Length (Meters)
Maximum (57V)	12	PoE	3040
	12	PoE+	1560
	16	PoE	1190
	16	PoE+	610

When using the CommScope recommended power supply, the maximum (57VDC) voltage from the power supply may be assumed for determining distances supported.

Nominal (48V)	12	PoE	2150
	12	PoE+	1100
	16	PoE	850
	16	PoE+	430

If another 48VDC power supply is used refer to the distances listed for nominal (48V).

Minimum (40.5V)	12	PoE	1530
	12	PoE+	780
	16	PoE	600
	16	PoE+	310

The minimum (40.5V) is only shown for those customers who utilize an unregulated power supply directly from a UPS source. This is not recommended by CommScope, but provided for illustrative purposes only.

Communications Characteristics

Optical Input:	Accepts standard SFP (Small Form-factor Pluggable) transceivers
Singlemode:	ITU-T G657.A2
50um Multimode:	OM3 or OM4
PoE+ Media Converter:	Duplex OM3 = 100Mb @ 1km Simplex SMF = 1Gb @ 1km

RJ45 Connector Output, Half Duplex and Full Duplex Modes Supported
10/100/1000Mb Ethernet

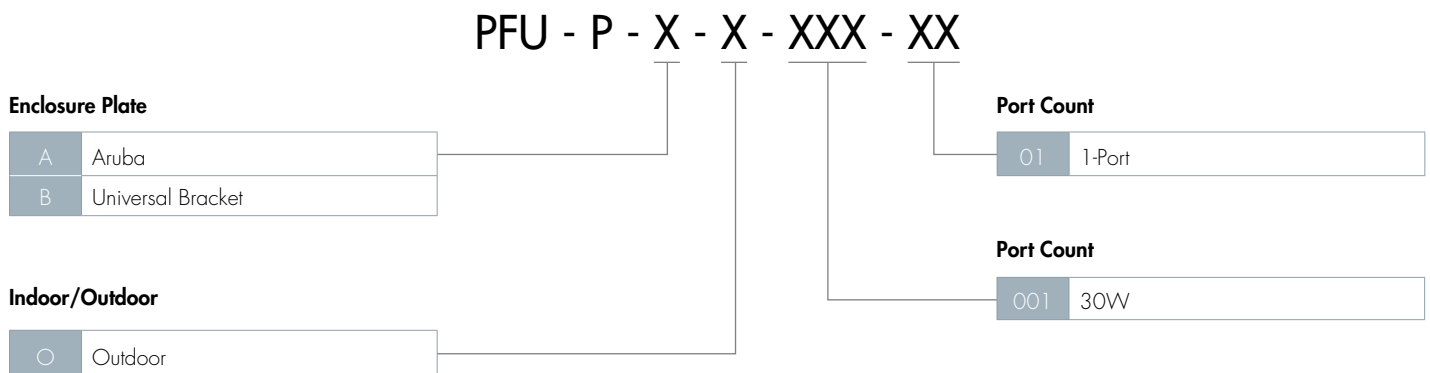
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Compliances:

- RoHS (2002/95/EC)
- REACH SVHC, 53 6/20/11
- ITU.T K21 - Enhanced test level
- SELV and NEC Class II
- IEC 60529
- IP67
- EN 300.019-1-4 Class 4.1E
- EN 60950
- EN 55022 – emissions
- EN 55024 – immunity
- ITU.T G657.A2 singlemode specification
- IEC 60793-2-10 type A1a.2, and ISO/IEC 11801 OM3/OM4 multimode specifications

Ordering Information



www.commscope.com

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