10/100Base-T, PoE Ethernet over VDSL2 (PoVDSL)

Models EIP2-EXTEND-M / EIP2-EXTEND-R

PRODUCT FEATURES

- Media and protocol converter 4x 10/100BaseT ports to VDSL
- Power over VDSL (PoV)
- Power over Ethernet (PoE+)
- Operates over existing CAT3 cabling or Coaxial (combo port)
- Supports VDSL, Band plans 997 and 998 (symmetrical and asymmetrical) transmission per ITU-T G.993.2 standard
- Extended operating temperature of -40° C to +75° C
- Provides over current protection
- LED indicators for power, PoE, and other status
- 30W for PoE+, per Ethernet port
- IP30 Rated enclosure

The EIP2-EXTEND-M & EIP2-EXTEND-R are Industrial Long Reach Power over Ethernet Extenders to utilize existing copper cabling infrastructure (twisted pair or coaxial cable) extending Ethernet to up to 2000 meters over VDSL2.

The EIP2-EXTEND-M is a Master unit and PSE-capable, (Power sourcing equipment); it transmits Ethernet data and power over a single pair of telephone-grade unshielded twisted pair (UTP) wire or a coaxial cable.

The EIP2-EXTEND-R is a Remote unit that can source power or receive PoE (PD) power over a single pair of telephone-grade unshielded twisted pair (UTP) wire or a coaxial cable. As a midspan unit, the Remote relies on the Master for power, and allows its RJ-45 port to transmit data and power to PD devices, for an aggregate total of 30W. By using PoE, the power management is centralized at a single location station for easy, efficient and cost-effective installations.

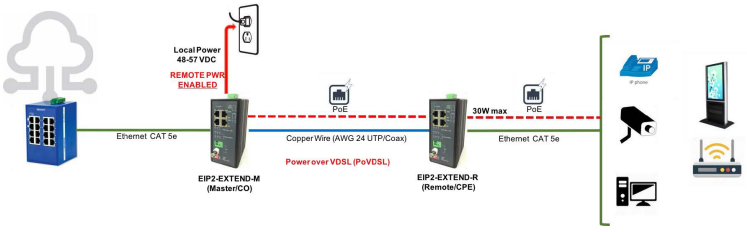
As an endspan unit, the Remote relies on its own source of power, and can provide 30W of power for each RJ-45 port to PD devices (upto 120W total), such as PTZ cameras, Wireless AP and VoIP phones.

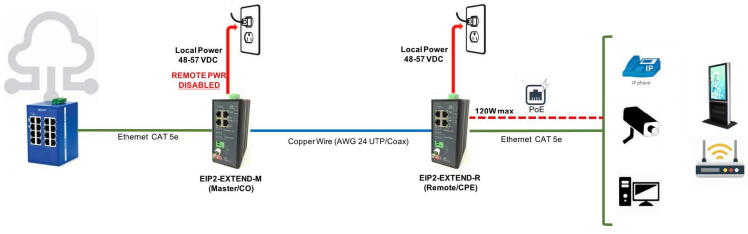
Both EIP2-EXTEND-M and EIP2-EXTEND-R comply to IEEE 802.3af/at standards, ensuring interoperability with a variety of compliant PD devices in the market. The EIP2-EXTEND-M and EIP2-EXTEND-R provide a unique PoE solution in the industry, offering flexibility and reliability.

EIP2-EXTEND-M/-R Series uses IP30 aluminum enclosures, ideal for industrial applications capable of handling wide range of temperatures -40 to +75° C. A convenient DIP switch, provides easier configurations option to meet many deployment needs. Installer can select, VDSL2 'BandPlans' (Asymmetric or Symmetric), SNR margin (6dB or 9dB) and the power mode (Use local power, or remote power). Abundant LEDs, offer quick snapshot of status and diagnostics. Power Output LED lets the installer know, how much output power is available on the EIP2-EXTEND-R to help make optimal installation choices.

ORDERING INFORMATION

Models	VDSL CONNECTOR	VDSL PORTS	ETHERNET PORTS	ETHERNET CONNECTOR
EIP2-EXTEND-M	RJ-11/Coax	1	4	RJ-45
EIP2-EXTEND-R	RJ-11/Coax	1	4	RJ-45





Accessories Included

- Din Rail Kit
- Wall Mount Kit
- RJ11 to RJ45 cable
- Terminal Block

Accessories Required

- DC to AC Adapter
- Master MDR-100-48
- Remote SDR-240-48

10/100Base-T, PoE Ethernet over VDSL2 (PoVDSL)

Models EIP2-EXTEND-M / EIP2-EXTEND-R

SPECIFICATIONS

TECHNICAL	
4 Port RJ-45 10/100BaseT	
1 Port VDSL2 Extender Combo Terminal Block or BNC	
Twisted Pair (Terminal Block)	12 to 24 AWG
Coax (BNC)	RG58
Power over VDSL (PoVDSL) / Power over Line	
Power over Ethernet (PoE+) 30W per port IEEE802.3at	
Remote Power or Local Power (selectable)	
BandPlan: Asymmetric (Annex A/998) or Symmetric (Annex B/997)	
SNR Margin: 6dB or 9dB	(selectable)
Protocol Transparency	
Auto Negotiation	
Auto MDI/MDI-X	
Maximum Distance (meters): 1200 UTP / 2000 Coax	
Maximum Distance (meters): 1200 UTP / 1800 Coax (w/ PoVDSL)	
Diagnostics and Status LEDs	
DIP Switch to select: BandPlan, SNR Margin, Power Mode	

STANDARDS
Ethernet: IEEE 802.3 10/100 BaseT, 802.3u
VDSL2: ITU-T G.993.2
VDSL2 Profiles: 17a and 30a
PoE 802.3af, 15W; 802.3at, 30W

POWER	
Input Voltage:	Redundant 48 to 57VDC
Power Connector:	Terminal Block (dual)
Over current and automatic short protection	

POWER CONSUMPTION & PoE BUDGET	
EIP2-EXTEND-M:	65 W (max)
EIP2-EXTEND-R:	125W (max) *local power*
	120W PoE Budget (30 W per port) *local power*
	30W PoE+ Budget *remote power*

MECHANICAL	
Enclosure Rating	IP30 Aluminum Enclosure
Dimensions	2.44" Hx 3.07" W x 4.19" D (62x135x106.5 mm)
Weight	0.75 Kg/ 1.65 lb

ENVIRONMENTAL	
Operating Temperature:	-40° to 185° F (-40° to +75° C)
Storage Temperature:	-40° to 185° F (-40° to +85° C)
Operating Humidity:	5% to 95% (non-condensing),
Altitude	0 – 10,000 ft. altitude

REGULATORY APPROVALS
FCC Part 15 Class A, CE, EN60950*, UL60950-1*

MTBF	
EIP2-EXTEND-M	>233,000 Hours
EIP2-EXTEND-R	>233,000 Hours

WARRANTY
Limited Lifetime

PERFORMANCE

UTP – 24AWG Copper Wire

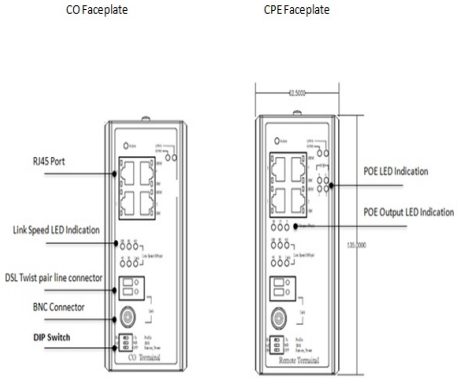
SNR Profile	6dB		9dB		
	Asymmetrical		Symmetrical		
Distance (m)	Upstream Line Rate (Mbps)	Downstream Line Rate (Mbps)	Upstream Line Rate (Mbps)	Downstream Line Rate (Mbps)	PoE output power
300	65	100	100	100	30 W
400	45	95	70	70	20 W
600	30	65	45	45	15 W
800	10	45	27	27	7 W
1,000	6	35	18	18	5 W
1,200	1	20	8	16	4 W

Coaxial Cable

SNR Profile	6dB		9dB		
	Asymmetrical		Symmetrical		
Distance (m)	Upstream Line Rate (Mbps)	Downstream Line Rate (Mbps)	Upstream Line Rate (Mbps)	Downstream Line Rate (Mbps)	PoE output power
400	100	100	100	100	30 W
600	50	100	50	80	20 W
800	50	100	50	80	15 W
1000	45	90	50	60	10 W
1,200	40	70	50	50	8 W
1,400	35	55	40	35	6 W
1,600	30	40	35	30	5 W
1,800	10	35	20	20	4 W
2,000	5	30	15	15	

MECHANICAL DIAGRAM

(dimensions in inches)



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