B&B ELECTRONICS

PRODUCT INFORMATION

EIRM-EXTEND

Managed Hardened 10/100BASE-TX Ethernet Extender

Features

- Extends Ethernet communications up to 1900 meters
- Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- Supports SNMP allowing easy management of our Ethernet Extender along with monitoring connected devices.
- Operates transparent to higher layer protocols such as TCP/IP
- Ethernet Port: 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Ethernet Extender (RJ-11 and Terminal Block) Ports
- Supports DIN-Rail Panel Rack Mounting installation
- Ten communications speeds with speed indicator LEDs on front panel of unit. From 50Mbps@about 300meters (984ft.) to 1Mbps@about 1,900meters (6,232ft.)
- Support external Hardware Watch Dog
- Support Web, CLI, SNMP management Interface
- Link Status (for VDSL, Ethernet),
- Redundant power inputs: 12 to 32VDC (Terminal Block);12VDC (DC Jack)
- -40°C to 75°C (-40°F to 167°F) operating temperature range
- Hardened IP30 aluminum case

ELINX™ Industrial Ethernet Switch

Functional Description

B&B Electronics' Industrial Hardened EIRM-EXTEND is a point-to-point Managed Ethernet Extender designed to operate in harsh environments that efficiently extends 10/100 Ethernet circuits to over 300meters (984feet) at 50Mbps using existing cross-over pair copper wire.

The EIRM-EXTEND operates at temperatures ranging from -40°C to 75°C (-40°F to 167°F) and is tested for functional operation @ -40°C to 85°C (-40°F to 185°F). The EIRM-EXTEND will allow Ethernet connectivity in existing facilities without pulling extra cable. This is the perfect solution to Ethernet on the factory -floor where systems have been upgraded from slower serial communications to Ethernet networking. Installation is easy with a single switch setting; one end is set for local and the other remote.

The EIRM-EXTEND is used in pairs to extend Ethernet connectivity over existing voice grade copper wire. The EIRM-EXTEND provides LED display for Power, VDSL speed and Ethernet connection status. The EIRM-EXTEND also provides several advanced functions such as System, SNMP, F/W upgrade, and Load Default setting through the Web based browser to enhance total networking performance.

Model Number	Ethernet Ports	Max Distance	Max Speed	VDSL Ports	Temp	Mounting
EIRM-EXTEND	1	1900m	50Mbps	RJ-11 and Terminal Block	-40 to 75C	Din, Panel (EIRPMKT)

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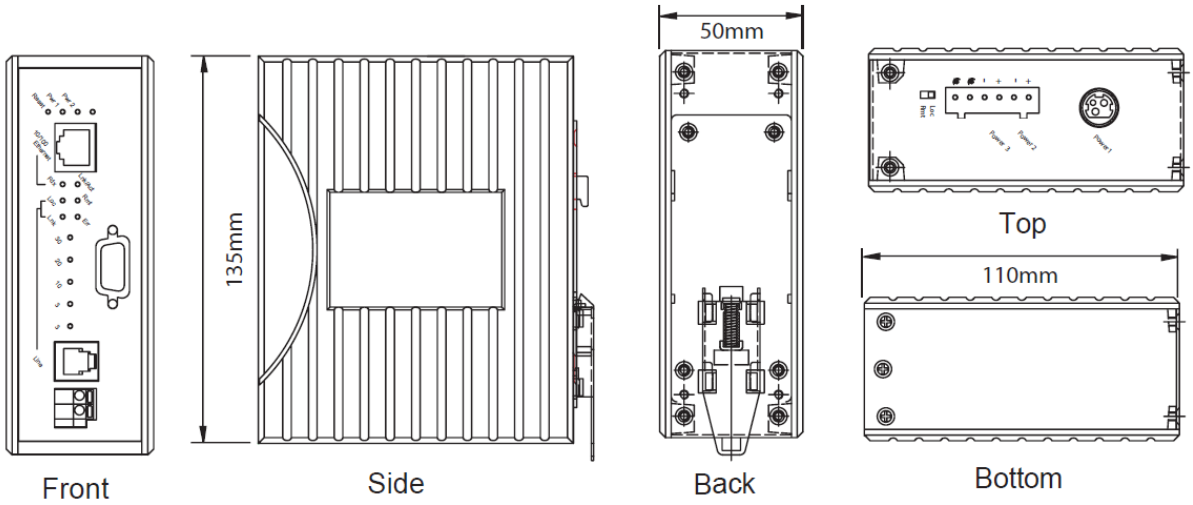
European Office: Westlink Commercial Park Oranmore Co. Galway Ireland +353 91 792444 Fax +353 91 792445

Accessories

Model No.	Description
MDR-20-24	DIN rail mount power supply 24VDC, 1.0 A output power
MDR-40-24	DIN rail mount power supply 24VDC, 1.7 A output power
PS12VDC3P	Hardened AC power adapter, 12 VDC, 36W, US plug (for EIR and EIRM series)
EIRPMKT	Panel Mount Kit For Switches
C5UMB3FBG	Ethernet Category 5e patch cord, 3 ft. (0.9m), beige
C5UMB7FBG	Ethernet Category 5e patch cord, 7 ft. (0.9m), beige



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Specifications

Technology

Standards:	IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX, IEEE802.3x, Ethernet over VDSL
Protocols:	Transparent to higher layer protocols
Flow Control:	Half-duplex back-pressure and IEEE802.3x Full-duplex flow control

Ethernet Port

RJ45 Ports:	One Ethernet 10/100BASE-TX Full/Half-duplex Auto-Negotiation, Auto-MDI/MDIX
RJ45 Distance:	100 meters (328ft)
LED Indicators:	LNK/ACT, Duplex

Ethernet VDSL Extender Port

Port:	One RJ-11 and Terminal Block Port
Speed:	1/3/5/10/15/20/25/30/40/50Mbps
Distance:	1900meters (6,232ft.)
Cable:	Telephone line 24 AWG (0.5mm diameter, 1- pair wire) or larger

Console Port

Port One DB9 RS232 port

Power

Input Voltage:	12 to 32VDC
Power Use:	5.76W Max. 0.48A@12VDC, 0.24A@24VDC
Input Connection:	(Terminal Block);12VDC (DC Jack)
Protection:	Reverse Polarity Protection

Environmental

Op. Temperature:	-40°C to 75°C (-40°F to 167°F) Tested @ -40°C to 85°C (-40°F to 185°F)
Storage Temp:	-40°C to 85°C (-40°F to 185°F)
Op. Humidity:	5% to 95% (non condensing)
MTBF	844,028.71

LED Indicators

Per input: Power Status LED
Per Port: 10/100TX: Link/Activity, Full-duplex
Line: Error, Link, Local, Remote

LED		Speed	Distance
1	Green	1 Mbps	1,900m(6,232 ft.)
	Amber	3 Mbps	1,800m(5,904 ft.)
2	Green	5 Mbps	1,600m(5,249 ft.)
	Amber	10 Mbps	1,400m(4,593 ft.)
3	Green	15 Mbps	1,200m(3,936 ft.)
	Amber	20 Mbps	1,000m(3,280 ft.)
4	Green	25 Mbps	800m (2,624 ft.)
	Amber	30 Mbps	700m (2,296 ft.)
5	Green	40 Mbps	600m (1,968 ft.)
	Amber	50 Mbps	300m (984 ft.)

Note: All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet.

Regulatory Approvals:

ISO: Manufactured in an ISO9001 facility
Safety: UL508
EMI: FCC Part 15, Class A
VCCI, Class A
EN61000-6-4
- EN55022
- EN61000-3-2
- EN61000-3-3

EMS:

EN61000-6-2
- EN61000-4-2 (ESD Standards)
- Contact: + / - 4KV; Criteria B
- Air: + / - 8KV; Criteria B

EN61000-4-3 (Radiated RFI Standards)
- 10V/m, 80 to 3000MHz; 80% AM Criteria A

EN61000-4-4 (Burst Standards)
- Signal Ports: + / - 4KV; Criteria B
- D.C. Power Ports: + / - 4KV; Criteria B

EN61000-4-5 (Surge Standards)
- Signal Ports: + / - 1KV; Line-to-Line; Criteria B
- D.C. Power Ports: + / - 0.5KV; Line-to-earth; Criteria B

EN61000-4-6 (Induced RFI Standards)
- Signal Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
- D.C. Power Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A

EN61000-4-8 (Magnetic Field Standards)
- 30A/m @ 50, 60Hz; Criteria A

Environmental Test Compliance:

IEC60068-2-6 Fc (Vibration Resistance)
- 5g @ 10~150Hz, Amplitude 0.35mm (Operation/Storage/Transport)

IEC60068-2-27 Ea (Shock)
- 25g @ 11ms (Half-Sine Shock Pulse; Operation)
- 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)

IEC60068-2-32 Ed (Free Fall)
- 1M (3.281ft.)

NEMA TS1/2 Environmental requirements for Traffic control equipment

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