B&B ELECTRONICS

PRODUCT INFORMATION

EIRM-EXTEND-8

Managed Hardened 8 port 10/100BASE-TX Ethernet Extender

ELINX™ Industrial Ethernet Switch

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
- Ethernet Port: 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Ethernet Extender (RJ-11 and Terminal Block) Ports
- Proprietary " -ring" support for network redundancy; recovery time <15ms
- IEEE802.1w RSTP, IEEE802.1S MSTP and IEEE802.1D STP compatible
- IP Multicast Filtering through IGMP Snooping V1, V2 & V3
- Supports port-based VLAN and IEEE802.1Q VLAN Tagging and GVRP
- IEEE802.1p QoS with four priority queues
- MAC-based Trunking with automatic link fail-over
- RS-232 console, Telnet, SSL/SSH, SNMP V1, V2c & V3, RMON, Web Browser, and TFTP Management
- Supports IEEE802.1x Security
- Bandwidth Rate Control
- Per-port programmable MAC address locking
- Up to 24 Static Secure MAC addresses per port
- Port mirroring
- Full wire-speed forwarding rate
- Redundant power inputs with Terminal Block and DC Jack
- -40°C to 75°C (-40°F to 167°F) operating temperature range
- Hardened aluminum case
- Supports NTP
- Complies with NEMA TS1 & TS2 Environmental requirements for Traffic Control Equipment

Functional Description

Designed for rugged environments, the EIRM-EXTEND-8 series switch comes with eight 10/100BASE-TX plus two VDSL ports in one package. It efficiently extends 10/100 Ethernet circuits to over 300 meters (984 feet) at 50Mbps by using an existing pair of copper wire. Installation is easy with a single switch setting - one end is set for local and the other for remote. The EIRM-EXTEND-8 is used in pairs (compatible with other EIS, EIR and EIRM models) to extend Ethernet connectivity over existing voice grade copper wire.

The EIRM-EXTEND-8 functions 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-8 is fully managed via SNMP, Web Browser, Telnet or Console Port and is designed to integrate 10/100 Mbps networks into VDSL backbones. The EIRM-EXTEND-8 series supports advanced features such as 802.1Q VLAN, MAC-based Trunking, IP Multicast IGMP Snooping, Rapid Spanning Tree for Redundancy, QoS for priority queuing, and port mirroring. Users may choose among SNMP/RMON, Web browser, or Telnet for remote monitoring and configuration. It also supports rate control, which allows users to set the maximum bandwidth in each port individually.

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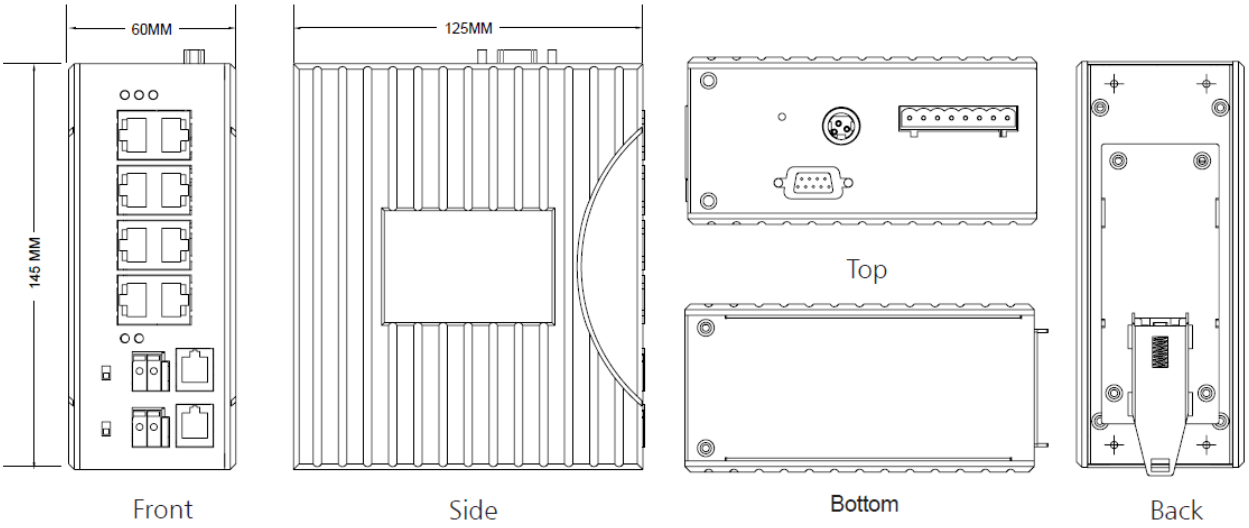
Ordering Information

Model Number	Ethernet Ports	Max Distance	Max Speed	VDSL Ports	Temp	Mounting
EIRM-EXTEND-8	8	1900m	50Mbps	Two RJ-11 and Terminal Block	-40 to 75C	Din, Panel (EIRPMKT)

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, Ethernet over VDSL, IEEE802.3x, IEEE802.1p, IEEE802.1Q, IEEE802.1w, IEEE802.1x
Forward and Filtering Rate:	14,880pps for 10Mbps 148,810pps for 100Mbps
Packet Buffer Memory:	2M bits
Processing Type:	Store-and-Forward Half-duplex back-pressure and IEEE802.3x full-duplex flow control
Address Table Size:	8192 MAC addresses

Ethernet Ports

RJ45 Ports:	Eight 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 Ports

Port:	Two RJ-11 and Terminal Block Ports
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

One DB9 RS232 port

Power

Input Voltage:	12 to 48VDC
Power Use:	11W Max. 0.92A@12VDC, 0.46A@24VDC
Input Connection	(Terminal Block);12VDC (DC Jack)
Protection:	Reverse Polaritv Protection

Mechanical

Enclosure:	Aluminum IP30
Dimensions:	60mm (W) x 125mm (D) x 145mm (H) (2.36" (W) x 4.92" (D) x 5.7" (H))
Installation:	Din Rail or optional Panel mount

Environmental

Op. Temperature:	-40℃ to 75℃ (-40℉ to 167℉) Tested @ -40℃ to 85℃ (-40℉ to 185℉)
Storage Temp:	-40℃ to 85℃ (-40℉ to 185℉)
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 Ethernet.

Alarm Contact: One relay output with current 1A@24VDC

Regulatory Approvals:

ISO: Manufactured in an ISO9001 facility
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: + / - 6KV; 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