

**B&B ELECTRONICS**

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

EIRM-EXTEND-8

PRODUCT 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
- 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
- Supports NTP

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.

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
EIRM-EXTEND-8	Managed Hardened 8 port 10/100BASE-TX Ethernet Extender

ACCESSORIES

PS12VDC3P - Hardened AC Power Supply, 12VDC, 36W, 3A, 90-264VAC input, DC jack

MDR-20-24 - DIN rail mount power supply 24VDC, 1.0 A output power

C5UMB3FBG - 3 ft. (1 M) - Beige - Category 5e UTP Patch Cord

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SPECIFICATIONS

TECHNOLOGY	
Standards	IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, IEEE802.3x, Ethernet over VDSL
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 (328 ft.)
LED Indicators	LNK/ACT, Duplex

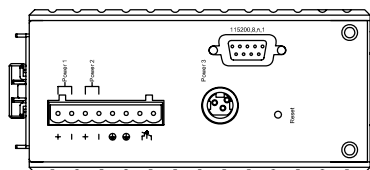
ETHERNET VDSL EXTENDER PORTS	
Port	Two RJ-11 and Terminal Block Ports
Speed	1/3/5/10/15/20/25/30/40/50Mbps
Distance	1900 meters (6,232 ft.)
Cable	24 AWG (0.5mm diameter, pair wire) or larger 100 Ohm impedance

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 Polarity Protection

MECHANICAL	
Enclosure	Aluminum IP30
Dimensions	60mm (W) x 125mm (D) x 145mm (H) 2.36" (W) x 4.92" (D) x 5.71" (H)
Installation	DIN Rail or optional Panel mount

ENVIRONMENTAL	
Operating Temperature	-40°C to 75°C (-40°F to 167°F) Tested @ -40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Operating Humidity	5% to 95% (non condensing)
MTBF	844,028.71
Alarm Contact	One relay output with current 1A@24VDC



LED INDICATORS			
LEDs		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 (2,642 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.

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 EN61000-6-2
EMS	EN61000-4-2 (ESD Standards) Contact: + / - 4KV; Criteria B Air: + / - 8KV; Criteria B
	EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM Criteria A
	EN61000-4-4 (Burst Standards) Signal Ports: + / 2KV; Criteria B D.C. Power Ports: + / 2KV; 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 @ 10~150KHz, 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 (3.281 ft.)
NEMA	NEMA TS1/2 Environmental requirements for Traffic control equipment

MECHANICAL DIAGRAM

