

ER58000 Series

Managed Hardened 8-port 10/100BASE M12 PoE with 2-port Gigabit M12/LC Ethernet Switch



» Railway Oriented

Compliant with EC50155 railway applications

» M12 Connector

Built-in 8-port 10/100BASE M12 plus 2-port Gigabit M12/LC

» Power over Ethernet (PoE)

Providing 8-port PoE function with IEEE802.3at up to 30W per port



M12



Features

Physical Ports

- › 8 10/100BASE-M12 ports
- › 2 Gigabit ports

Performance

- › Switching Capability: 5.6 Gbps
- › Packet Buffer Size: 2M bits
- › MAC Address Table: 8K

Power over Ethernet (PoE)

- › Support IEEE802.3at PoE Power Sourcing Equipment (PSE)
- › PoE power budget control and scheduling

Management

- › Interface
 - CLI, Telnet and Web Browser
 - SNMP v1/v2c/v3
- › Firmware and configuration upgrade and backup via TFTP
- › Supports DHCP Server/Client
- › RMON (Remote monitoring): group 1, 2, 3, 9
- › Port mirroring: TX/RX and both
- › NTP (Network Time Protocol) time synchronization
- › IEEE802.1ab LLDP (Link Layer Discovery Protocol)

Security

- › MAC Address by port security
- › Enable/disable port
- › Storm control (broadcast and multicast types)
- › IEEE802.1x LAN access control
- › Remote authentication through RADIUS
- › SSH for CLI and Telnet security
- › SSL for web security
- › Multi-level user account/password against unauthorized configuration

QoS

- › Priority Queues: 4 queues per port
- › Traffic classification based on IEEE802.1p CoS, DSCP, WRR (Weighted round robin) and strict mode
- › Rate Limiting (Ingress/Egress)

L2 Features

- › Auto-negotiation for port speed and duplex mode
- › Flow Control
 - IEEE802.3x full duplex mode
 - Back-Pressure half duplex mode
- › Redundant Protocol
 - IEEE802.1D Spanning Tree Protocol (STP)
 - IEEE802.1w Rapid Spanning Tree Protocol (RSTP)
 - IEEE802.1s Multiple Spanning Tree Protocol (MSTP)
 - EtherWAN's α-Ring network fault recovery (<15ms) and α-Chain
- › VLANs
 - Port-based VLANs
 - IEEE802.1Q Tag VLANs (128 groups, 4096 VID)
 - GVRP (GARP VLAN Registration Protocol)
 - GMRP (GARP Multicast Registration Protocol)
- › Link Aggregation
 - Static Trunk (2 groups, support MAC base)
 - IEEE802.3ad Link Aggregation Control Protocol
- › IGMP Snooping
 - IGMP snooping v1/v2/v3

Specifications

Technology	
Standards	<ul style="list-style-type: none"> • IEEE802.3 10BASE-T • IEEE802.3u 100BASE-TX/100BASE-FX • IEEE802.3ab 1000BASE-T • IEEE802.3z 1000BASE-SX/1000BASE-LX • IEEE802.3x, Full duplex and flow control • IEEE802.1p, QoS • IEEE802.1Q, Tag VLANs • IEEE802.1w, RSTP • IEEE802.1x, Port-based Network Access Control • IEEE802.1s MSTP • IEEE802.3ad LACP • IEEE802.3af/at Power over Ethernet (PoE)
Forward and Filtering Rate	<ul style="list-style-type: none"> • 14,880pps for 10Mbps • 148,810pps for 100Mbps • 1,488,100pps for 1000Mbps
Packet Buffer Memory	• 2M bits
Processing Type	<ul style="list-style-type: none"> • Store-and-Forward • Half-duplex back-pressure and IEEE802.3x full-duplex flow control
Address Table Size	• 8192 MAC addresses

Power	
Input	• Redundant power inputs: M23: 24 to 48VDC
Power Consumption	<ul style="list-style-type: none"> • Device: Mac. 10W (without PoE) • PoE power budget (depends on power input): 120W Max.
PoE Power Output	<ul style="list-style-type: none"> • Port 1 to 8 • IEEE802.3at: up to 30W/port, 47-57VDC
	<ul style="list-style-type: none"> • Supports overload current protection • Supports reverse polarity protection

Mechanical	
Casing	<ul style="list-style-type: none"> • Metal case • IP50
Dimensions	• 288mm (W) x 161.5mm (D) x 64mm (H) (11.3" (W) x 6.4" (D) x 2.5" (H))
Weight	• 2.3Kg (5.07lbs.)
Installation	• Panel Mount

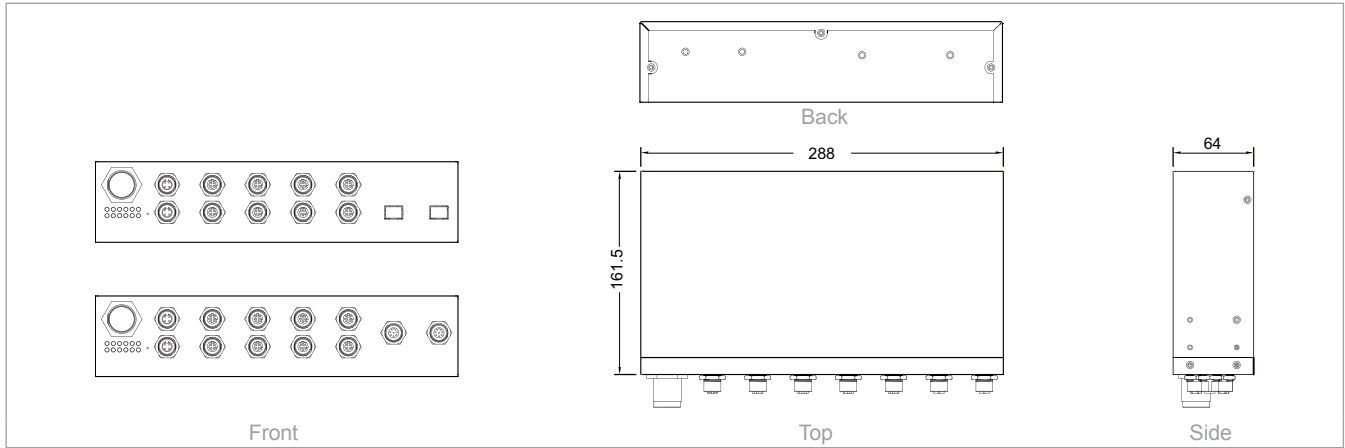
Interface	
Ethernet Port	<ul style="list-style-type: none"> • 10/100BASE-M12 D-Code 4-pin Female: 8 ports • Gigabit-M12 A-Code 8-Pin Female/LC: 2 ports
Console Port	• Port: One M12 RS-232 port
LED Indicators	<ul style="list-style-type: none"> • Per Unit: Power Status (Power1, Power2) • Per Port: 10/100TX-M12: Link/Activity (Green) 10/100/1000-M12, 1000LC: Link/Activity (Green)
Alarm Contact	• One relay M12 A-Code 4-Pin Female output with current 1A @ 250VAC

Environment	
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)
Ambient Relative Humidity	• 5% to 95% (non-condensing)

Regulatory Approvals	
ISO	• Manufactured in an ISO9001 facility
EN50155	
EMI	
FCC Part 15, Class A	
EN61000-6-4	<ul style="list-style-type: none"> • EN55022 • EN55011 (for EN50155)
EMS	
EN61000-6-2	
EN61000-4-2 (ESD Standards)	<ul style="list-style-type: none"> • Contact: + / - 6KV • Air: + / - 8KV
EN61000-4-3 (Radiated RFI Standards)	<ul style="list-style-type: none"> • 10V/m, 80 to 1000MHz; 80% AM, 1kHz • 3V/m, 1400 to 2000MHz; 80% AM, 1kHz • 1V/m, 2000 to 3000MHz; 80% AM, 1kHz (for EN50155) • 20V/m, 80 to 1000MHz; 80% AM, 1kHz • 10V/m, 1400 to 2100MHz; 80% AM, 1kHz • 5V/m, 2100 to 2500MHz; 80% AM, 1kHz
EN61000-4-4 (Burst Standards)	<ul style="list-style-type: none"> • Signal Ports: + / - 4KV; • D.C. Power Ports: + / - 4KV;
EN61000-4-5 (Surge Standards)	<ul style="list-style-type: none"> • Signal Ports: + / - 1KV; Line-to-Earth • D.C. Power Ports: + / - 0.5KV Line-to-Line + / - 0.5KV Line-to-Earth (for EN50155) • D.C. Power Ports: + / - 1KV Line-to-Line + / - 2KV Line-to-Earth
EN61000-4-6 (Induced RFI Standards)	<ul style="list-style-type: none"> • Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM • D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM
EN61000-4-8 (Magnetic Field Standards)	• 30A/m @ 50, 60Hz
Environmental Test Compliance	
IEC61373 (Vibration)	(for EN50155) <ul style="list-style-type: none"> • Vibration Test - Refer to EN61373 section 8 Table 1 Category 1 Class A - Wave form: Random wave in operating condition - Duration: 10 minutes • Simulated long life test - Refer to EN61373 section 9 Table 2 Category 1 Class A - Wave form: Random wave in operating condition - Duration: 5 hours
IEC61373 (Shock)	(for EN50155) <ul style="list-style-type: none"> • Refer to EN61373 section 10 Table 3 Category 1 Class A • Pulse shape: Half-sine pulse • Peak acceleration: 3g • Duration: 30ms in operating condition • Number shock: 3 shocks for each condition
IEC600680-2-32 Ed (Free Fall)	• 1m (3.281ft.)

Diagrams

Unit: mm



Ordering Information

ER58802-WXYZP 8-port 10/100BASE-M12 PoE + 2-port Gigabit Hardened Managed Ethernet Switch

TX ports Options:

(W) = 2 : M12 (4pins D-code Female)

100FX port Options:

(X) = 0 : non-100FX Fiber

Gigabit Port Options :

(Y) = 1 : 10/100/1000BASE-TX

E : 1000BASE-SX (LC) - 550m

M : 1000BASE-LX (LC) - 10Km

N : 1000BASE-LX (LC) - 20Km

Power Input Interface :

(Z) = H: 24 to 48VDC

PoE Type :

(P) = T: IEEE802.3at

M23 Power Connector: (Optional)

M23 Connector (96G-S1N8A80WW)

Connection Cable: (Optional)

4-pin M12 D-code male to RJ45 interface, 3m cable (ER58000-RJ454P)

8-pin M12 A-code male to RJ45 interface, 3m cable (ER58000-RJ458P)

5-pin M23 to open wire, 3m cable (ER58000-M235PX)

4-pin M12 A-code male to open wire, 3m cable (ER58000-M123PX)

Installation Type: Panel Mount (mounting kit is included)