ER52000 Series

Hardened Unmanaged 8-port 10/100BASE M12 (8 PoE) +2-port 10/100/1000BASE M12 Ethernet Switch





Overview

EtherWAN's ER52000 series provides a hardened 10-port switching platform specifically designed for rolling stock such as; Rail, Light Rail, and Bus applications. Supporting IEEE802.3at Power over Ethernet (PoE+), rugged M12 connectors, wide power input options from as low as 18VDC to as high as 160VDC and rail specific certifications. The ER52000 provides the high-performance switching required for mission-critical rolling stock applications.

The ER52000 is equipped with 8 M12 10/100BASE-TX PoE+ ports, in combination with two gigabit M12 ports supporting bypass relay functionality ensuring backbone connectivity remains intact during power loss to the switch. The ER52000 is feature rich, offering 9.6K Jumbo Frame support on gigabit ports with full wire speed gigabit throughput.

The 8 IEEE802.3at PoE+ ports provide up to 30 watts per port, with a total power budget of 120 watts in a high-temp fan- less design. This ensures maximum reliability and versatility for connections with PoE+ powered devices having varied bandwidth and power consumption requirements.

Spotlight

Designed for Rolling Stock

» Rail, Light Rail, Bus, Emergency Vehicles
» EN50155/EN50121-3-2 Railway Compliant

Power over Ethernet

» Ports 1-8 provide PoE power up to 30 watts

M12 Connector

» Built-in 8-ports 10/100BASE M12 plus 2-ports gigabit M12
» Provides two gigabit ports with bypass relay function

Jumbo Frame Support

» Up to 9.6K bytes on gigabit ports

Specifications

Technology

Standards

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX/100BASE-FX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.1x, Full duplex flow control
- IEEE 802.3af/at Power of Ethernet (PoE)

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Packet Buffer Memory

- 4M bits

Processing Type

- Store-and-Forward
- Auto Negotiation
- Half-duplex back-pressure and IEEE 802.3x full-duplex flow control
- Auto MDI/MDIX

Jumbo Frame

- 9.6K bytes

Address Table Size

- 8192 MAC addresses

Power

Redundant Power Inputs

- M12: 72-110VDC
- M12: 18-57VDC

Power Consumption

- Device: 11.5W
- PoE Power Budget: 120W

  Port 1 to Port 4, 10/100 PoE ports: 60W

  Port 5 to Port 8, 10/100 PoE ports: 60W

Power Technology

• Alternative A
Pins 1/2(+), 3/6(-)

Protection

• Reverse polarity protection

Mechanical

Casing

• Metal casting
• IP30

Dimensions

• 140 x 228 x 65.8mm (W x D x H)
(5.5" x 2.59" x 8.98")

Weight

• 1.5Kg (3.31lbs)

Installation

• Wall mounting

Interface

Power Port

• M12 S-code, 4-pin Male

Ethernet Port

• 10/100BASE-TX: M12 D-code, 4-pin Female
• 10/100/1000BASE-T: M12 A-code, 8-pin Female

LED Indicators

• Per Unit: Power1, Power2 (Green)
• Per Port: Link/Activity (Green)
• PoE Port: PoE Status (Amber)

Environment

Operating Temperature

• -40 to 75°C (-40 to 167°F)

Storage Temperature

• -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity

• 5% to 95% (non-condensing)

Regulatory Approvals

ISO

• Manufactured in an ISO 9001 facility

EMI

• FCC Part 15B Class A
• VCCI Class A
• EN 61000-6-4
• EN 50121-3-2

EMS

• EN 50121-3-2
• EN 61000-6-2
EN 61000-4-2 (ESD Standards)
EN 61000-4-3 (Radiated RFI Standards)
EN 61000-4-4 (Burst Standards)
EN 61000-4-5 (Surge Standards)
EN 61000-4-6 (Induced RFI Standards)
EN 61000-4-8 (Magnetic Field Standards)

Environmental Test Compliance

• IEC 60068-2-6 Fc (Vibration)
• IEC 60068-2-27 Ea (Shock)
• FED STD 101C Method 5007.1 (Free Fall w/Package)

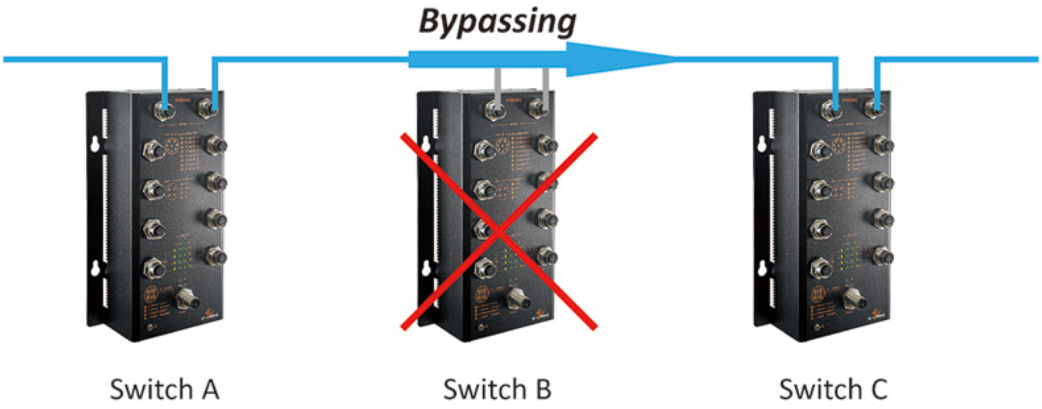
Rail Traffic

• EN 50155

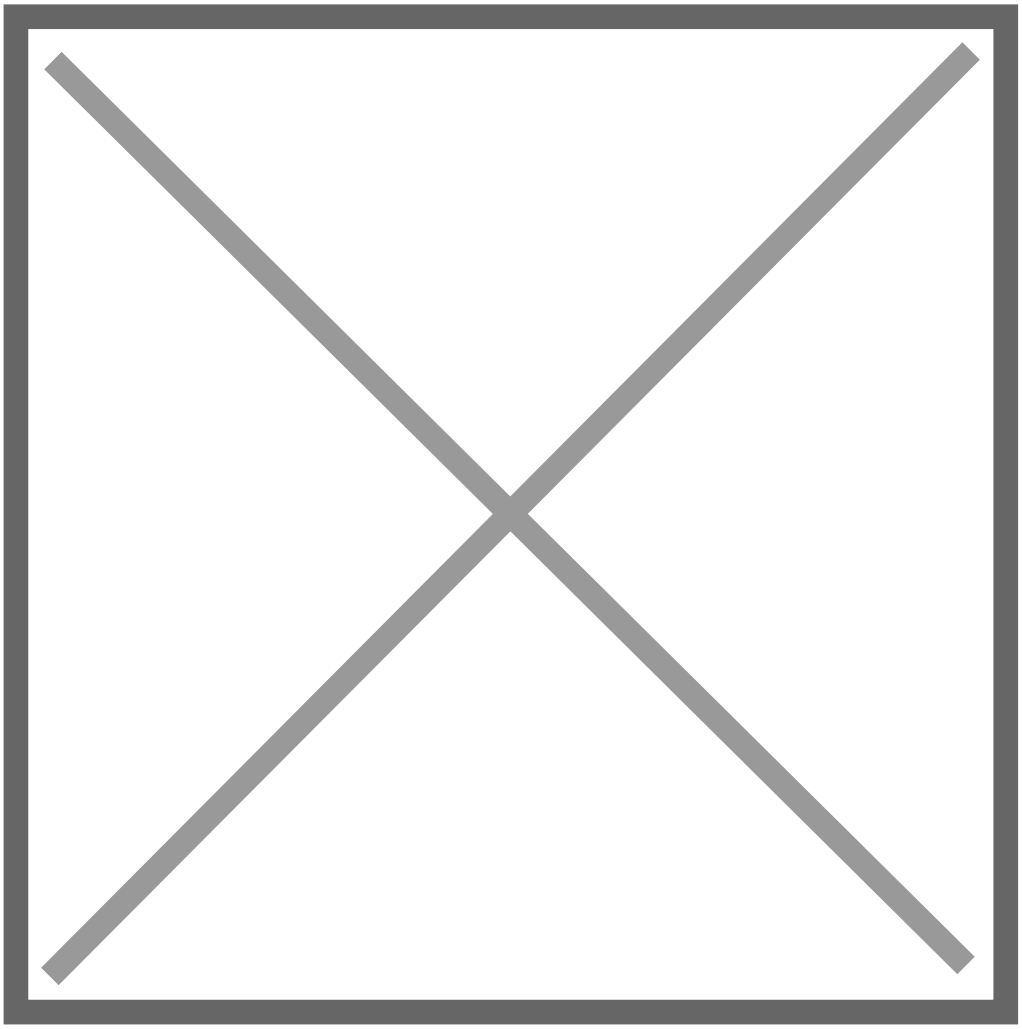
Relay Function

Bypass Relay Functions

The ER52000 supports bypass relay function on the Gigabit ports when the switch is operating normally, the Gigabit ports operate in the same manner as the other ports, processing and forwarding Ethernet packets. In the event the switch stops working due to a power failure, the bypass relay function will be triggered ensuring non-stop data flow.



Dimensions



Ordering Info

Model

ER52082-Z	8-port 10/100BASE M12 (8 PoE) +2-port 10/100/1000BASE M12 Hardened Unmanaged Ethernet Switch

Power Input Interface (Z)

I	72–110VDC
H	18–57VDC

Optional Accessories

NDR-240-48	240W/5A DIN-Rail 48VDC Industrial Power Supply	
SDR-480-48	480W/10A DIN-Rail 48VDC Industrial Power Supply	
ER58000-RJ458P		M12 A-code (8-pin male) to 10/100/1000BASE-T RJ45 Interface, 3-meter Cable
ER58000-RJ454P		M12 D-code (4-pin male) to 10/100BASE-TX RJ45 Interface, 3-meter Cable
W96G-1543223XX		M12 D-code (4-pin male) Quick Connector
W96G-1543236XX		M12 A-code (8-pin male) Quick Connector



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