ED3175 Series

Hardened Managed 8-port 10/100BASE-TX Switch with 2-port Copper Pair Extender





Overview

The ED3175 Series Managed Ethernet Extender enables the extension of Ethernet connectivity over existing copper pair allowing legacy infrastructure to be leveraged for IP networks and extending the Ethernet distance limitations of 100 meters. With eight Ethernet LAN ports and two copper VDSL uplink ports, the ED3175 provides excellent network extension flexibility.

Upgrading an existing legacy control or surveillance system to a new IP-based system is a complicated task, especially when existing cable infrastructure is old copper or twisted pair cable. EtherWAN's ED3175 Series provides Ethernet connection and extension over these existing copper wire cables, minimizing the expense of pulling new cable infrastructure.

The ED3175 Series is built with hardened specifications, providing wide temperature operation range from -40 to 75°C to overcome severe outdoor environments. The ED3175's management provides remote login feature to execute configuration changing, link status check and device maintenance. Cooperating with managed switches, the ED3175 performs seamless OAM (Operation, Administration and Maintenance) functions. Incorporating VDSL technology, the ED3175's RJ11 and terminal block extender ports provide long distance transmission with 50Mbps rate at 300 meters, or 1Mbps at 1900 meters.

EtherWAN — "**When Connectivity is Crucial.**"

Spotlight

Supports Alpha-Ring at Extender Ports

» Alpha-Ring provides network connection redundancy
» Provides 50Mbps transmission rate with 300 meters distances

Managed Functions

» Supports IEEE 802.3ah OAM standards
» Supports SNMP v1/v2
» Supports bandwidth control and VLAN base priority tag

Wide Operating Temperature

» -40 to 75°C wide operating temperature range design is suitable for installation in outdoor cabinet

Features

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

Security

» MAC address filtering
» Enable/disable port
» Storm control (broadcast and multicast types)
» IEEE 802.1x LAN access control
» Remote authentication through RADIUS
» SSH for CLI and Telnet security
» SSL for web security

Quality of Service (QoS)

» Priority Queues: 4 queues per port
» Traffic classification based on IEEE 802.1p CoS, DSCP, WRR (Weighted Round Robin)
» Rate Limiting (Ingress/Egress)

Layer 2 Features

» Auto-negotiation for port speed and duplex mode
» Flow Control
  • IEEE 802.3x full duplex mode
  • Back-Pressure half duplex mode
» Redundant Protocols
  • IEEE 802.1D Spanning Tree Protocol (STP)
  • IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
  • IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
  • EtherWAN's Alpha-Ring network fault recovery (<15ms) and Alpha-Chain
» VLANs
  • Port-based VLANs

- IEEE 802.1Q Tag VLANs (4096 VID)
- GVRP (GARP VLAN Registration Protocol)
- GMRP (GARP Multicast Registration Protocol)

» Link Aggregation
- Static Trunk (2 groups, support MAC base)

» IGMP Snooping
- IGMP Snooping v1/v2/v3

Performance

» Switching Capability: 900Mbps
» Packet Buffer Size: 256KB
» MAC Address Table: 8K

Specifications

Technology

Standards

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX
- IEEE 802.3x Full duplex and flow control
- IEEE 802.1p QoS
- IEEE 802.1Q Tag VLANs
- IEEE 802.1w RSTP
- IEEE 802.1x Port-based Network Access Control

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 IEEE 802.3x full-duplex flow control

Address Table Size

- 8192 MAC addresses

Power

Input

- 12-48VDC (Terminal Block)
- 12VDC (DC Jack)

Power Consumption

- 11W Max. 0.92A@12VDC, 0.46A@24VDC

Protection

- Overload current protection
- Reverse polarity protection

Mechanical

Casing

• Aluminum Case
• IP30

Dimensions

• 60 x 125 x 145mm (W x D x H)
(2.36" x 4.92" x 5.7")

Weight

• 1.1Kg (2.42lbs.)

Installation

• DIN-Rail (Top hat type 35mm)

Interface

Ethernet Port

• 10/100BASE-TX: 8 ports

Ethernet Extender Port

• RJ11 and Terminal Block port: 2 ports
• Speed: 1/3/5/10/15/20/25/30/40/50Mbps
• Cable: Telephone wire 24 AWG (Minimum 0.5mm diameter, 1-pair wire) at 1900meters max.

LED Indicators

• Per Unit: Power Status (Power 1, Power 2, Power 3)
• Per Port RJ45: 10/100TX: Link/Activity, Speed
• Per Extender Port: Link

Console Port

• Port: One DB9 RS-232 port

DIP Switch

• One DIP Switch: Local (CO) or Remote (CPE)

Alarm Contact

• One relay output with current 1A@24VDC

► **Speed/Distance Reference**

Distance	Data Rate
1,900m (6,232ft.)	1Mbps
1,800m (5,904ft.)	3Mbps
1,600m (5,249ft.)	5Mbps

1,400m (4,593ft.)	10Mbps
1,200m (3,936ft.)	15Mbps
1,000m (3,280ft.)	20Mbps
800m (2,624ft.)	25Mbps
700m (2,296ft.)	30Mbps
600m (1,968ft.)	40Mbps
300m (984ft.)	50Mbps

Environment

Operating Temperature

• -40 to 75°C (-40 to 167°F)
Tested @ -40 to 85°C (-40 to 185°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
EN 61000-6-4
EN 55022
EN 61000-3-2
EN 61000-3-3

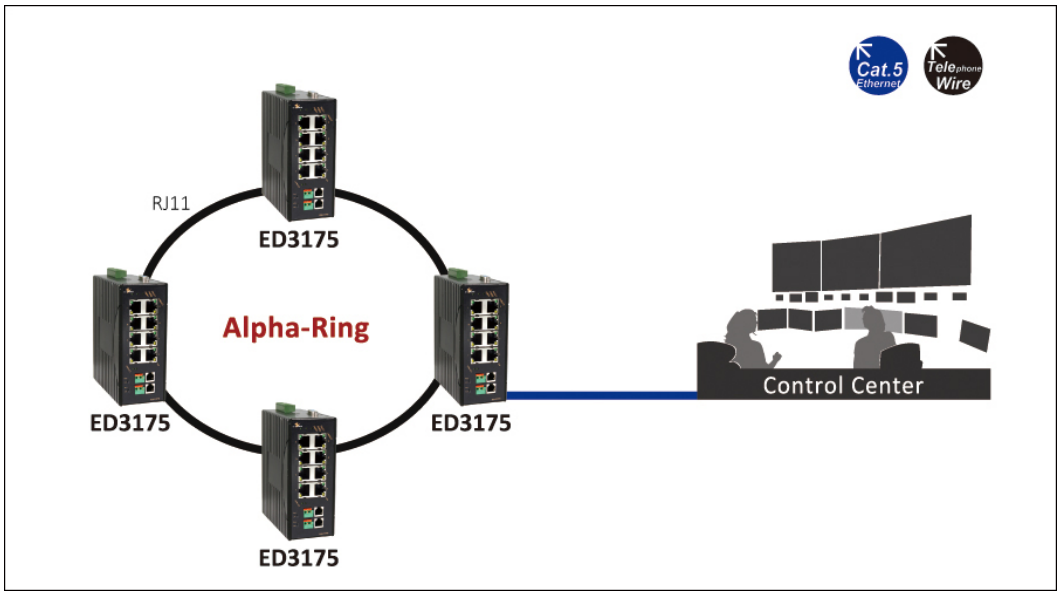
EMS

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)

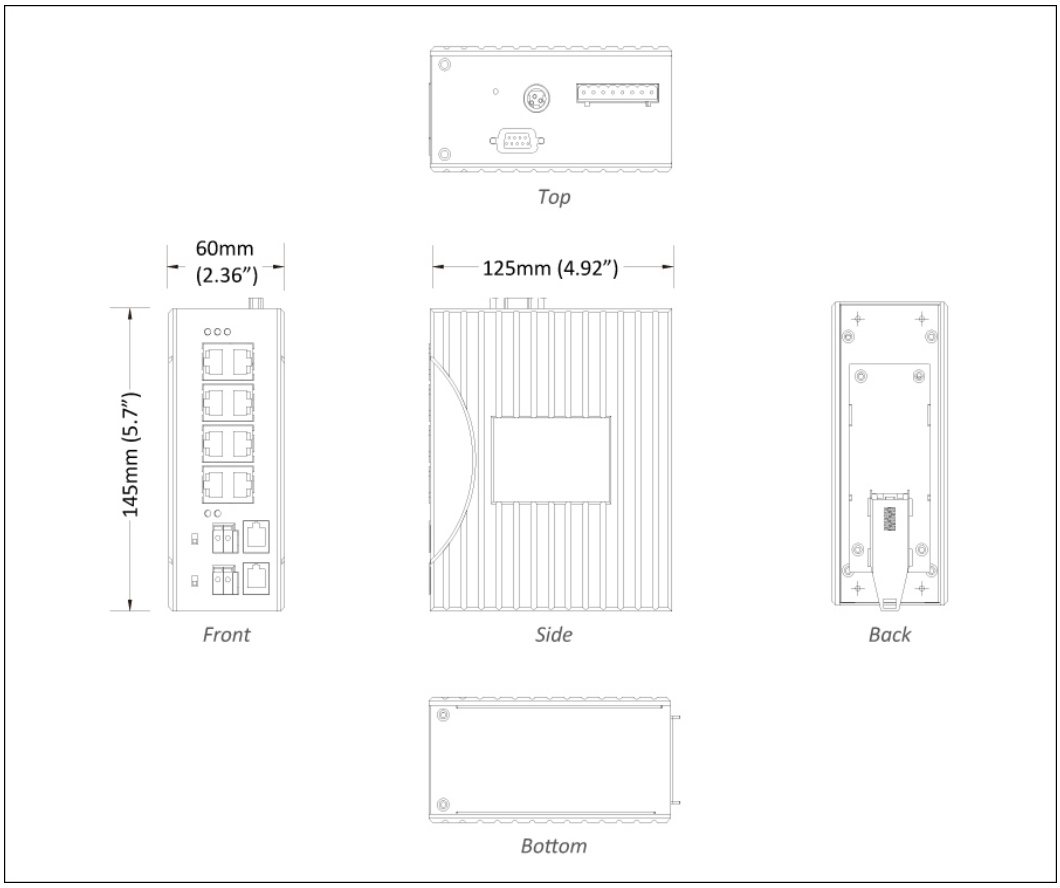
Environmental Test Compliance

IEC 60068-2-6 Fc (Vibration Resistance)
IEC 60068-2-27 Ea (Shock)
IEC 60068-2-32 Ed (Free fall w/package)

Application



Dimensions



Ordering Info

Model

ED3175-82B	Hardened Managed 8-port 10/100BASE-TX Switch with 2-port Copper Pair Extender

* DIN-Rail mounting kit included.

Optional Accessories

KP-AA96-480	Panel mounting kit
KR-BK71000	Rack mounting kit
HDR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply
HDR-60-24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply
EDR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply
EDR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply
EX41-145044	Power Supply 45W 12VDC with Latch
EX41-145046	Power Supply 45W 12VDC with Open Wire

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