

## ED3175 Series

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



### 概要

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."

## 特長

### 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

# 機能

## 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
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## 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
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## 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)
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## 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
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## Performance

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

### 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
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### 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
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### 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)
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## 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

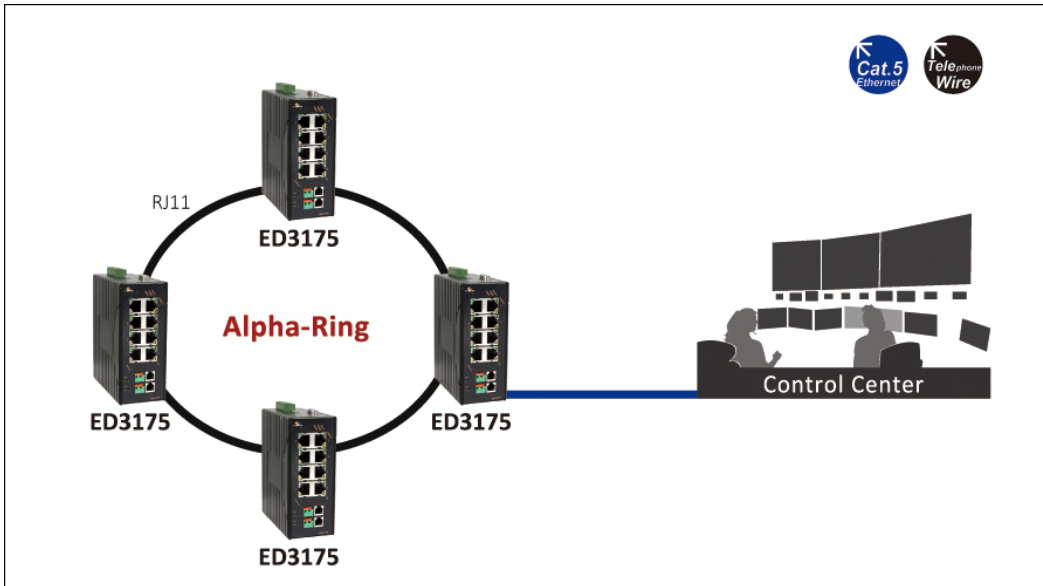
IEC 60068-2-6 Fc (Vibration Resistance)

IEC 60068-2-27 Ea (Shock)

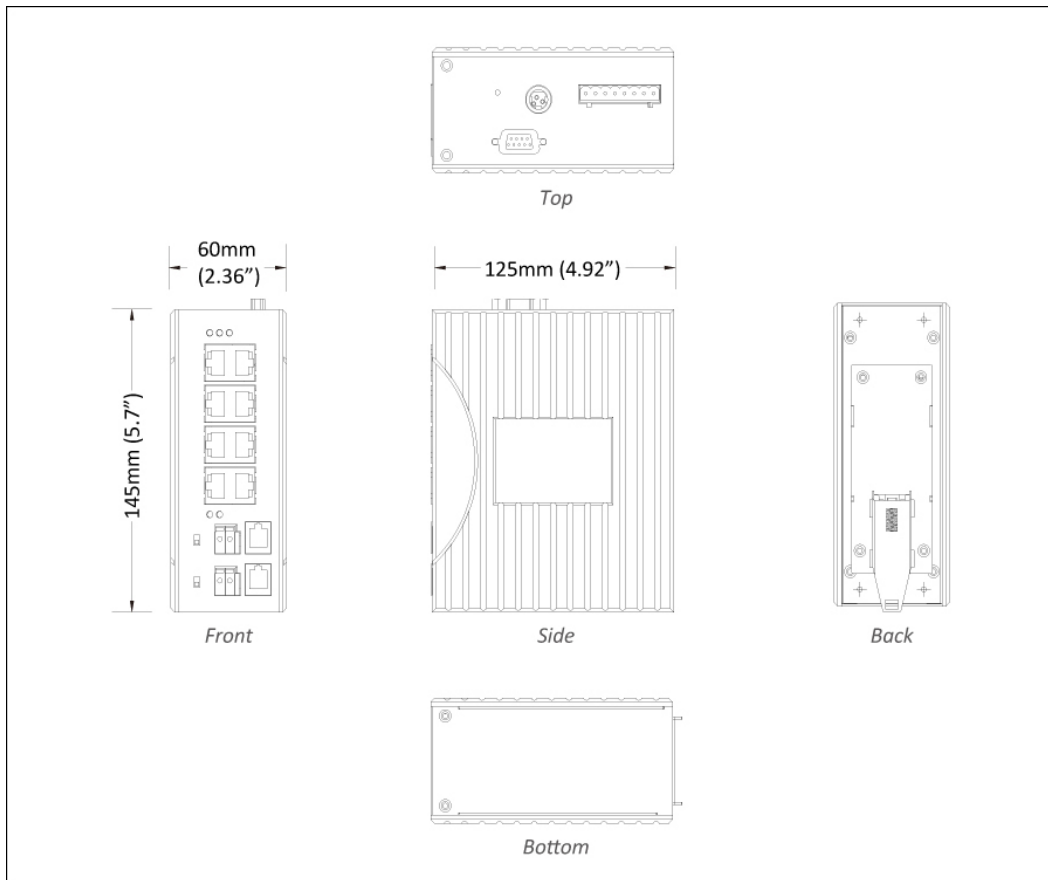
IEC 60068-2-32 Ed (Free fall w/package)

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## 応用例



## 寸法図



## 製品型番

### 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           |

