

ED3146 Series

Hardened 4-Port 10/100BASE-TX IEEE802.3at PoE
Ethernet Extender



Overview

The ED3146 Series 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 four Ethernet LAN ports and one copper VDSL uplink ports, the ED3146 provides excellent network extension flexibility. Among four Ethernet LAN ports, two Ethernet ports provide IEEE802.3at PoE/PSE support.

Upgrading an existing legacy control or surveillance system to a new IP-based system is a complicated task, especially when existing cable infrastructure is an old copper or twisted pair cable. EtherWAN's ED3146 Series provides Ethernet connection and extension over these existing copper wire cables minimizing the expense of pulling new cable infrastructure.

The ED3146 Series is built with hardened specifications, providing wide temperature operation range from -40°C to 75°C to overcome severe outdoor environments. Incorporating VDSL technology, the ED3146's RJ11 and terminal block extender ports provide long distance transmission with 50Mbps rate at 300 meters, or 1Mbps at 1900 meters; 10 speed LED indicators in the front panel provide easy lookup for the connection speed.

Spotlight

- **Supports 4 Ports Switch**
 - Supports four 10/100BASE-TX Ethernet ports
- **Supports IEEE802.3at PoE/PSE**
 - Supports two Ethernet ports with IEEE802.3at PoE/PSE 30W power output
 - IEEE802.3af PoE/PD compatible
- **Wide Operating Temperature**
 - -40°C to 75°C wide operating temperature range design is suitable for installation in outdoor cabinets

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3x full duplex and flow control
- IEEE802.1af/at Power over Ethernet

Protocols

- Transparent to higher layer protocols

Processing Type

- Store-and-Forward
- Auto Negotiation
- Half-duplex back-pressure and IEEE802.3x full-duplex flow control
- Auto MDI/MDIX

Power

Input Voltage

- 24 to 48VDC (Terminal Block)
- 48VDC (DC Jack)

Power Consumption

- 69.12W Max. 1.44A @ 48VDC, when 2 PoE link with PD Class 0 device. Each PSE Port required Max. 30W power consumption.

Protection

- Over current protection
- Reverse polarity protection

Mechanical

Casing

- Aluminum case
- IP30

Dimensions

- 50mm (W) x 110mm (D) x 135mm (H)
(1.97" (W) x 4.33" (D) x 5.31" (H))

Weight

- 0.8Kg (1.76lbs.)

Installation

- DIN-Rail (Top hat type 35mm), Panel, or Rack mounting

Interface

Ethernet Ports

- Port: 4 RJ-45 ports
- PoE Port: complies with IEEE802.3af and IEEE802.3at standard
- Speed: 10/100Mbps
- Distance: 100meters (328ft.)
- Cable: UTP CAT. 3, 4, 5 (2-pair wire)
- 100BASE-TX: UTP CAT. 5 (4-pair wire)

Ethernet Extender Ports

- Port: One RJ-11 and Terminal Block port
- Speed: 1/3/5/10/15/20/25/30/40/50Mbps
- Distance: 1900 meters (6,232ft.)
- Cable: Telephone wire 24 AWG (0.5mm diameter, 1-pair wire) or larger

LED Indicators

- Per Unit: Power
- Per 10/100TX Port: Link/Activity, Full-duplex
- Line: Error, Link, Local, Remote

Speed / Distance Reference

LED	Color	Speed	Distance
1	Green	1Mbps	1,900m (6,232 ft.)
	Amber	3Mbps	1,800m (5,904 ft.)
2	Green	5Mbps	1,600m (5,249 ft.)
	Amber	10Mbps	1,400m (4,593 ft.)
3	Green	15Mbps	1,200m (3,936 ft.)
	Amber	20Mbps	1,000m (3,280 ft.)
4	Green	25Mbps	800m (2,624 ft.)
	Amber	30Mbps	700m (2,296 ft.)
5	Green	40Mbps	600m (1,968 ft.)
	Amber	50Mbps	300m (984 ft.)

- Note: All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet

DIP-Switch

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

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

Safety

UL508

EMI

FCC Part 15B, Class A

EN61000-6-4, EN55022, EN61000-3-2 and EN61000-3-3

EMS

EN61000-6-2

- EN61000-4-2 (ESD Standards)
- EN61000-4-3 (Radiated RFI Standards)
- EN61000-4-4 (Burst Standards)
- EN61000-4-5 (Surge Standards)
- EN61000-4-6 (Induced RFI Standards)
- EN61000-4-8 (Magnetic Field Standards)

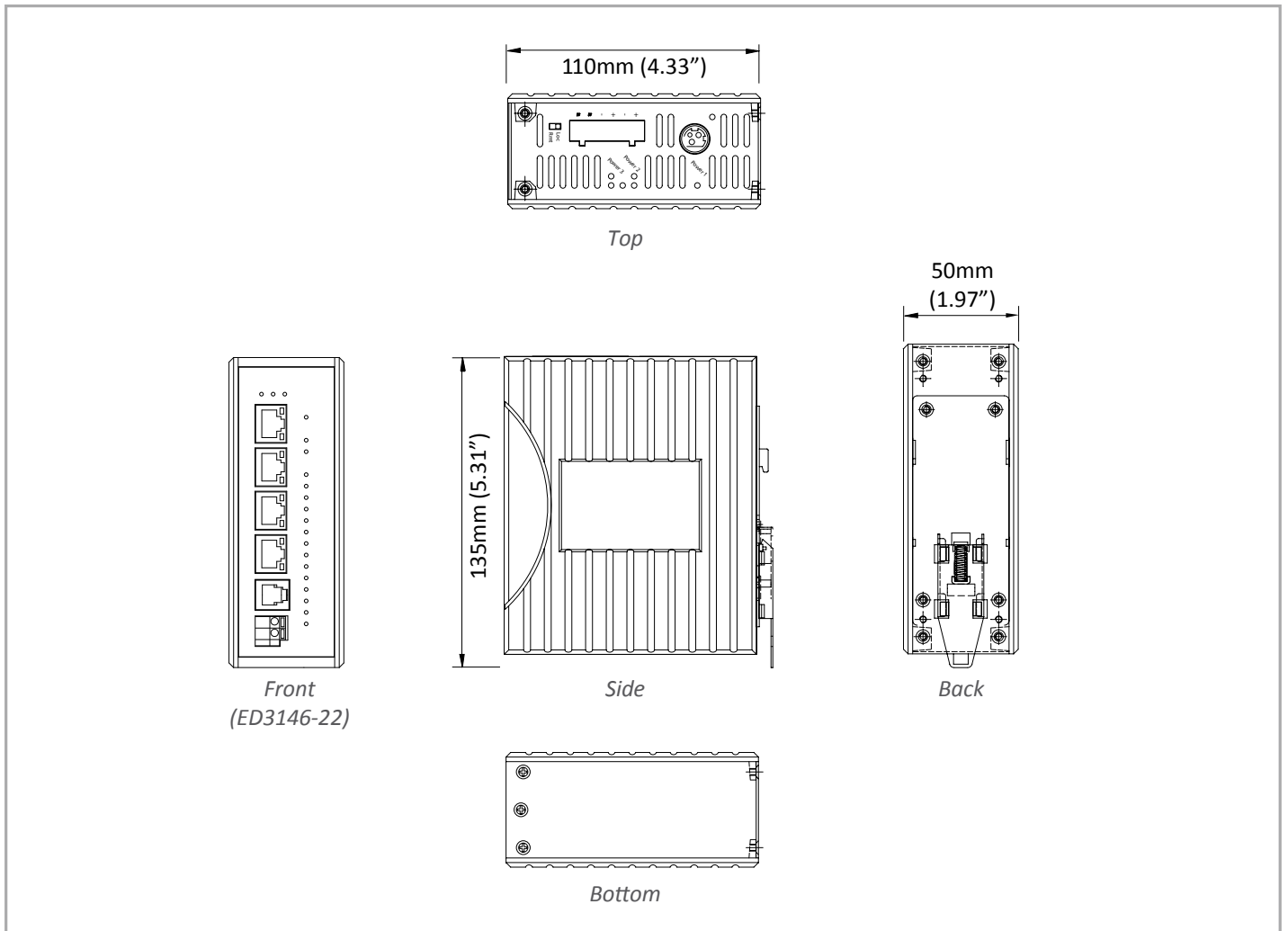
Environmental Test Compliance

IEC60068-2-6 Fc (Vibration Resistance)

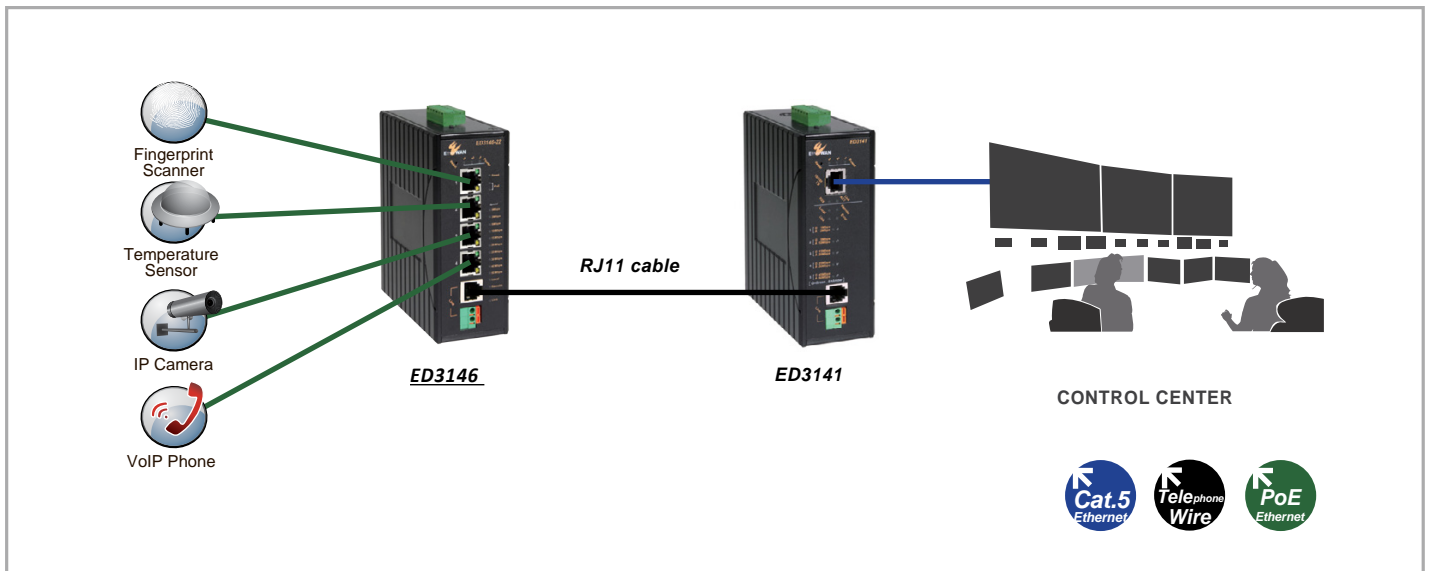
IEC60068-2-27 Ea (Shock)

FED STD 101C Method 5007.1 (Free fall w/ package)

Dimensions



Application Diagram



Ordering Information

Model

ED3146-22B	Hardened 4-port 10/100BASE-TX with 2-port IEEE802.3at PoE/PSE Ethernet Extender
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* DIN-Rail mounting kit included

Optional Accessories

KP-AA96-480	Panel mounting kit
DR-60--24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply
DR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply
DR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply