ED3541 Series

Hardened 10/100BASE-TX Ethernet Extender

Overview

The ED3541 Ethernet extender allows the extension of IP services beyond normal Ethernet distance limitations without changing cables, breaking the 100-meter Ethernet barrier.

The ED3541's hardened design features high shock and vibration, electrical noise immunity, a wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. The ED3541 is the ideal Ethernet extender for environments where connectivity is crucial.

Spotlight

- **UL60950 Certification**
  ◦ Certified by UL60950-1 standard, providing protections to installers from risk of injury or damage

- **High Speed Performance**
  ◦ Up to 100Mbps at 300 meters distance
  ◦ Up to 1Mbps at 2600 meters distance

- **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

Processing Type
- Half-duplex back-pressure and IEEE802.3x Full-duplex flow control
- Auto Negotiation
- Auto MDI/MDIX

Power

Input Voltage
- 12 to 48VDC (Terminal Block)

Power Consumption
- 4.56W max. 0.38A @ 12VDC
  0.07A @ 48VDC

Protection
- Over current protection
- Reverse polarity protection

Mechanical

Casing
- Aluminum case
- IP30

Dimensions
- 42mm (W) x 90mm (D) x 100mm (H)
  (1.65" (W) x 3.54" (D) x 3.94" (H))

Weight
- 0.41 Kg (0.9 lbs.)

Installation
- DIN-Rail (Top hat type 35mm) mounting

Interface

Ethernet Port
- Port: One RJ-45 port
- Speed: 10/100Mbps
- Distance: 100 meters (328ft.)
- Cable: 10BASE-T: UTP CAT. 3, 4, 5 (2-pair wire)
  100BASE-TX: UTP CAT. 5 (4-pair wire)

Ethernet Extender Port
- Port: One RJ-11/Terminal Block port
- Speed: Up to 100Mbps
- Distance: 2600 meters (8,530 ft.)
- Cable: Telephone wire 24 AWG
  (0.5mm diameter, 1-pair wire) or larger

DIP-Switch
- DIP 1 Site: Auto/Loc
- DIP 2 LDR: ON/OFF

LED Indicators
- Per Unit: Power 1, 2
- Per 10/100TX Port: Link/Activity, Full-duplex
- Line Speed: 100/80/60/40/20Mbps and Link below 20Mbps

Speed / Distance Reference

Distance (m)	Data rate (Mbps)
300	100
400	80
600	60
800	40
...	...
2600	1

Note:
- All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet
- The data rate will vary according to line quality

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

UL60950-1, EN60950-1, IEC60950-1

EMI

FCC Part 15B, Class A

VCCI, Class A

EN61000-6-4

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)
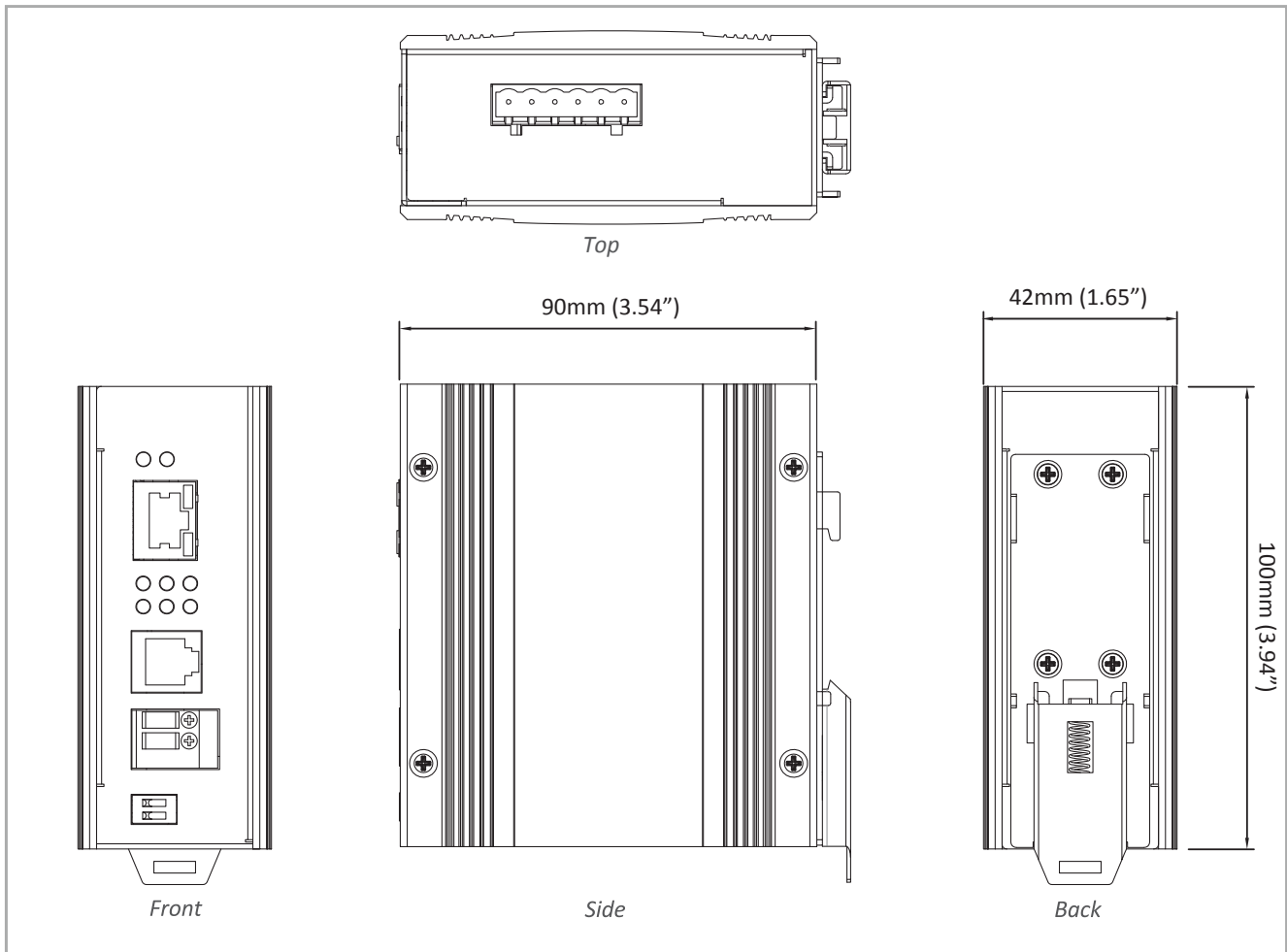- EN61000-4-8 (Magnetic Field Standards)

Environmental Test Compliance

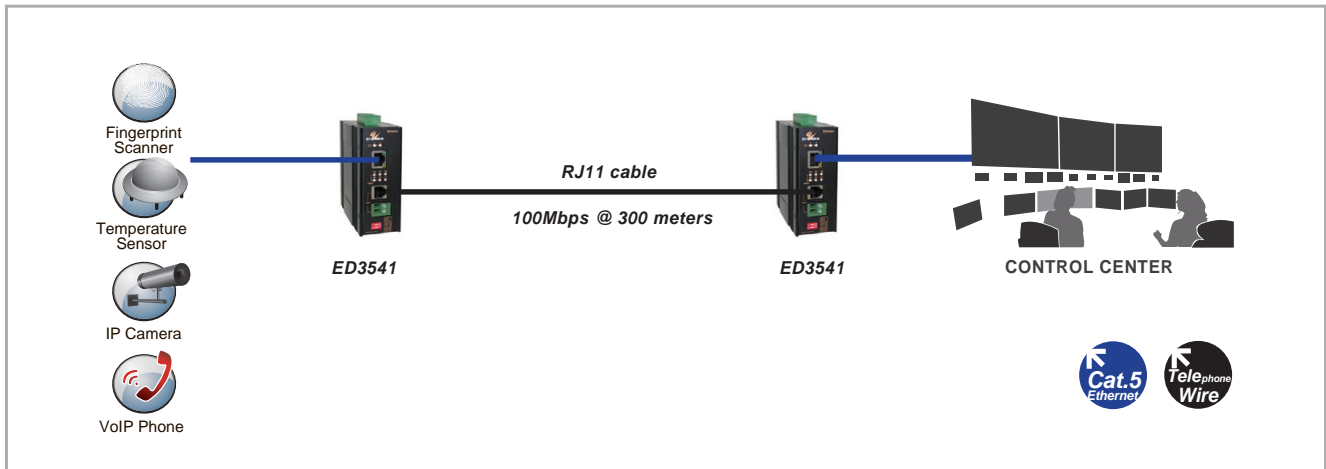**IEC60068-2-6 Fc (Vibration Resistance)**

IEC60068-2-27 Ea (Shock)

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

Dimensions

Top

90mm (3.54")

42mm (1.65")

100mm (3.94")

Front

Side

Back

Application Diagram

Fingerprint
Scanner

Temperature
Sensor

IP Camera

VoIP Phone

ED3541

RJ11 cable

100Mbps @ 300 meters

ED3541

CONTROL CENTER

Cat.5
Ethernet

Telephone
Wire

Ordering Information

Model

ED3541-00B	Hardened 10/100BASE-TX Ethernet Extender

* DIN-Rail mounting kit included

Optional Accessories

DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
MDR-40-48	40W/0.83A 48VDC Industrial Power Supply (for Terminal Block)