ED3171 Series

Managed Hardened 10/100BASE-TX Ethernet Extender

Overview

The ED3171 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.

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 ED3171 Series provides Ethernet connection and extension over these existing copper wire cables minimizing the expense of pulling new cable infrastructure.

The ED3171 Series is built with hardened specifications, providing wide temperature operation range from -40°C to 75°C to overcome severe outdoor environments. The ED3171's management provides remote login feature to execute configuration changing, link status check and device maintenance. Cooperating with managed switches, the ED3171 performs seamless OAM (Operation, Administration and Maintenance) functions. Incorporating VDSL technology, the ED3171'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

- **UL508 Certification**
  ◦ Specific design for industrial communication applications with UL508 safety certification

- **Managed Functions**
  ◦ Supports IEEE802.3ah OAM standards
  ◦ Supports SNMPv1, SNMPv2

- **Supports bandwidth control and VLAN base priority tag**
  ◦ Wide Operating Temperature
  ◦ -40°C to 75°C wide operating temperature range design is suitable for installation in outdoor cabinet

Hardware Specifications

Technology

Standards
- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3x full duplex and flow control

Protocols
- Transparent to higher layer protocols

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

Power

Input Voltage
- 12 to 32VDC (Terminal Block)
- 12VDC (DC Jack)

Power Consumption
- 5.76W Max. 0.48A @ 12VDC, 0.24A @ 24VDC

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: 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 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

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

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

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
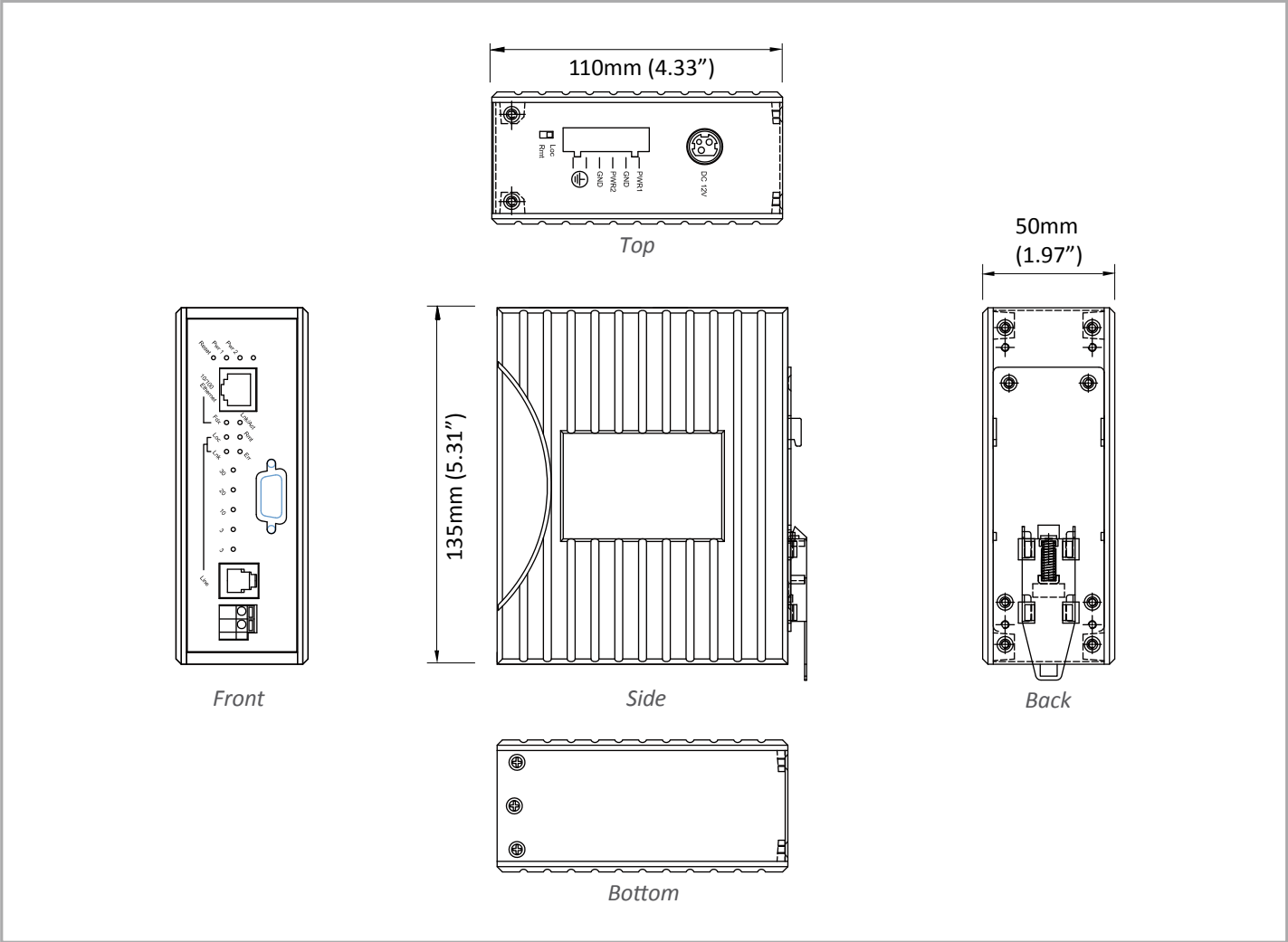
IEC60068-2-6 Fc (Vibration Resistance)

IEC60068-2-27 Ea (Shock)
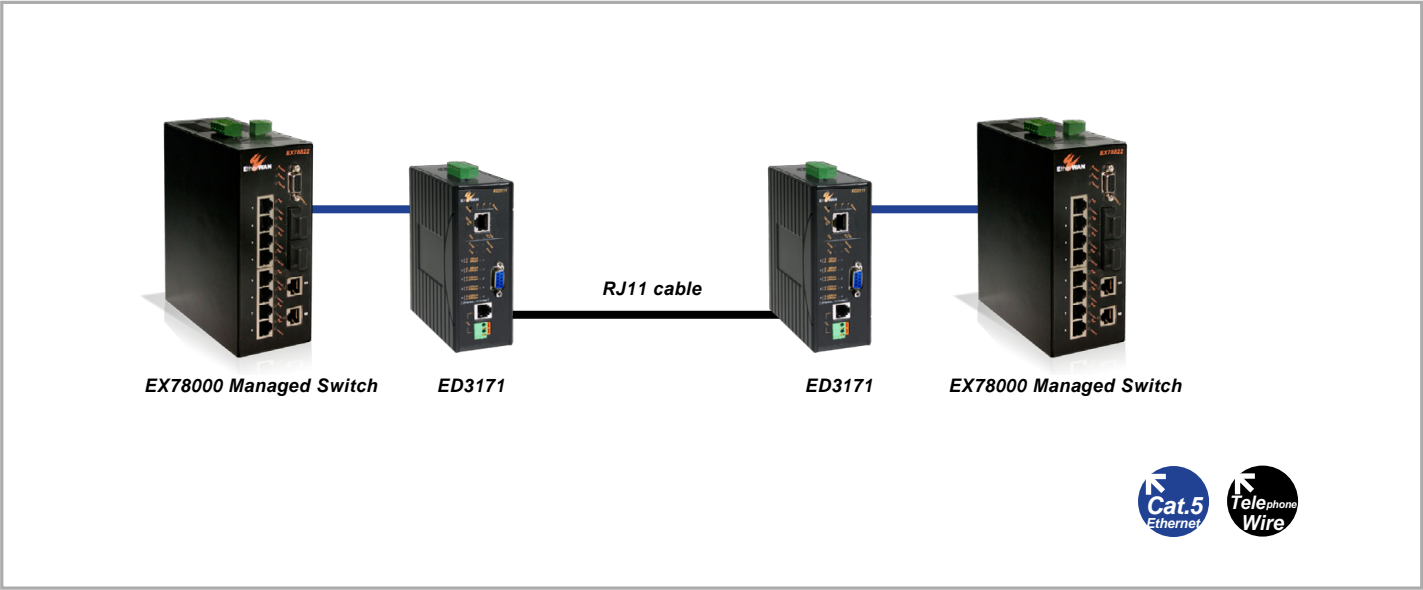
FED STD 101C Method 5007.1 (Free fall w/ package)

Industrial Compliance

NEMA TS2

Dimensions

110mm (4.33")

Top

50mm
(1.97")

135mm (5.31")

Front

Side

Back

Bottom

Application Diagram

EX78000 Managed Switch

ED3171

RJ11 cable

ED3171

EX78000 Managed Switch

Cat.5 Ethernet

Telephone Wire

Ordering Information

Model

ED3171-00B	Managed Hardened 10/100BASE-TX Ethernet Extender

* DIN-Rail mounting kit included

Optional Accessories

KP-AA96-480	Panel mounting kit
DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (for terminal block)
DR-60-24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply (for terminal block)
DR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply (for terminal block)
DR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply (for terminal block)
41-136046-X	36W/3A 12VDC hardened power adapter with open wire in aluminum housing (for terminal block) (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA
41-136044-X	36W/3A 12VDC hardened power adapter with latched DC jack in aluminum housing (for DC jack) (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA