ED3145 Series

Hardened 4-port 10/100BASE-TX Ethernet Extender

Overview

UL508

ED3145 is an all-in-one Ethernet Extender with a 4-port 10/100BASE-TX unmanaged switch feature integrated. The extender port efficiently extends Fast Ethernet distance over 300meters (984feet) at 50Mbps by using existing twisted-pair copper wires. Revolutionized from previous generation of EtherWAN's Ethernet Extender series, the ED3145 is featured four RJ-45 ports allowed multiple IP-based device connections. Combined the functions of switch and Ethernet distance extension, the ED3145 is an ideal Ethernet connectivity solution to reduce the total solution cost of ownership. The ED3145 offers the power input range from 24VDC to 48VDC. Designed to work in harsh environments, the ED3145 series can be operated from -40℃ to 75℃ (-40°F to 167°F) and is tested at 85℃ (185°F).

Features

- Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- Ethernet Port: 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Ethernet Extender (RJ-11 and Terminal Block) Port: Symmetrical on the VDSL, High-speed, Full-duplex 50Mbps communications link over existing copper Telephone line
- Operates transparent to higher layer protocols such as TCP/IP

- Ten speeds with speed indicator LEDs on front panel of unit, Up to 50Mbps@about 300meters (984ft.) Down to 1Mbps@about 1,900meters (6,232ft.)
- Redundant power inputs with Terminal Block and DC Jack
- -40℃ to 75℃ (-40°F to 167°F) operating temperature range
- Hardened aluminum case
- Support DIP switch to select Local or Remote mode
- Supports DIN-Rail, Panel and Rack Mounting installation
- Extender port compatible with ED3101, ED3141, ED3171, ED3142 and ED3146

Ordering Information

ED3145-40B   Hardened 4-port 10/100BASE-TX Ethernet Extender

Power Supply: (Optional)

*Option A - The Terminal Block type external power supply are not included. Please order the following part numbers, as required:
DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-(X)

**Option B - The external power adapter and power cord are not included. Please order the following part numbers, as required:
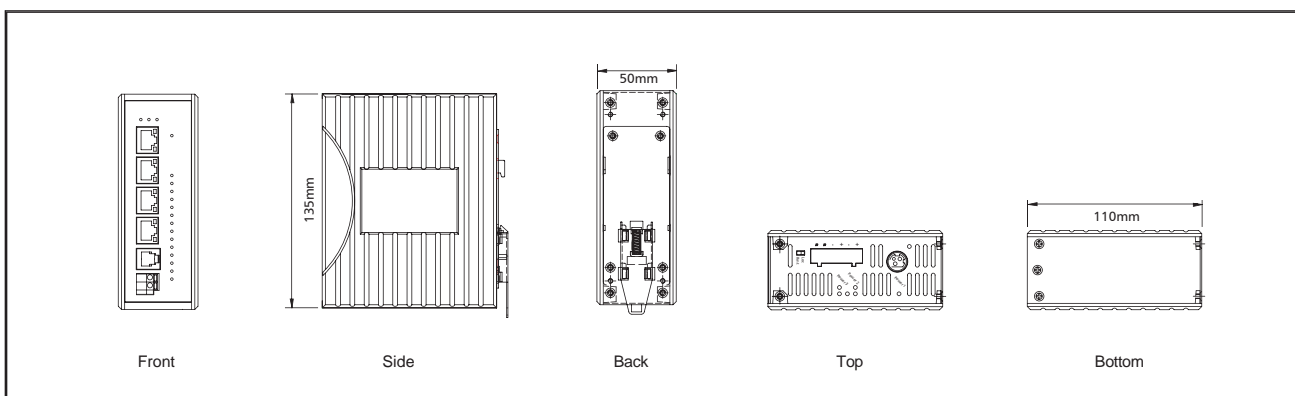AS-120P-48(X)   (X)＝1: US, 2: EU, 3: UK, 4: AU, 5: JP   (X)＝1: US, 2: EU, 3: UK, 4: AU, 5: JP

Installation Type :

Optional Panel mount kit, part number: KP-AA96-480

Diagrams

| Front | Side | Back | Top | Bottom |

Specifications

Technology

Standards:
- IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX, IEEE802.3x, Ethernet over VDSL

Protocols:
- Transparent to higher layer protocols

Processing Type:
- Half-duplex back-pressure and IEEE802.3x Full-duplex flow control

Power

Input:
- Input Voltage: 24 to 48VDC (Terminal Block);48VDC (DC Jack)

Power Consumption:
- 8.64W Max. 0.18A@48VDC

Overload Current Protection:
- Present

Reverse Polarity Protection:
- Present

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 Rack Mounting

Interface

Ethernet Port:
- Port: 4 RJ-45 port, 10/100BASE-TX Full/Half-duplex Auto-Negotiation, Auto-MDI/MDIX
- Speed: 10/100Mbps
- Distance: 100meters (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 and Terminal Block port
- Speed: 1/3/5/10/15/20/25/30/40/50Mbps
- Distance: 1900meters (6,232ft.)
- Cable: Telephone line 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 Status (Power)
- Per Port: 10/100TX: Link/Activity, Full-duplex
- Line: Error, Link, Local, Remote

	LED	Speed	Distance
1	Green	1 Mbps	1,900m (6,232 ft.)
	Amber	3 Mbps	1,800m (5,904 ft.)
2	Green	5 Mbps	1,600m (5,249 ft.)
	Amber	10 Mbps	1,400m (4,593 ft.)
3	Green	15 Mbps	1,200m (3,936 ft.)
	Amber	20 Mbps	1,000m (3,280 ft.)
4	Green	25 Mbps	800m (2,624 ft.)
	Amber	30 Mbps	700m (2,296 ft.)
5	Green	40 Mbps	600m (1,968 ft.)
	Amber	50 Mbps	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 15, Class A
- EN61000-6-4
  - EN55022
  - EN61000-3-2
  - EN61000-3-3

EMS:
- EN61000-6-2
  - EN61000-4-2 (ESD Standards)
    Contact: + / - 4KV; Criteria B
    Air: + / - 8KV; Criteria B
  - EN61000-4-3 (Radiated RFI Standards)
    10V/m, 80 to 1000MHz; 80% AM Criteria A
  - EN61000-4-4 (Burst Standards)
    Signal Ports: + / - 4KV; Criteria B
    D.C. Power Ports: + / - 4KV; Criteria B
  - EN61000-4-5 (Surge Standards)
    Signal Ports: + / - 1KV; Line-to-Line; Criteria B
    D.C. Power Ports: + / - 0.5KV; Line-to-earth; Criteria B
  - EN61000-4-6 (Induced RFI Standards)
    Signal Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
    D.C. Power Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
  - EN61000-4-8 (Magnetic Field Standards)
    30A/m @ 50, 60Hz; Criteria A

Environmental Test Compliance:
- IEC60068-2-6 Fc (Vibration Resistance)
  5g @ 10~150Hz, Amplitude 0.35mm (Operation/Storage/Transport)
- IEC60068-2-27 Ea (Shock)
  25g @ 11ms (Half-Sine Shock Pulse; Operation)
  50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)
- IEC60068-2-32 Ed (Free Fall)
  1M (3.281ft.)