

ED3141 Series

Hardened VDSL Ethernet Extender



Overview

The ED3141 is a point-to-point DSL solution designed to operate in the harsh environments that efficiently extends 10/100 Ethernet circuits to over 300meters (984feet) at 50Mbps using existing cross-over pair copper wire. The ED3141 will allow Ethernet connectivity in existing facilities without pulling extra cable. This is the perfect solution to Ethernet on the factory floor where systems have been upgraded from slower serial communications to Ethernet networking. Installation is easy with a single switch setting, one end is set for local and the other remote. The ED3141 is used in pairs to extend Ethernet connectivity over existing voice grade copper wire.

Features

- ▶ Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- ▶ Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- ▶ Operates transparent to higher layer protocols such as TCP/IP
- ▶ Ethernet Port: 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- ▶ VDSL Port: Symmetrical on the VDSL, High-speed Full-duplex 50Mbps communications link over existing copper Telephone line
- ▶ Single configuration DIP switch
- ▶ 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 1.5A 24VDC Power inputs or 3A 12VDC Jack
- ▶ -34°C to 74°C (-29°F to 165°F) operating temperature range
- ▶ Hardened aluminum case
- ▶ Supports DIN-Rail, Panel or Rack Mounting installation

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: 12VDC (Power Jack); 12 to 30VDC (Terminal Block)
- Input Current: 3A Max. (Power Jack); 1.5A Max. (Terminal Block)

Power Consumption:

- 2.7W Max.

Mechanical

Casing:

- Aluminum case

Dimensions:

- 50mm (W) x 110mm (D) x 136mm (H)
(1.97" (W) x 4.33" (D) x 5.35" (H))

Weight:

- 0.8Kg (1.76lbs.)

Installation:

- DIN-Rail, Panel or Rack Mounting

Environment

Operating Temperature:

- -34°C to 74°C (-29°F to 165°F)

Storage Temperature:

- -40°C to 85°C (-40°F to 185°F)

Ambient Relative Humidity:

- 10% to 95% (non-condensing)

Interface

Ethernet Port:

- Port: One 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 (2-pair wire)

VDSL Port:

- Port: One RJ-11 and Terminal Block ports
- 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
VDSL: 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	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.

VDSL Ethernet Extenders

Ethernet
Switches

1

Serial
Servers

2

Media
Converters

3

Others

4

Regulatory Approvals

ISO:

- Manufactured in an ISO9001 facility

Safety:

- UL 60950, EN 60950, IEC 60950

Emission Compliance:

- FCC Part 15, Class A

CE Approve:

- EN61000-6-2
- EN61000-6-3

ESD Standards (EN 61000-4-2):

- Enclosure Contact: + / - 4KV; Criteria B
- Enclosure Air: + / - 8KV; Criteria B

Radiated FRI Standards (EN 61000-4-3):

- Enclosure Ports: +/- 4KV@2.5kHz; Criteria B

Burst Standards (EN 61000-4-4):

- Enclosure Ports: 10V/m, 80 to 1000MHz; Criteria A
- D.C. Power Ports: + / - 4KV; Criteria B
- A.C. Power Ports: + / - 4KV; Criteria B

Surge Standards (EN 61000-4-5):

- Signal Ports: +/- 1KV Line-to-earth; Criteria B

- D.C. Power Ports: +/- 0.5KV Line-to-earth; Criteria B

- A.C. Power Ports: +/- 2KV; Line-to-earth; Criteria B

Induced RFI Standards (EN 61000-4-6):

- Signal Ports: 10V@ 0.15 - 80 MHz; Criteria A

- D.C. Power Ports: 10V@ 0.15 - 80 MHz; Criteria A

- A.C. Power Ports: 10V@ 0.15 - 80 MHz; Criteria A

- Earth Ground Ports: 10V@ 0.15 - 80 MHz; Criteria A

Magnetic Field Standards (EN 61000-4-8):

- Enclosure Ports: 30A/m@ 50, 60Hz; Criteria A

Voltage Dip Standards (EN 61000-4-11):

- A.C. Power Ports: 30% Reduction for 0.5 period; Criteria B

Environmental Test Compliance:

- (IEC 60068-2-6) Vibration Resistance:

- 5G@150Hz; Criterion 3 (Operation/Storage/Transport)

- (IEC 60068-2-27) Shock:

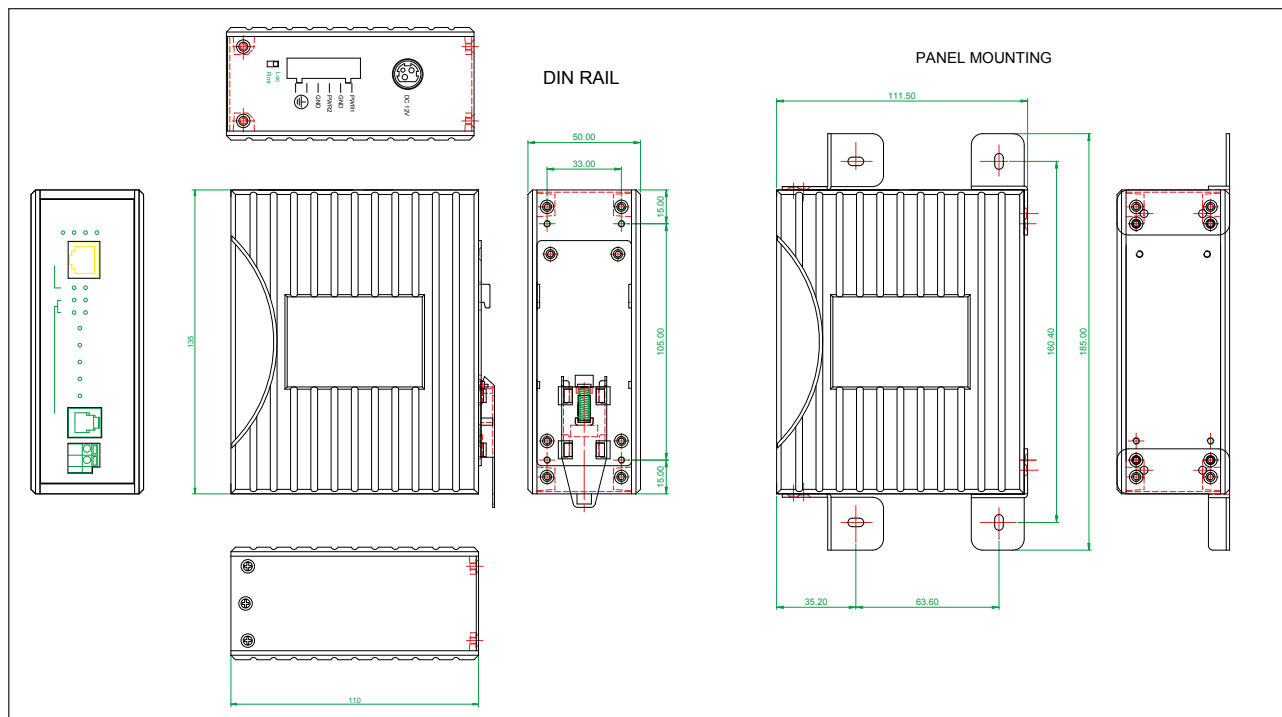
- 25G@11ms (Half-Sine Shock Pulse; Operation)

- 50G@11ms (Half-Sine Shock Pulse; Storage/Transport)

- (IEC 60068-2-32) Free Fall: 1M (3,281 ft.)

NEMA TS1/2 Environmental requirements for traffic control equipment

Diagrams



Ordering Information

ED3141 Hardened 10/100Base-TX Ethernet Extender using VDSL

Installation Type : DIN Rail (mounting kit is included)

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

Optional Rack mount kit, ordered separately,
part number: **KR-BK43-400**

Power Supply: (Optional)

*Options A -Terminal Block power supply(s), part numbers: **DR-30-24, DR-60-24, DR-75-24, or DR-120-24, 41-136046-X X=1, 2, 3, 4, 5**

Options B -DC Jack power supplies kit(s), part numbers: **41-136044-X X=1, 2, 3, 4, 5