

EL1141 Series

IEC61850/IEEE1613 Hardened 10/100BASE-TX to 100BASE-FX
Media Converter



Overview

The EL1141 Series provides media conversion between 10/100BASE-T and 100BASE-SX-LX Fiber. Built specifically for mission-critical applications in harsh environments, the EL1141's hardened design features high shock & vibration resistance, electrical noise immunity, wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. The EL1141 passes IEC61850-3/IEEE1613 certifications and is suitable for power substation applications. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options the EL1141 is the ideal media converter for harsh environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **IEC61850-3/IEEE1613 Certification**
 - Specific design for power automation applications
- **EN50121-4 Certification**
 - Specific design for railway environment application
- **Wide Operating Temperature**
 - -40°C to 75°C wide operating temperature range design is suitable for installation in outdoor cabinets
- **Link-Fault-Pass-Through (LFPT)**
 - LFPT function let network operators be aware of network connection status
 - When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/FX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 128K bits

Processing Type

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

Power

Input Voltage

- 12 to 48VDC (Terminal Block)
- 12VDC (DC Jack)

Power Consumption

- 2.4W MAX. 0.2A @ 12VDC, 0.05A @ 48VDC

Protection

- Overload 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 Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power 1, Power 2, Fault, Link-Fault-Pass-Through
- Per port 10/100TX: Link/Activity, Full-duplex/Collision, Speed
- Per port 100FX: Link/Activity, Full-duplex/Collision

Relay Contact

- Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

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

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)

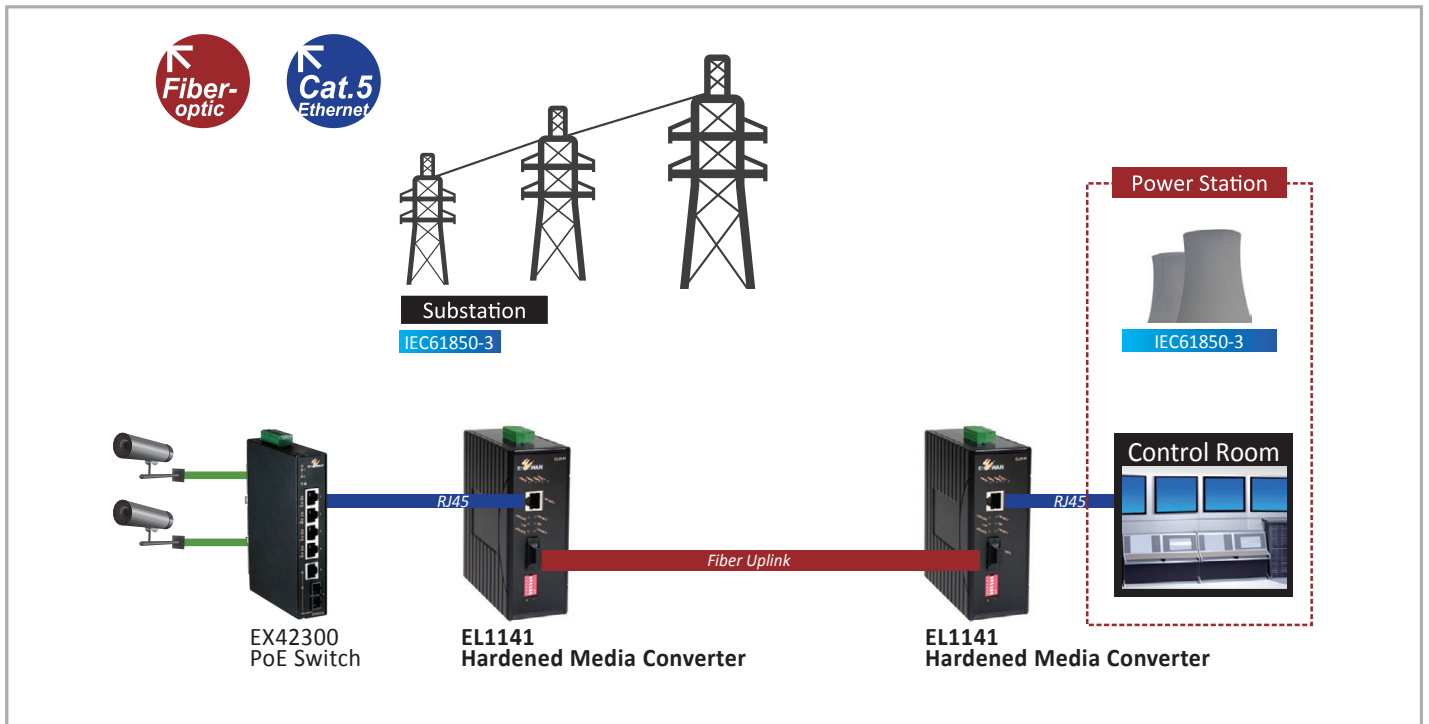
EMS

IEC61850-3 / IEEE1613

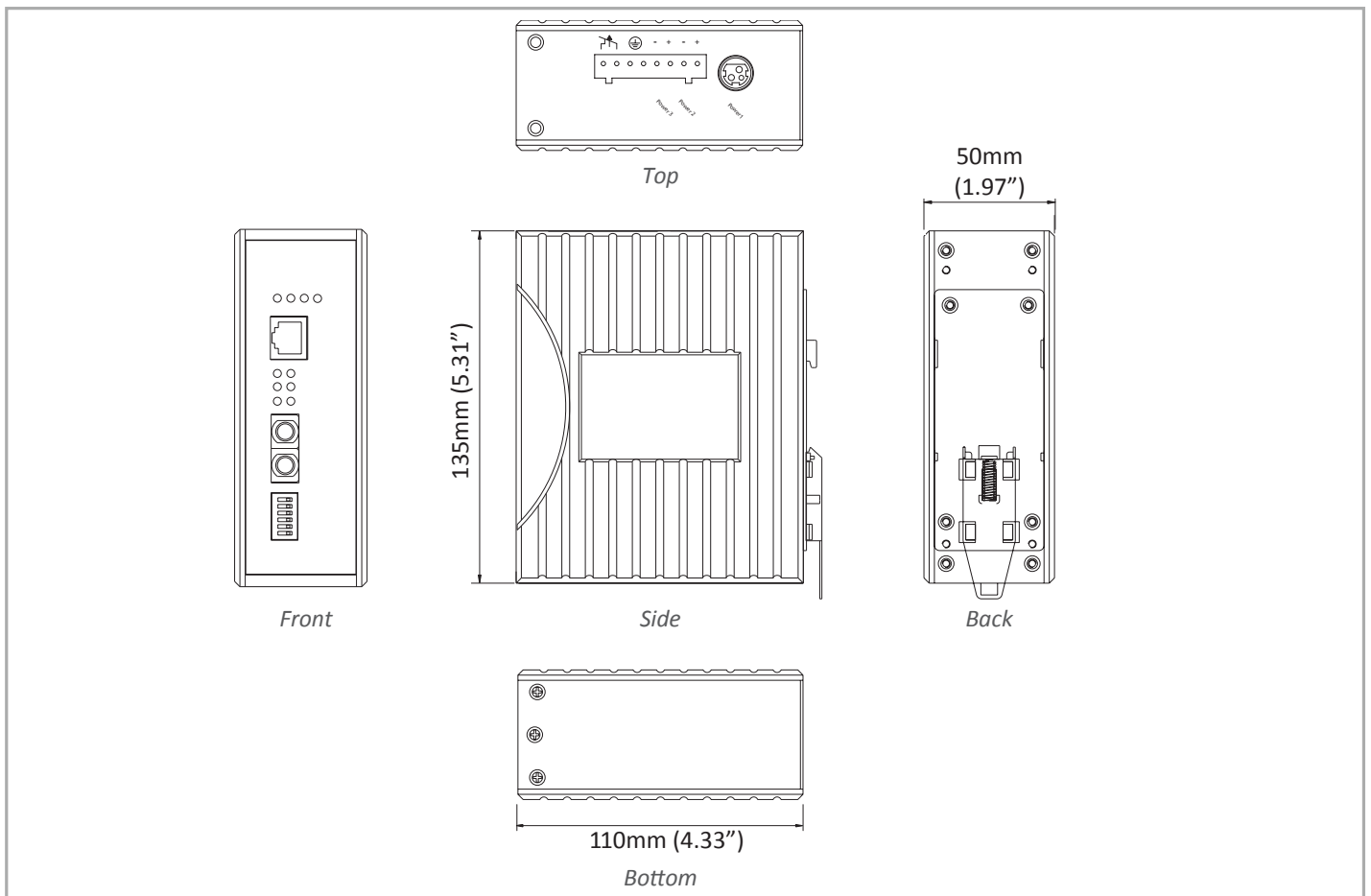
EN50121-4

NEMA TS2

Application Diagram



Dimensions



Ordering Information

Model

| | |
|-------------------|------------------------------------------------------|
| EL1141-X0B | 10/100BASE-TX to 100BASE-FX Hardened Media Converter |
|-------------------|------------------------------------------------------|

* DIN-Rail mounting kit included

100FX Fiber Options (X)

| | |
|----------|--------------------------------------------------|
| 1 | Multi Mode (SC) - 2Km (1310nm) |
| 2 | Multi Mode (ST) - 2Km (1310nm) |
| A | Single Mode (SC) - 20Km (1310nm) |
| B | Single Mode (SC) - 40Km (1310nm) |
| H | Single Mode (ST) - 20Km (1310nm) |
| 6 | Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 2Km |
| 7 | Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 2Km |
| 8 | Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 5Km |
| 9 | Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 5Km |
| P | Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 20Km |
| Q | Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km |
| R | Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km |
| S | Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km |

* More 100FX Fiber options also available upon request

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 |