

EL1141 Series

IEC 61850/IEEE 1613 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 to 75°C, and ruggedized aluminum housing. The EL1141 passes IEC 61850-3/IEEE 1613 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

- **IEC 61850-3/IEEE 1613 Certification**
 - Specific design for power automation applications
- **EN 50121-4 Certification**
 - Specific design for railway environment application
- **Wide Operating Temperature**
 - -40 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

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX/FX
- IEEE 802.3x 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 IEEE 802.3x full-duplex flow control
- Auto MDI/MDIX

Power

Input Voltage

- 12-48VDC (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

- 50 x 110 x 135mm (W x D x H)
(1.97" x 4.33" x 5.31")

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 to 75°C (-40 to 167°F)
Tested @ -40 to 85°C (-40 to 185°F)

Storage Temperature

- -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO 9001 facility

Safety

UL 508

EMI

FCC Part 15B Class A

EN 61000-6-4

EN 55022

EN 61000-3-2

EN 61000-3-3

EMS

EN 61000-6-2

- EN 61000-4-2 (ESD Standards)
- EN 61000-4-3 (Radiated RFI Standards)
- EN 61000-4-4 (Burst Standards)
- EN 61000-4-5 (Surge Standards)
- EN 61000-4-6 (Induced RFI Standards)
- EN61000-4-8 (Magnetic Field Standards)

Environmental Test Compliance

IEC 60068-2-6 Fc (Vibration Resistance)

IEC 60068-2-27 Ea (Shock)

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

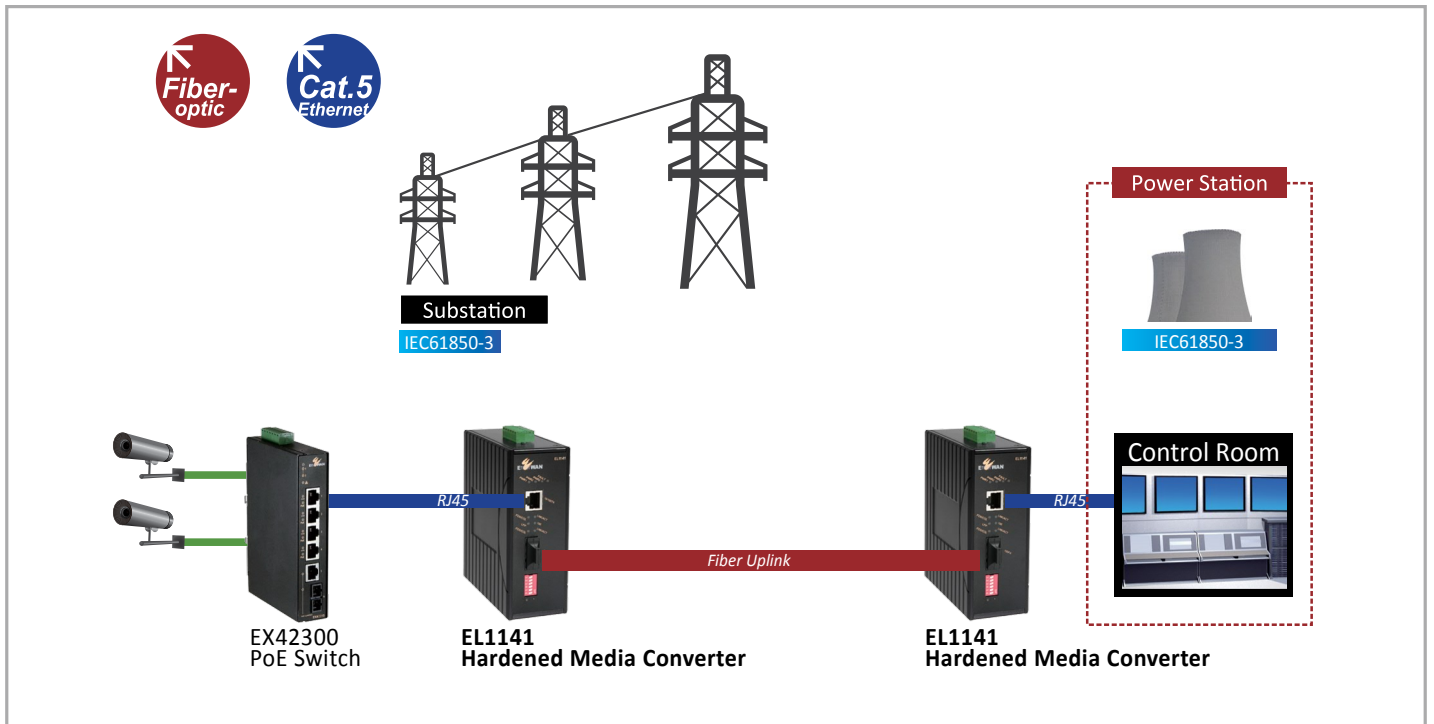
EMS

IEC 61850-3/IEEE 1613

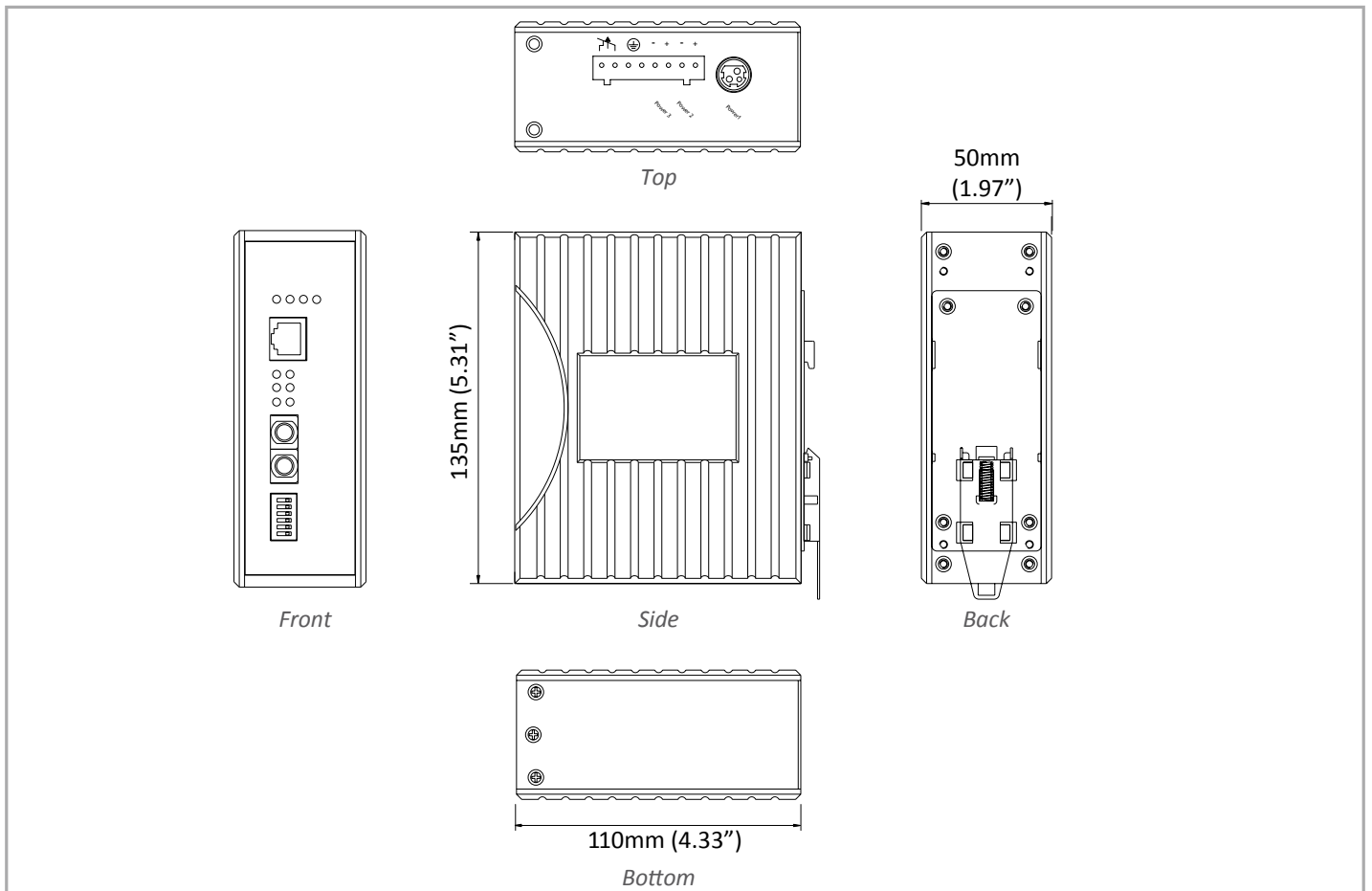
EN 50121-4

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 |
| HDR-30-24 | 30W/1.5A DIN-Rail 24VDC Industrial Power Supply |
| HDR-60-24 | 60W/2.5A DIN-Rail 24VDC Industrial Power Supply |
| EDR-75-24 | 75W/3.2A DIN-Rail 24VDC Industrial Power Supply |
| EX41-145046-X | Power Supply 45W 12VDC with Open Wire (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA |