

# EL1141 Series

株式会社サイバネテック

## IEC61850-3/IEEE1613 Hardened 10/100BASE-TX to 100BASE-FX Media Converter



### Value

- > Specific design for power automation and railway applications with IEC61850-3, IEEE1613 and EN50121-4 standard compliances
- > Specific design for industrial communication applications with UL508 safety certification, focus on various Industrial communication applications

## Features

- > Complies with IEC61850-3 EMC and Environment requirement, and IEEE1613 standard for substation and power automation
- > Complies with EN50121-4 EMC requirement for Railway applications
- > Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- > DIP switch configuration for "Link-Fault-Pass-Through," link down alarm, speed, duplex mode
- > 128K bits buffer memory
- > 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- > Full wire-speed forwarding rate
- > Alarms for power and port link failure by relay output
- > Redundant power inputs with Terminal Block and DC Jack
- > -40°C to 75°C (-40°F to 167°F) operating temperature range
- > Hardened aluminum case
- > Supports DIN-Rail, Panel or Rack Mounting installation

## Ordering Information

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

### 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

### Power Supply : (Optional)

\*Option - The Terminal Block type external power supply are not included. Please order the following part numbers:

DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

### Installation Type : DIN-Rail (mounting kit is included)

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



# Specifications

| Technology                 |  |
|----------------------------|--|
| Standards                  | <ul style="list-style-type: none"> <li>IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/100BASE-FX, IEEE802.3x</li> </ul>                             |
| Forward and Filtering Rate | <ul style="list-style-type: none"> <li>14,880pps for 10Mbps</li> <li>148,810pps for 100Mbps</li> </ul>   |
| Packet Buffer Memory       | <ul style="list-style-type: none"> <li>128K bits</li> </ul>  |
| Processing Type            | <ul style="list-style-type: none"> <li>Store-and-Forward</li> <li>Half-duplex back-pressure and IEEE802.3x full-duplex flow control</li> </ul> |

| Power                       |  |
|-----------------------------|--|
| Input                       | <ul style="list-style-type: none"> <li>Input Voltage: 12 to 48VDC (Terminal Block) / 12VDC(DC Jack)</li> </ul> |
| Power Consumption           | <ul style="list-style-type: none"> <li>2.4W MAX. 0.2A @ 12VDC, 0.05A @ 48VDC</li> </ul>                        |
| Overload Current Protection | <ul style="list-style-type: none"> <li>Present</li> </ul>  |
| Reverse Polarity Protection | <ul style="list-style-type: none"> <li>Present</li> </ul>  |

| Mechanical   |   |
|--------------|---|
| Casing       | <ul style="list-style-type: none"> <li>Aluminum case</li> <li>IP30</li> </ul>   |
| Dimensions   | <ul style="list-style-type: none"> <li>50mm (W) x 110mm (D) x 135mm (H)</li> <li>(1.97" (W) x 4.33" (D) x 5.31" (H))</li> </ul> |
| Weight       | <ul style="list-style-type: none"> <li>0.8Kg (1.76lbs.)</li> </ul>  |
| Installation | <ul style="list-style-type: none"> <li>DIN-Rail (Top hat type 35mm), Panel, Rack Mounting</li> </ul>                            |

| Interface      |   |
|----------------|---|
| Ethernet Port  | <ul style="list-style-type: none"> <li>10/100BASE-TX: 1 port</li> <li>100BASE-FX: 1 port</li> </ul>   |
| LED Indicators | <ul style="list-style-type: none"> <li>Per Unit: Power Status (Power 1, Power 2, Fault), Link-Fault-Pass-Through</li> <li>Per Port: 10/100TX: Link/Activity, Full-duplex/Collision, Speed</li> <li>100FX: Link/Activity, Full-duplex/Collision</li> </ul> |
| Relay Contact  | <ul style="list-style-type: none"> <li>Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC</li> </ul>   |

| Environment               |   |
|---------------------------|---|
| Operating Temperature     | <ul style="list-style-type: none"> <li>-40°C to 75°C (-40°F to 167°F)</li> <li>Tested @ -40°C to 85°C (-40°F to 185°F)</li> </ul> |
| Storage Temperature       | <ul style="list-style-type: none"> <li>-40°C to 85°C (-40°F to 185°F)</li> </ul>  |
| Ambient Relative Humidity | <ul style="list-style-type: none"> <li>5% to 95% (non-condensing)</li> </ul>  |

| Regulatory Approvals          |   |
|-------------------------------|---|
| ISO                           | <ul style="list-style-type: none"> <li>Manufactured in an ISO9001 facility</li> </ul>   |
| Safety                        | <ul style="list-style-type: none"> <li>UL508</li> </ul>   |
| EMI                           | <ul style="list-style-type: none"> <li>FCC Part 15, Class A</li> <li>EN61000-6-4                             <ul style="list-style-type: none"> <li>EN55022</li> <li>EN61000-3-2</li> <li>EN61000-3-3</li> </ul> </li> </ul>  |
| EMS                           | <ul style="list-style-type: none"> <li>IEC61850-3 &amp; IEEE1613: Substation &amp; Power automation Applications</li> <li>EN50121-4: Railway Applications</li> <li>EN61000-6-2                             <ul style="list-style-type: none"> <li>EN61000-4-2 (ESD Standards)                                     <ul style="list-style-type: none"> <li>Contact: +/- 8KV</li> <li>Air: +/- 15KV</li> </ul> </li> <li>EN61000-4-3 (Radiated RFI Standards)                                     <ul style="list-style-type: none"> <li>35V/m, 80 to 1000MHz; 80% AM</li> </ul> </li> <li>EN61000-4-4 (Burst Standards)                                     <ul style="list-style-type: none"> <li>Signal Ports: +/- 4KV</li> <li>D.C. Power Ports: +/- 4KV</li> </ul> </li> <li>EN61000-4-5 (Surge Standards)                                     <ul style="list-style-type: none"> <li>Signal Ports: +/- 2KV; Line-to-Line</li> <li>D.C. Power Ports: +/- 2KV; Line-to-earth</li> </ul> </li> <li>EN61000-4-6 (Induced RFI Standards)                                     <ul style="list-style-type: none"> <li>Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM</li> <li>D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM</li> </ul> </li> <li>EN61000-4-8 (Magnetic Field Standards)                                     <ul style="list-style-type: none"> <li>1000A/m @ 50, 60Hz</li> </ul> </li> </ul> </li> </ul> |
| Environmental Test Compliance | <ul style="list-style-type: none"> <li>IEC60068-2-6 Fc (Vibration Resistance)                             <ul style="list-style-type: none"> <li>5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport)</li> </ul> </li> <li>IEC60068-2-27 Ea (Shock)                             <ul style="list-style-type: none"> <li>25g @ 11ms (Half-Sine Shock Pulse; Operation)</li> <li>50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)</li> </ul> </li> <li>FED STD 101C Method 5007.1 (Free fall w/ package)                             <ul style="list-style-type: none"> <li>Tested with Cross Weight and Drop High standard table</li> </ul> </li> </ul>   |

# Diagrams

Unit: mm

