

# EL1141 Series

## IEC61850/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

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| <ul style="list-style-type: none"> <li>&gt; Complies with IEC61850 EMC and Environment requirement, and IEEE1613 standard for substation and power automation</li> <li>&gt; Complies with EN50121-4 EMC requirement for Railway applications</li> <li>&gt; Complies with NEMA TS1 &amp; TS2 Environmental requirements for Traffic control equipment</li> <li>&gt; DIP switch configuration for "Link-Fault-Pass-Through," link down alarm, speed, duplex mode</li> </ul> | <ul style="list-style-type: none"> <li>&gt; 768K bits buffer memory</li> <li>&gt; 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX</li> <li>&gt; Full wire-speed forwarding rate</li> <li>&gt; Alarms for power and port link failure by relay output</li> <li>&gt; Redundant power inputs with Terminal Block and DC Jack</li> <li>&gt; -40°C to 75°C (-40°F to 167°F) operating temperature range</li> <li>&gt; Hardened aluminum case</li> <li>&gt; Supports DIN-Rail, Panel or Rack Mounting installation</li> </ul> |
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## Ordering Information

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

### 100FX Fiber Options :

- (X) = 1 : Multi Mode (SC)  
 2 : Multi Mode (ST)  
 A : Single Mode (SC) - 20Km  
 B : Single Mode (SC) - 40Km  
 H : Single Mode (ST) - 20Km  
 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>768K 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) (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) Contact: +/- 8KV; Criteria B Air: +/- 15KV; Criteria B</li> <li>EN61000-4-3 (Radiated RFI Standards) 35V/m, 80 to 1000MHz; 80% AM Criteria A</li> <li>EN61000-4-4 (Burst Standards) Signal Ports: +/- 4KV; Criteria A D.C. Power Ports: +/- 4KV; Criteria A</li> <li>EN61000-4-5 (Surge Standards) Signal Ports: +/- 2KV; Line-to-Line; Criteria A D.C. Power Ports: +/- 2KV; Line-to-earth; Criteria A</li> <li>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</li> <li>EN61000-4-8 (Magnetic Field Standards) 1000A/m @ 50, 60Hz; Criteria A</li> </ul> </li> </ul>
Environmental Test Compliance	<ul style="list-style-type: none"> <li>IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport)</li> <li>IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)</li> <li>IEC60068-2-32 Ed (Free Fall) 1M (3.281ft.)</li> </ul>

## Diagrams

Unit: mm

