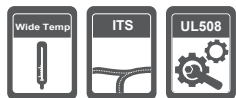


EL9020 Series

Hardened 10/100/1000BASE-TX to Gigabit SFP Media Converter



Value

- › SFP socket flexible for Gigabit fiber optic expansion
- › Harsh environment design and supports auto 10/100/1000BASE-T Ethernet transmission
- › Specific design for industrial communication applications with UL508 safety certification



Features

- › Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- › Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- › DIP switch configuration for "Link-Fault-Pass-Through", fiber auto/force mode, link down alarm
- › 1000Mbps-Full-duplex, Auto-Negotiation, Auto-MDI/MDIX
- › SFP socket offers Gigabit fiber optic selection flexibility
- › Full wire-speed forwarding rate
- › Alarms for power and port link failure by relay output
- › Redundant power inputs with Terminal Block and DC Jack interfaces
- › -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

EL9020-00B 10/100/1000BASE-TX to Gigabit SFP Hardened Media Converter

SFP Hardened Type Gigabit Fiber Transceiver: (Optional)

Part Number	Typical Distance	Wavelength (nm)	Cable Type	Connector
EX-1250NSP-SB1L-A	275M/550M	850	MM	Duplex LC
EX-1250TSP-MB4L-A	10KM	1310	SM	Duplex LC
EX-1250TSP-NB6L-A	40KM	1310	SM	Duplex LC
EX-1250TSP-KB8L-A	70KM	1550	SM	Duplex LC
EX-1250TBP-MB1L-A	550M	TX:1310 / RX:1550	MM WDM-A	LC
EX-1250TBP-LB1L-A	550M	TX:1550 / RX:1310	MM WDM-B	LC
EX-1250TBP-MB4L-A	10KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB4L-A	10KM	TX:1550 / RX:1310	SM WDM-B	LC
EX-1250TBP-MB5L-A	20KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB5L-A	20KM	TX:1550 / RX:1310	SM WDM-B	LC

*More Gigabit options available upon request

Power Supply : (Optional)

*Option A - The Terminal Block type external power supplies 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=1,2,3,4,5

**Option B - The external power adapter and power cord are not included. Please order the following part numbers:

41-136044-X X=1,2,3,4,5

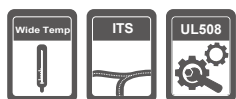
Installation Type : DIN Rail (mounting kit is included)

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



EL9100 Series

Hardened 10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media Converter



Value

- Specific design for industrial communication applications with UL508 safety certification
- Harsh environment design and supports auto 10/100/1000BASE-T Ethernet transmission
- DIP switch design for Link-Fault-Pass-Through, fiber auto/force mode, link down alarm configuration

Features

- Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- DIP switch configuration for "Link-Fault-Pass-Through", fiber auto/force mode, link down alarm
- 10/100/1000Mbps-Full-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

EL9100-**X1B** 10/100/1000BASE-TX to 1000BASE-SX/LX/BX Hardened Media Converter

Gigabit Options :

- (X) = 3 : 1000BASE-SX (SC) - 550m (850nm)
 4 : 1000BASE-SX (SC) - 2Km (1310nm)
 5 : 1000BASE-SX (ST) - 550m (850nm)
 A : 1000BASE-LX (SC) - 10Km (1310nm)
 B : 1000BASE-LX (SC) - 20Km (1310nm)
 E : 1000BASE-LX (SC) - 40Km (1310nm)
 H : 1000BASE-LX (ST) - 10Km (1310nm)
 I : 1000BASE-LX (ST) - 20Km (1310nm)
 R : 1000BASE-BX (SC) WDM - TX:1310nm/RX:1550nm - 20Km
 S : 1000BASE-BX (SC) WDM - TX:1550nm/RX:1310nm - 20Km

Power Supply : (Optional)

*Option A - The Terminal Block type external power supplies 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

**Option B - The external power adapter and power cord are not included. Please order the following part numbers:

41-136044-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"> IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX, IEEE802.3ab 1000BASE-T, IEEE802.3z 1000BASE-SX/1000BASE-LX, IEEE802.3x
Forward and Filtering Rate	<ul style="list-style-type: none"> 1,488,100pps for 1000Mbps

Power	
Input	<ul style="list-style-type: none"> Voltage: 12 to 48VDC (Terminal Block); 12VDC (DC Jack)
Power Consumption	<ul style="list-style-type: none"> 7.68W Max, 0.16A @ 48VDC
Overload Current Protection	<ul style="list-style-type: none"> Present
Reverse Polarity Protection	<ul style="list-style-type: none"> Present

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

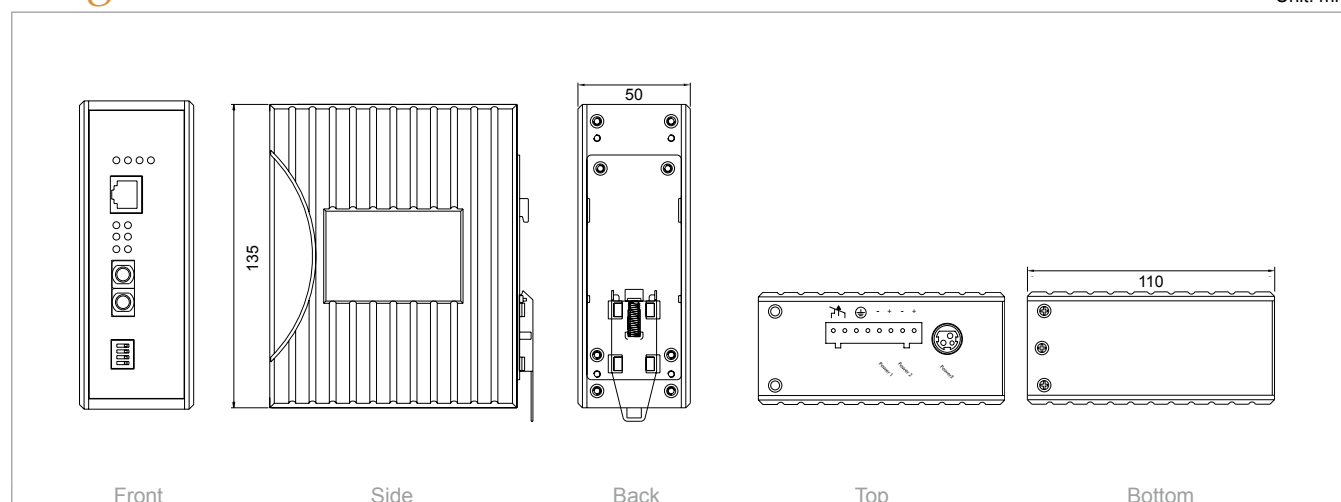
Interface	
Ethernet Port	<ul style="list-style-type: none"> 10/100/1000BASE-TX: 1 port 1000BASE-SX/LX/BX: 1 port
LED Indicators	<ul style="list-style-type: none"> Per Unit: Power Status (Power1, Power2, Power3, Fault), LFPT Per Port: 10/100/1000TX: Link/Activity, Speed, Full-duplex/Collision 1000SX/LX/BX: Link/Activity
Relay Contact	<ul style="list-style-type: none"> Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

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

Regulatory Approvals	
ISO	<ul style="list-style-type: none"> Manufactured in an ISO9001 facility
Safety	<ul style="list-style-type: none"> UL508
EMI	<ul style="list-style-type: none"> FCC Part 15, Class A EN61000-6-4 <ul style="list-style-type: none"> EN55022 EN61000-3-2 EN61000-3-3
EMS	<ul style="list-style-type: none"> EN61000-6-2 <ul style="list-style-type: none"> EN61000-4-2 (ESD Standards) Contact: + / - 4KV Air: + / - 8KV EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 2.7GHz; 80% AM EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV D.C. Power Ports: + / - 4KV EN61000-4-5 (Surge Standards) Signal Ports: + / - 1KV; Line-to-Line D.C. Power Ports: + / - 0.5KV; Line-to-earth EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz
Environmental Test Compliance	<ul style="list-style-type: none"> IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport) IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport) FED STD 101C Method 5007.1 (Free fall w/ package) -Tested with Cross Weight and Drop High standard table

Diagrams

Unit: mm



Specifications

Technology	
Standards	<ul style="list-style-type: none"> IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX, IEEE802.3ab 1000BASE-T, IEEE802.3z 1000BASE-SX/1000BASE-LX, IEEE802.3x
Forward and Filtering Rate	<ul style="list-style-type: none"> 1,488,100pps for 1000Mbps

Power	
Voltage	<ul style="list-style-type: none"> Input: 12 to 48VDC (Terminal Block); 12VDC (DC Jack)
Power Consumption	<ul style="list-style-type: none"> 7.68W, Max., 0.16A @ 48VDC
Overload Current Protection	<ul style="list-style-type: none"> Present
Reverse Polarity Protection	<ul style="list-style-type: none"> Present

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

Interface	
Ethernet Port	<ul style="list-style-type: none"> 10/100/1000BASE-TX: 1 port Gigabit SFP: 1 port
LED Indicators	<ul style="list-style-type: none"> Per Unit: Power Status (Power1, Power2, Power3, Fault), LFPT Per Port: 10/100/1000TX: Link/Activity, Speed, Full-duplex/Collision Gigabit SFP: Link/Activity
Relay Contact	<ul style="list-style-type: none"> Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

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

Regulatory Approvals	
ISO	<ul style="list-style-type: none"> Manufactured in an ISO9001 facility
Safety	<ul style="list-style-type: none"> UL508
EMI	<ul style="list-style-type: none"> FCC Part 15, Class A EN61000-6-3 EN55022 EN61000-3-2 EN61000-3-3
EMS	<ul style="list-style-type: none"> EN61000-6-2 EN61000-4-2 (ESD Standards) Contact: + / - 4KV Air: + / - 8KV EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 2.7GHz; 80% AM EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV D.C. Power Ports: + / - 4KV EN61000-4-5 (Surge Standards) Signal Ports: + / - 1KV; Line-to-Line D.C. Power Ports: + / - 0.5KV; Line-to-earth EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz
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Diagrams

Unit: mm

