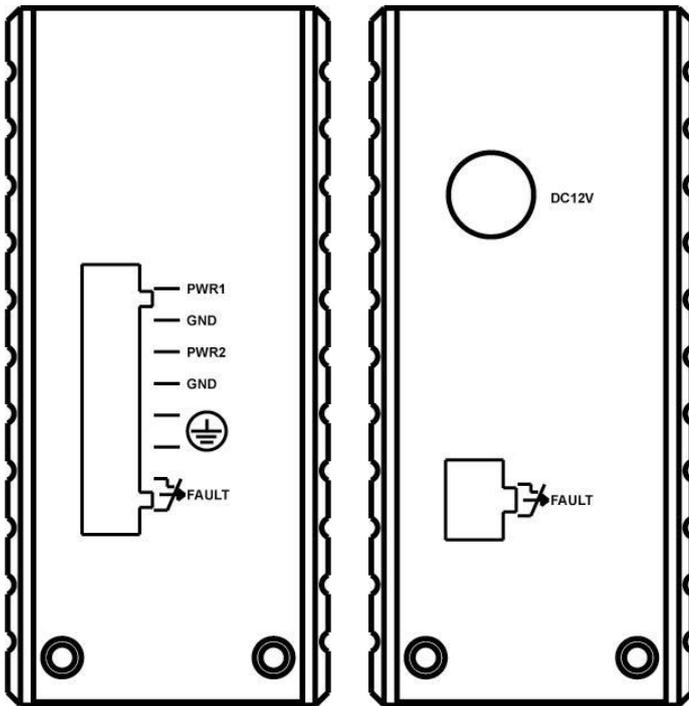


Physical Description

The Terminal Block and Power inputs



| Terminal Assignments | | | | | | | | | | | | | | | |
|--|---|-----------------|--------------------------|-------------------------|--|---|------------|---------------|-------------------------|------------------------|---|-------------|-----------------|--------------------------|-------------------------|
| PWR1 | Power Input 0.19A@48VDC(10~48VDC) | | | | | | | | | | | | | | |
| GND | Power Ground | | | | | | | | | | | | | | |
| PWR2 | Power Input 0.19A@48VDC(10~48VDC) | | | | | | | | | | | | | | |
| GND | Power Ground | | | | | | | | | | | | | | |
| | Earth Ground | | | | | | | | | | | | | | |
| | 1. The relay opens if PWR1 or PWR2 fails 2. The relay opens if Per Port Link is Broken (When Link Down Detection is Enabled) | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="4">DIP</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>LFP Enable</td> <td>FIBER F. Mode</td> <td>COPPER LNK_DOWN_Det. ON</td> <td>FIBER LNK_DOWN_Det. ON</td> </tr> <tr> <td>0</td> <td>LFP Disable</td> <td>FIBER Auto Mode</td> <td>COPPER LNK_DOWN_Det. OFF</td> <td>FIBER LNK_DOWN_Det. OFF</td> </tr> </tbody> </table> | | DIP | | | | 1 | LFP Enable | FIBER F. Mode | COPPER LNK_DOWN_Det. ON | FIBER LNK_DOWN_Det. ON | 0 | LFP Disable | FIBER Auto Mode | COPPER LNK_DOWN_Det. OFF | FIBER LNK_DOWN_Det. OFF |
| DIP | | | | | | | | | | | | | | | |
| 1 | LFP Enable | FIBER F. Mode | COPPER LNK_DOWN_Det. ON | FIBER LNK_DOWN_Det. ON | | | | | | | | | | | |
| 0 | LFP Disable | FIBER Auto Mode | COPPER LNK_DOWN_Det. OFF | FIBER LNK_DOWN_Det. OFF | | | | | | | | | | | |

| Power Input | | | | | | | | | | | | | | | |
|--|---|-----------------|--------------------------|-------------------------|--|---|------------|---------------|-------------------------|------------------------|---|-------------|-----------------|--------------------------|-------------------------|
| PWR | Power Input 0.76A@12VDC | | | | | | | | | | | | | | |
| | 1. The relay opens if PWR1 or PWR2 fails 2. The relay opens if Per Port Link is Broken (When Link Down Detection is Enabled) | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="4">DIP</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>LFP Enable</td> <td>FIBER F. Mode</td> <td>COPPER LNK_DOWN_Det. ON</td> <td>FIBER LNK_DOWN_Det. ON</td> </tr> <tr> <td>0</td> <td>LFP Disable</td> <td>FIBER Auto Mode</td> <td>COPPER LNK_DOWN_Det. OFF</td> <td>FIBER LNK_DOWN_Det. OFF</td> </tr> </tbody> </table> | | DIP | | | | 1 | LFP Enable | FIBER F. Mode | COPPER LNK_DOWN_Det. ON | FIBER LNK_DOWN_Det. ON | 0 | LFP Disable | FIBER Auto Mode | COPPER LNK_DOWN_Det. OFF | FIBER LNK_DOWN_Det. OFF |
| DIP | | | | | | | | | | | | | | | |
| 1 | LFP Enable | FIBER F. Mode | COPPER LNK_DOWN_Det. ON | FIBER LNK_DOWN_Det. ON | | | | | | | | | | | |
| 0 | LFP Disable | FIBER Auto Mode | COPPER LNK_DOWN_Det. OFF | FIBER LNK_DOWN_Det. OFF | | | | | | | | | | | |

Note: One side of the fiber ports should be forced to duplex mode and flow control, and the other side of fiber ports should be set to auto detect duplex mode when two of EL9000 media converters are connected to each other via fiber connection.

- DC Terminal Block Power Inputs: There are two pairs of power inputs can be used to power up this device. You need to have two power inputs connected to run the media converter, but the FAULT LED indicator will light up to remind that the power redundant system functions abnormal in case either PWR1 or PWR2 is dead. Media Converter, however, continues working normally even fault LED indicator lights up.
- DC JACK Power input: 12VDC.

The 1000Base-T and 1000Base-SX/LX Connectors

The 1000Base-T Connections

The following lists the pinouts of 1000Base-T port.

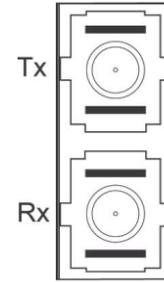
| Pin | Label |
|-----|-------|
| 1 | TP0+ |
| 2 | TP0- |
| 3 | TP1+ |
| 4 | TP2+ |
| 5 | TP2- |
| 6 | TP1- |
| 7 | TP3+ |
| 8 | TP3- |

EL9000 Series Hardened Media Converter

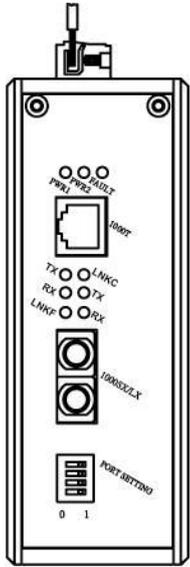
The 1000Base-SX/LX Connections

The fiber port pinouts

The Tx (transmit) port of device I is connected to the Rx (receive) port of device II, and the Rx (receive) port of device I to the Tx (transmit) port of device II.



The Port Status LEDs



| LEDs | State | Indication |
|--------------|--------|---|
| FAULT | Steady | Power redundant system or ports function abnormally |
| | Off | Power redundant system and ports function normally |
| PWR1 PWR2 | Steady | Power on PWR stands for POWER |
| | Off | Power off |
| LNKC | Steady | A valid network connection established for copper port LNK stands for LINK |
| | Off | No valid network connection established for copper port |

| | | |
|------|----------|--|
| LNKF | Steady | A valid network connection established for fiber port LNK stands for LINK |
| | Off | No valid network connection established for fiber port |
| TX | Flashing | Transmitting data TX stands for TRANSMIT |
| | Off | No transmitting data |
| RX | Flashing | Receiving data RX stands for RECEIVE |
| | Off | No data being received |

Functional Description

- Meets NEMA TS1/TS2 Environmental requirements: temperature, shock, and vibration for traffic control equipment.
- Meets IEC61000-6-2 EMC Generic Standard Immunity for industrial environment.
- Support 802.3ab/802.3z/802.3x. Auto-negotiation and Auto MDI/MDIX.
- 1000Base-SX/LX: Multi mode, Single mode, or WDM Single mode SC type.
- One DIP switch for configuring link-fault-pass-through, fiber auto negotiation, and port link down alarm.
- Alarms for power and port link failure by relay output. Relay contact rating with current 1.5A @ 24VDC, 0.5A @ 120VAC.
- Operating voltage and Max. current consumption: 0.76A @ 12VDC, 0.38A @ 24VDC, 0.19A @ 48VDC. Power consumption: 9.12W Max.
- Power Supply: Redundant DC Terminal Block power inputs or 12VDC DC JACK with 100-240VAC external power supply.
- Field Wiring Terminal: Use Copper Conductors Only, 60/75°C, 12-24 AWG torque value 7 lb-in.
- -40°C to 75°C (-40°F to 167°F) operating temperature range. Tested for functional operation @ -40°C to 85°C (-40°F to 185°F). UL1604 Industrial Control Equipment certified Maximum Surrounding Air Temperature @ 74°C (165°F).
- Supports DIN-Rail, Panel, or Rack Mounting installation.
- UL1604 Class I, Division 2 Classified for use in hazardous locations (applicable to versions with terminal block power option).
 - This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D OR non-hazardous locations only.
 - WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
 - WARNING – EXPLOSION HAZARD – Substitution of components may impair suitability for Class I, Division 2.

Assembly, Startup, and Dismantling

- Unpacking: Open the carton and unpack the items. Your package should include an EL9000 media converter and this Quick Install Guide. If items are missing or damaged, notify your EtherWAN representative.
Download the full manual at: <https://www.etherwan.com>
- Assembly: Place the media converter on the DIN rail from above using the slot. Push the front of the media converter toward the mounting surface until it audibly snaps into place.
- Startup: Connect the supply voltage to start up the media converter via the terminal block (or DC JACK).
- Dismantling: Pull out the lower edge and then remove the media converter from the DIN rail.

