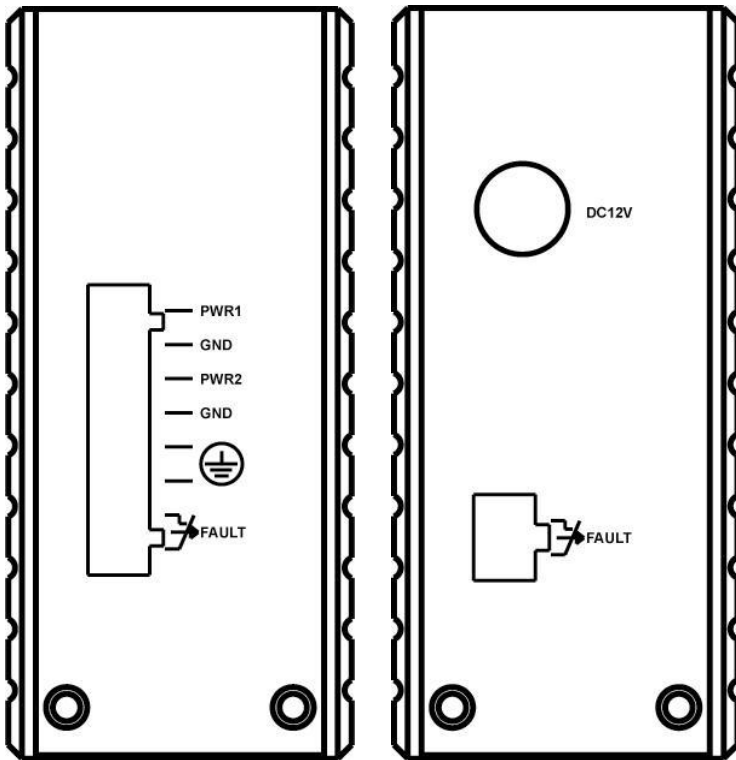## *Hardened Media Converter*

This quick start guide describes how to install and use the hardened media converter. This is the media converter of choice for harsh environments constrained by space.

# Physical Description

## The Terminal Block and Power inputs



| Terminal Assignments | |
|---|---|
| PWR1 | Power Input 1 (10~48VDC) |
| GND | Power Ground |
| PWR2 | Power Input 2 (10~48VDC) |
| GND | Power Ground |
| ⏚ | Earth Ground |
| ⏛ FAULT | 1. The relay opens if PWR1 or PWR2 fails<br>2. The relay opens if the Port Link fails<br>(When Link Down Detection is Enabled) |

| DIP | LFP | | TX | | FX | LINK DOWN |
|---|---|---|---|---|---|---|
| | Enable | F. Mode | 10M | H. Duplex | H. Duplex | ON |
| 1 2 3 4 5 6 | Disable | Auto Mode | 100M | F. Duplex | F. Duplex | OFF |

| Power Input | |
|---|---|
| PWR | Power Input 3A@12VDC |
| GND | Power Ground |
| ⏛ FAULT | 1. The relay opens if PWR1 or PWR2 fails<br>2. The relay opens if Per Port Link is Broken<br>(When Link Down Detection is Enabled) |

| DIP | LFP | | TX | | FX | LINK DOWN |
|---|---|---|---|---|---|---|
| | Enable | F. Mode | 10M | H. Duplex | H. Duplex | ON |
| 1 2 3 4 5 6 | Disable | Auto Mode | 100M | F. Duplex | F. Duplex | OFF |

- 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 10/100Base-TX and 100Base-FX Connectors

### The 10/100Base-TX Connections
The following lists the pinouts of 10/100Base-T/TX ports.
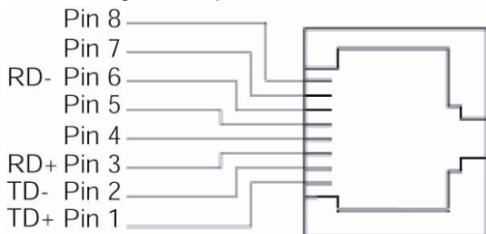


| Pin | Regular Ports | Uplink port |
|---|---|---|
| 1 | Output Transmit Data + | Input Receive Data + |
| 2 | Output Transmit Data - | Input Receive Data - |
| 3 | Input Receive Data + | Output Transmit Data + |
| 4 | NC | NC |
| 5 | NC | NC |
| 6 | Input Receive Data - | Output Transmit Data - |
| 7 | NC | NC |
| 8 | NC | NC |

### The 100Base-FX 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.
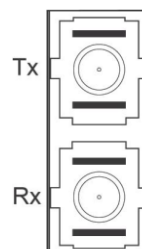
## The Port Status LEDs

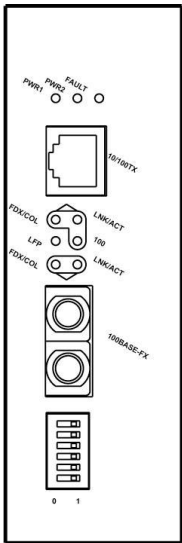| LEDs | State | Indication |
|---|---|---|
| FAULT | Steady | Power redundant system **or ports function abnormally** |
| | Off | Power redundant system **and ports function normally** |
| PWR1 PWR2 | Steady | **Power on PWR stands for POWER** |
| | Off | **Power off** |
| 100 (Mbps) | Steady | **Connection at the speed of 100Mbps** |
| | Off | **Connection at the speed of 10Mbps** |
| LFP | Steady | **LFPT function enabled** |
| | Off | **LFPT function disabled** |

| | | |
|---|---|---|
| LNK/ACT | Steady | **Valid network connection established LNK stands for LINK** |
| | Flashing | **Transmitting or receiving data ACT stands for ACTIVITY** |
| | Off | **Neither valid network connection established nor transmitting/receiving data** |
| FDX/COL | Steady | **Connection in full duplex mode FDX stands for FULL-DUPLEX** |
| | Flashing | **Collision occurred COL stands for COLLISION** |
| | Off | **Connection in half-duplex mode** |

# Functional Description

- Meets NEMA TS1/TS2 Environmental requirements: temperature, shock, and vibration for traffic control equipment.
- Meets EN61000-6-2 & EN61000-6-3 EMC Generic Standard Immunity for industrial environment.
- Support 802.3/802.3u/802.3x. Auto-negotiation: 10/100Mbps, full/half-duplex; Auto MDI/MDIX.
- 100Base-FX: Multi mode SC or ST type; Single mode SC or ST type; WDM Single mode SC type.
- One DIP switch for configuring link-fault-pass-through, fixed speed, full/half duplex, and 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: 0.36A @ 12VDC, 0.18A @ 24VDC, 0.09A @ 48VDC. Power consumption: 4.32W 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℃, 12-24 AWG torque value 7 lb-in.
- -40℃ to 75℃ (-40℉ to 167℉) operating temperature range. Tested for functional operation @ -40℃ to 85℃ (-40℉ to 185℉). UL1604 Industrial Control Equipment certified Maximum Surrounding Air Temperature @ 74℃ (165℉).
- 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 EL900 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.