# Industrial Gigabit Media Converter
## User manual

13.238.101.1983
V 1.0

It is an industrial gigabit Ethernet fiber optical transmission equipment which can convert between network cable and optical fiber cable. It supports 10/100/1000Mbps network bandwidth.  It can be used in pairs and can also be used together with other equipments.  It is widely used in surveillance, home network fiber, etc.

## Application



Ethernet Switch

Gigabit Ethernet Converter

Optical Fiber

Ethernet Switch

Optical Fiber
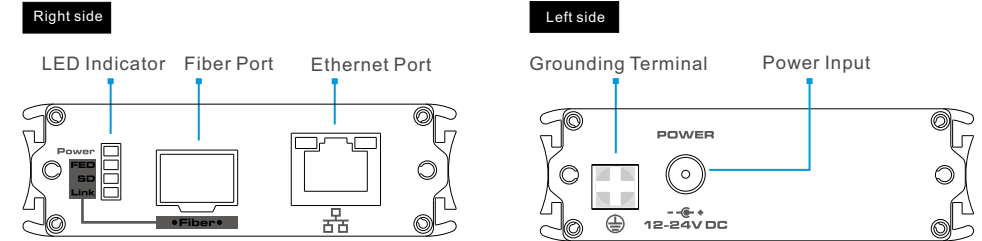
Gigabit Ethernet Converter
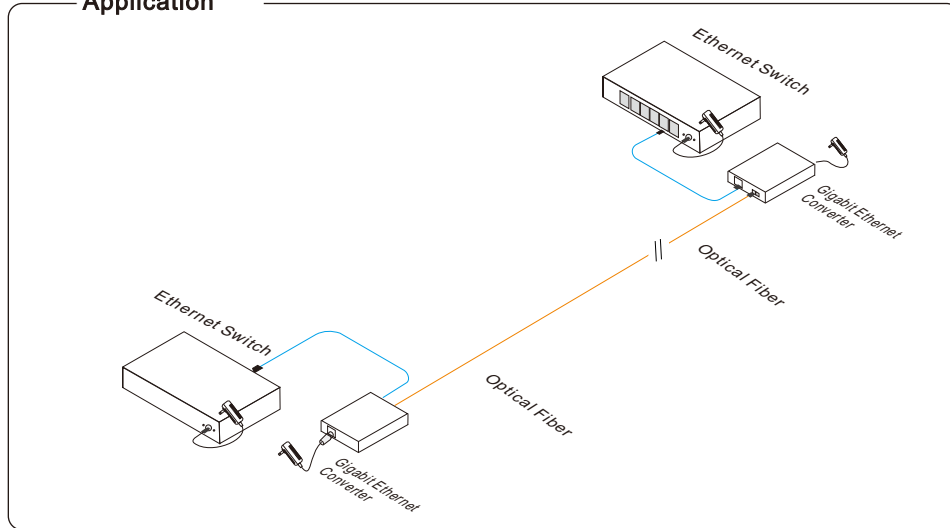
## ■Feature

● Provide 1*gigabit fiber optical port and 1*gigabit Ethernet port which can convert between
   10/100/1000BASE-T and 1000BASE-X.
● Apply to SFP optical module, support hot plug and SFP optical module with different performances.
● Compatibility with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab/z, and Ethernet standard of
   10/100/1000Base-T and 1000Base-X.
● Support 10/100/1000Mbps full/half duplex automatic adaptation and  automatic MDI/MDIX.
● Support 6kV surge protection,6kV/8kV ESD protection.
● Support −40℃~75℃ working temperature.

## ⚠ Caution

1) Please note that two optical fiber cables should be cross connected to fiber optical ports of two Fast Ethernet Converters.
2) SFP modules need to be purchased separately.
3) Device must be connected with lightning protection grounding; otherwise protection level will be reduced; please use above 20AWG wire to connect the grounding terminal.

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## ■Board  Diagram

Right side

LED Indicator    Fiber Port    Ethernet Port

Left side

Grounding Terminal       Power Input



POWER
12-24V DC

Power
FED
SD
Link
•Fiber•

### LED Indicator Instruction：

| LED | Function | Status | Instruction |
|---|---|---|---|
| Power | Power LED Indicator | On | Power On |
| | | Off | Power Off |
| FED | SFP Detection Indicator | On | SFP insert |
| | | Off | No SFP inserted |
| SD | Remote Device Failure Alarm Indicator | On | Remote device failed |
| | | Off | Remote device connected normal and Working well |
| Link | Optical Fiber port Connection Status | On | Connection Normal |
| | | Flicker | Connection Normal With Data Switching |
| | | Off | Connection Failed |
| RJ 45 Indicator ( Link/Act ) | Ethernet Port Connection | On | Ethernet Port Connection Normal |
| | | Flicker | Connection Normal With Data Switching |
| | | Off | No Connection |

## ■ Installation

Please check the following items before installation. If any missing, please contact the dealer.
● Gigabit Ethernet Converter                    1pc
● Power Adapter                                 1pc
● AC Power Cord                                 1pc
● Hanger                                        2 pcs
● User Manual                                   1pc

### Installation  Steps

1) Please turn off the signal source and device  power before installation; Installation with power on may
    damage the device.
2) Please check if the network cables is being taken up by other devices.
3) Use network cable to  connect RJ45 Port of the  Converter with NVR or network devices  like computer.
4) Use two optical fibers of single mode, dual fiber to connect fiber optical ports of two Fast Ethernet Converters. Please note that the optical fiber cable should be CROSS connected to RX and TX unit of fiber optical ports, that is, the one end of optical fiber cable shall be connected to TX unit of optical module and the other end of optical fiber cable should be connected to the RX unit of optical module.
5) Please check if the installation is correct and power the system.
6) Please check if the network is working.

## ■ Specifications

| Item | Specifications |
|---|---|
| **Ethernet Ports** | |
| Ethernet Ports | Ethernet port:10/100/1000Mbps |
| Transmission Distance | 0～100m |
| **Fiber Ports** | |
| Fiber Port | LC Port, SFP Optical Module, Single Fiber or Dual Fiber Optional |
| Bandwidth | 1.25Gbps |
| Transmission Distance | Depend on SFP module performance |
| **Standards** | |
| Standards | IEEE 802.3, IEEE 802.3u, IEEE 802.3ab/z, 10/100/1000BASE－T and 1000BASE－X, IEEE 802.3 X. |
| **LED Indicator** | |
| Power Indicator Light | 1 Red |
| Network Indicator Light | 1 Green on RJ45 Socket |
| Fiber Indicator Light | 3 Green (Link,SD,FED) |
| **Power Supply** | |
| Input Voltage | 12~24V DC |
| **Environment** | |
| Surge Immunity | 6kV,Standard: IEC61000－4－5 |
| ESD Protection | Level 3,Standard:IEC61000－4－2 |
| Operating Temperature | －40℃~75℃ |
| Storage Temperature | －40℃~85℃ |
| Operating Humidity | 0~95% (Non-condensation) |
| **Physical Parameter** | |
| Dimensions (W*D*H) | 103mm*82mm*25mm |
| Net Weight | 160g |
| Material | Aluminum Alloy |

## ■ Trouble Shooting

Please find the following solutions when the device doesn't work:
- Please confirm if the installation is correct;
- Please confirm if the RJ45 cable order is in accordance with the EIA/TIA568A or 568B industry standards;
- The maximum transmission distance depends on the signal source and cable quality, please do not exceed the maximum transmission distance;
- Please replace a failure device with a normally working device to check if the device is in normal operation or not;
- If the problem still exists, please contact the factory.

## ■ RJ 45 Making Method

Instruments to be used: wire crimper, network tester.

Wire sequence of RJ45 plug should conforms with EIA/TIA568A or 568B standards.

1) Shuck off about 2cm long of the insulating layer to expose the 4 pairs UTP cables;

2) Seperate the 4 pairs UTP cables and straighten them up;

3) Line up the 8 pieces of cables per EIA/TIA 568A or 568B standards;

4) Brunt cut the cables to leave 1.5cm wire exposed and make sure the wire ends are leveled off;

5) Plug 8 cables into RJ45 plug, make sure each cable is in each pin;

6)Then use wire crimper to crimp it;

7) Repeat above 5 steps to make the another end;

8) Using network tester to test the cable .

| pin color | | | pin color | |
|---|---|---|---|---|
| 1 | white/green | | 1 | white/orange |
| 2 | green | | 2 | orange |
| 3 | white/orange | | 3 | white/green |
| 4 | blue | | 4 | blue |
| 5 | white/blue | | 5 | white/blue |
| 6 | orange | | 6 | green |
| 7 | white/brown | | 7 | white/brown |
| 8 | brown | | 8 | brown |
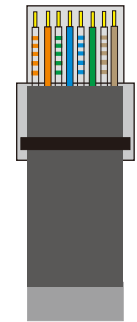
EIA/TIA 568A                                  EIA/TIA 568B

⚠ Notice
- Make sure if one end is EIA/TIA568A,the other end should also be EIA/TIA568A.
- Make sure if one end is EIA/TIA568B,the other end should also be EIA/TIA568B.