



Encoder TTL/HTL Fiber Optic Converter

Shenzhen Comark Technology Co.,Ltd.

Tel: 86-755-26055466

Fax: 86-755-22630031

Post: 518054

Add: Rm412, 4th floor, 2nd Building, Zhongxing Industrial Zone, Chuangye Rd, Nanshan District, Shenzhen

518054, P.R.C

Website: <http://www.comark.cn/>

Introduction:

CJ-TF series TTL/HTL fiber optic converter transmit TTL/HTL signal through the optical fiber with long distant transmission. Due to the use of optical fiber communication, its can solve the electromagnetic interference, ground loop interference and the lightning damage, greatly improve the data communication reliability, security and confidentiality. Its can be widely used in various industrial control, process control and traffic control occasions, especially suitable for oil, ports, electricity, transportation, mining and energy industries.

Product parameters

Signal Interfaces

- 5 industrial-grade terminals (space between 5.08mm with flange)
- TTL(5V TTL): $H > 2.5v$, $L < 0.5V$, not over 500Khz, rise/fall time=100ns
- HTL (24V HTL) : $H > 7.5v$, $L < 1.0V$, not over 500Khz , rise time=200ns, fall time=100ns
- Terminal Resistance: Our device without terminal resistance, please decide whether the external connection required.

Optical interfaces

- Wavelength: MM: 850nm, 1310nm; SM: 1310nm, 1550nm;
- Optical type: MM: 50/125um, 62.5/125um, 100/140um; SM: 8.3/125um, 9/125um, 10/125um;

- Transmission Distance: MM: 2KM; SM: 20KM, faster distance optional;
- Optical Connector: ST, SC, FC optional, ST is standard connector
- Optical power & Sensitivity: SM \geq (-1 ~ -5)dBm , MM \geq (-5 ~ -9) dBm , Sensitivity \leq -16dBm
- Error rate : $\leq 10^{-9}$

Power supply and protection

Power supply: Dual redundant power supply input, DC(18 ~ 36V), Typical DC24V, input current $>$ 100Ma, consumption transmitter $<$ 3W receiver $<$ 1.5W , adopts 5cores 5.08mm industrial terminal connector;

Mechanical Features

- Dimension (L*W*H): 136mm \times 104mm \times 46mm
- Shell: IP30 protection
- Installation: 35mm DIN rail
- Net weight: 800g

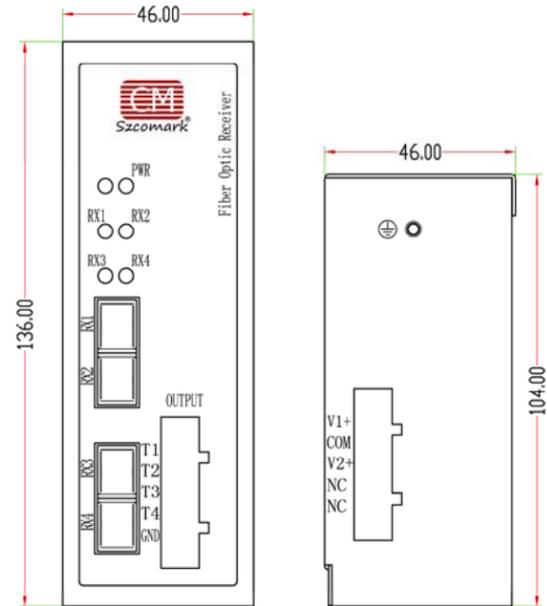
Working Environment

- Working Temperature: 10 $^{\circ}$ C~70 $^{\circ}$ C , optional wide temperature (-40 $^{\circ}$ C~85 $^{\circ}$ C)
- Storage Temperature: -40 $^{\circ}$ C~85 $^{\circ}$ C
- Humidity: 5%~95%(no condensing)

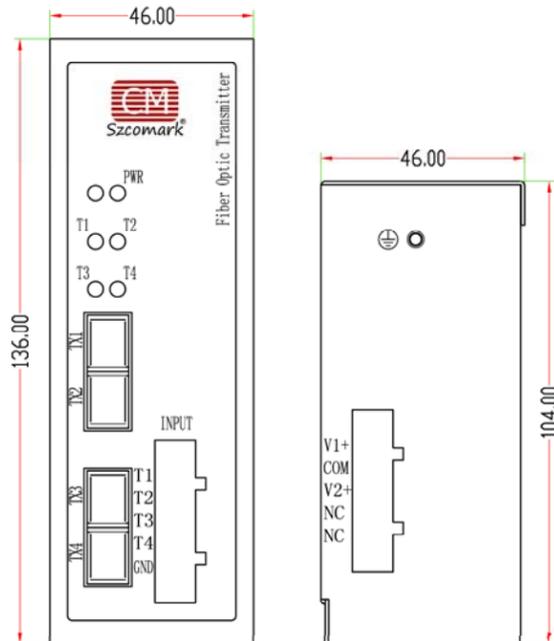
Warranty

- Warranty period: 1 year

Appearance



Transmitter



Receiver

Indicators

LED	Status	Description
PWR	Off	No power supply or failure
	On	Power is on
T1-4	Blinking	TTL/HTL high and low level transformation
	Off	TTL/HTL receiving low level
	On	TTL/HTL receiving high level

Transmitter

LED	Status	Description
PWR	Off	No power supply or failure
	On	Power is on
RX1-4	Off	Receiving optical signals
	On	No receiving optical signal
	Blinking	Optical signal alternate changing

Receiver

Terminal Resistor

Resistor is to eliminate the effect of the signal reflected in communication cable, as needed in the two end nodes of the cable connection. Generally in high-speed long-distance transmission, need to add the appropriate terminal resistance at the two end of the cable, and let the transmission line impedance matching. The terminal resistance value in ohms (120-250), commonly associated with transmission wire used.

Connection Method

1. Signal cable wiring methods: Encoder TTL /HTL optical fiber converter is five-terminal; TTL/HTL electrical signal input connected from the transmitting the pin T1/ T2 / T3 / T4, signal by electrical transform to optical and send to the receiving end equipment. TTL/HTL electrical signal restore output at the receiving end T1 / T2 / T3 / T4. Feet T5 is TTL/HTL electrical signal reference ground GND.

2. This equipment is belong to optical fiber transmission products, the sending signal and receiving signal based on optical definition. Please note that the transmitter receives TTL/HTL electrical signals, after optical fiber transmission, and the receiving end to restore the need of TTL/HTL electrical signals.

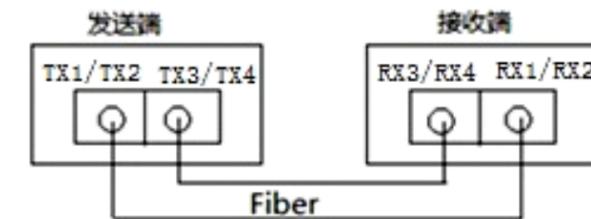
Transmitting End: INPUT

Transmit	T1	T2	T3	T4	GND
	T1 signal receive	T2 signal receive	T3 signal receive	T4 signal receive	Ground wire

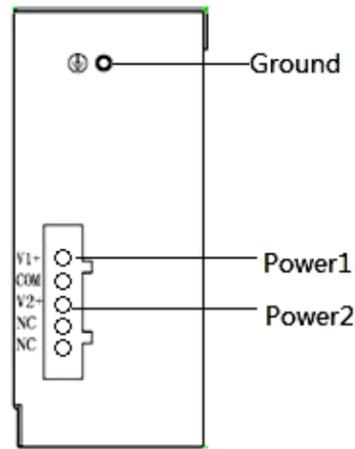
Receiving End: OUTPUT

Receive	T1	T2	T3	T4	GND
	T1 signal output	T2 signal output	T3 signal output	T4 signal output	Ground wire

1. Optical Connection: Fiber must be direct connection, that is, TX end connect to the RX end. The encoder TTL/HTL signal optical fiber converter must be used in pairs. As shown in the figure below:



2. Power supply connection methods: This device support dual power supply redundancy input, V1+, V2+ respectively connect to the positive power supply (DC18 ~ 36 v), COM connect to the negative power supply (dual power sharing). Work can also pick up one of these power supplies. As shown in the figure below:



DIN Rail Mounting

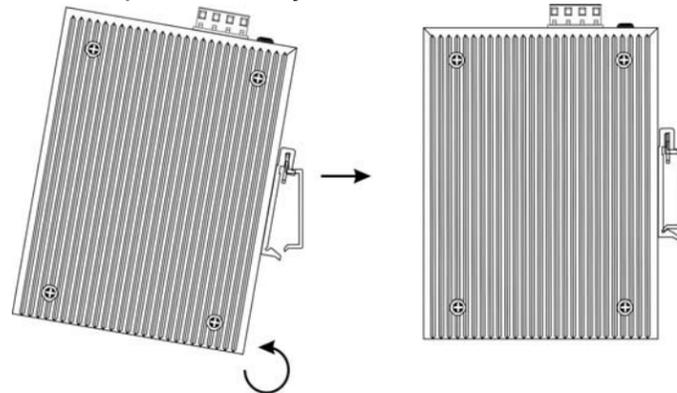
Using 35 mm standard DIN rail installation, in most industrial applications are very convenient and the installation steps are as follows:

Step 1: Check whether have the DIN rail installation tool accessories (this product has been installed accessories).

Step 2: Check whether the DIN rail is fixed, is there a suitable location to install this product?

Step 3: Connect the product accessories card DIN rail seat upper card into the DIN rail (upper with spring support), and then will connect the lower part of the card into the DIN rail (upper card into a little, and put forth your strength with balance of equipment get stuck into the bottom).

Step 4: The DIN rail clip into the DIN rail, then check and confirm the product firmly into the DIN rail.



Fault indicator and troubleshooting

Fault phenomenon	Treatment Measure
PWR off	Check whether the power supply is meet the requirements, the power supply terminal wiring is correct.

Package List

Using encoder TTL/HTL signal optical fiber converter at the first time, please check the attachment packing is complete or not? The package List as follows:

- Encoder TTL/HTL signal optical fiber converter 1 pair (with industrial terminal for power supply connection)
- User manual 1 piece
- Warranty card 1 piece

Precautions

- Please configure DC18~36V industrial standard power supply, typical voltage at 24V. Two power supplies sharing the negative pole. Please use 0.75 mm² or above high-quality copper
- Optical port is not used, it must be with a fiber optic cap, it will avoid polluted.
- Do not look straight equipment optical fiber output port, in order to avoid the laser damage eyes.
- This equipment is belong to the precision of communications equipment, please keep the ground work of the equipment. Grounding device is a special grounding screw on the side panel, when installation should use the special earth lead, the earth lead must be 2.5 mm², the resistance under 5 ohms.
- The transmitting end of T1 / T2 / T3 / T4 lamp corresponding optical interface TX1 / TX2 / TX3 / TX4, with five-digit industrial input terminals in T1 / T2 / T3 / T4 as well.
- The receiving end of RX1 / RX2 / RX3 / RX4 indicator corresponding optical interface RX1 / RX2 / RX3 / RX4, with five-digit industrial input terminals in T1 / T2 / T3 / T4 as well.
- The transmitting end of the TX1 / TX2 / TX3 / TX4 RX1 and the receiving end /RX2 / RX3 / RX4 corresponding connection as much as possible.

Applied Range

Electric Power System, Transportation, Energy Monitoring

and Industrial Control, etc.

Products List

Item No.	Description and Specifications
CJ-TF22	TTL Fiber Optic Converter, support 2 ways TTL signal, 0-500K speed rate, MM dual fibers ST connector, DC24V redundant power supply.
CJ-TF44	Encoder TTL Fiber Optic Converter, support 4 ways TTL signals, 0-500K speed rate, MM dual fibers ST connector, DC24V redundant power supply.
CJ-TF220	HTL Fiber Optic Converter, support 2 ways HTL signal, 0-500K speed rate, MM dual fibers ST connector, DC24V redundant power supply.
CJ-TF440	Encoder HTL Fiber Optic Converter, support 4 ways HTL signals, 0-500K speed rate, MM dual fibers ST connector, DC24V redundant power supply.
Remark: Default connector is ST connector. FC, SC and faster distance customized.	