



# Industrial SFP Transceiver

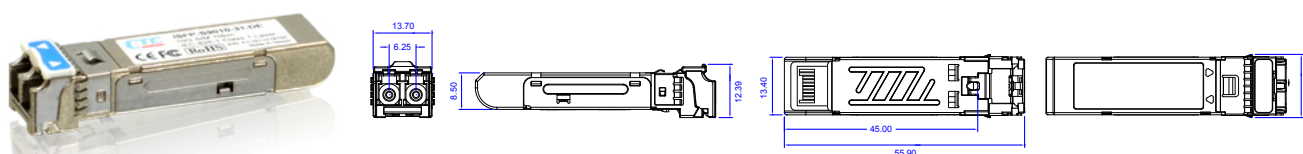
**10G 10GBase-X for Optic**  
**1.25G 1000Base-X for Optic**  
**1.25G 1000Base-T for UTP**  
**155Mbps 100Base-FX for Optic**  
**100Mbps Long Reach Ethernet extender for UTP**

CTC Union's industrial SFP Transceivers are highly reliable, for serial optical data communications applications specified for single mode fiber operation at 1.25G/155M bps. They operate with +3.3V power supplies and are intended for single mode or multi-mode fiber, operating at a nominal wavelength of 1310nm/1550nm/850nm. Each SFP Transceiver consists of a transmitter optical subassembly (TOSA), a receiver optical subassembly (ROSA) and an electrical subassembly. CTC Union's industrial SFP transceivers ensure your networks operate with maximum reliability, performance, and flexibility.

## Feature

- The ISFP series of industrial grade SFP modules have been fully tested with CTC industrial grade product for guaranteed compatibility and performance. The best performance can be guaranteed even in mission-critical applications
- Single 3.3V power supply
- Duplex or Simplex LC receptacle connector
- Hot Pluggable
- Lower power dissipation
- All 10G SFP+ compliant to IEEE802.3ae 10GBase-X Ethernet over fiber
- All Gigabit SFP compliant to IEEE802.3z 1000Base-X and IEEE802.3ab 1000Base-T
- All Fast Ethernet SFP Compliant to IEEE802.3u 100Base-FX
- Industrial standard small form pluggable (SFP) package
- Compliant with Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP)
- Eye safety compliant with Class 1 laser product standard IEC825-1
- CE, FCC class B certification
- RoHS compliant
- 5 years warranty

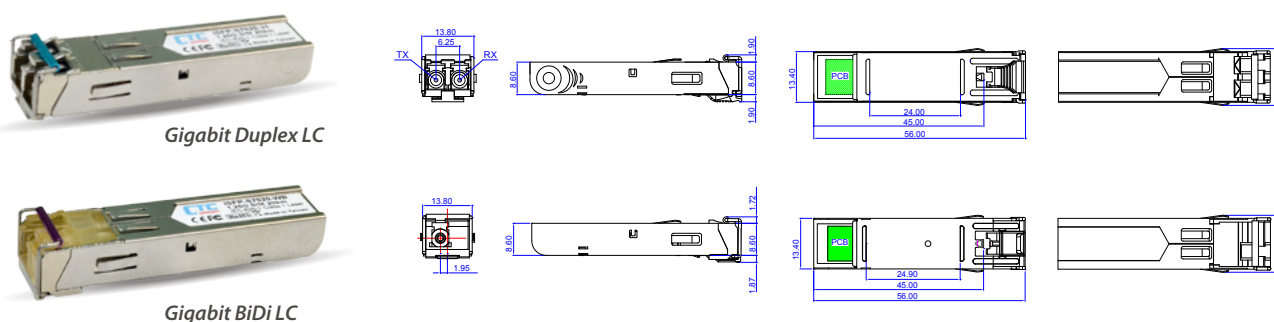
### ■ 10Gbps 10GBase-X Fiber SFP+



## Order Information

| Model Name       | Cable Type | Typical Distance | Wavelength (nm) | TX (dBm) (Min~Max) | RX Sensitivity (dBm) | Power Budget (dB) | Saturation (dBm) | Power Consumption | DDMI | Operating Temperature |
|------------------|------------|------------------|-----------------|--------------------|----------------------|-------------------|------------------|-------------------|------|-----------------------|
| ISFP-M9000-85-D  | MM         | 300m (OM3)       | 850             | -6.5~-1            | -9.9                 | 3.4               | -1               | 1W                | V    | -10~70°C              |
| ISFP-M9000-85-DE | MM         | 300m (OM3)       | 850             | -6.5~-1            | -9.9                 | 3.4               | -1               | 1W                | V    | -40~85°C              |
| ISFP-S9010-31-D  | SM         | 10km             | 1310            | -8~-0.5            | -14.4                | 6.4               | 0.5              | 1W                | V    | -10~70°C              |
| ISFP-S9010-31-DE | SM         | 10km             | 1310            | -8~-0.5            | -14.4                | 6.4               | 0.5              | 1W                | V    | -40~85°C              |
| ISFP-S9040-31-D  | SM         | 40km             | 1310            | 0.5~5              | -15.5                | 16                | 0.5              | 1W                | V    | -10~70°C              |
| ISFP-S9040-31-DE | SM         | 40km             | 1310            | 0.5~5              | -15.5                | 16                | 0.5              | 1W                | V    | -40~85°C              |

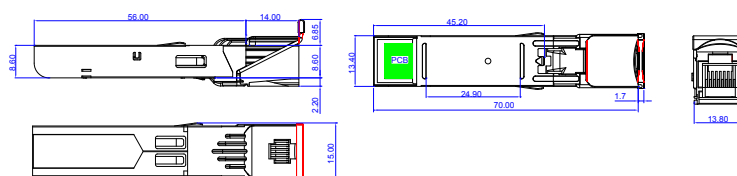
### ■ 1.25Gbps 1000Base-X Fiber SFP



## Order Information

| Model Name       | Cable Type | Typical Distance | Wavelength (nm) | TX (dBm) (Min~Max) | RX Sensitivity (dBm) | Power Budget (dB) | Saturation (dBm) | Power Consumption | DDMI | Operating Temperature |
|------------------|------------|------------------|-----------------|--------------------|----------------------|-------------------|------------------|-------------------|------|-----------------------|
| ISFP-M7000-85    | MM         | 550m             | 850             | -9.5~-4            | -17                  | 7.5               | -3               | 1W                |      | -10~70°C              |
| ISFP-M7000-85-D  | MM         | 550m             | 850             | -9.5~-4            | -17                  | 7.5               | -3               | 1W                | V    | -10~70°C              |
| ISFP-M7000-85-E  | MM         | 550m             | 850             | -9.5~-4            | -17                  | 7.5               | -3               | 1W                |      | -40~85°C              |
| ISFP-M7000-85-DE | MM         | 550m             | 850             | -9.5~-4            | -17                  | 7.5               | -3               | 1W                | V    | -40~85°C              |
| ISFP-M7002-31    | MM         | 2km              | 1310            | -9~-1              | -19                  | 10                | -1               | 1W                |      | -10~70°C              |
| ISFP-M7002-31-D  | MM         | 2km              | 1310            | -9~-1              | -19                  | 10                | -1               | 1W                | V    | -10~70°C              |
| ISFP-M7002-31-E  | MM         | 2km              | 1310            | -9~-1              | -19                  | 10                | -1               | 1W                |      | -40~85°C              |
| ISFP-M7002-31-DE | MM         | 2km              | 1310            | -9~-1              | -19                  | 10                | -1               | 1W                | V    | -40~85°C              |
| ISFP-S7020-31    | SM         | 20km             | 1310            | -8~-2              | -23                  | 15                | -1               | 1W                |      | -10~70°C              |
| ISFP-S7020-31-D  | SM         | 20km             | 1310            | -8~-2              | -23                  | 15                | -1               | 1W                | V    | -10~70°C              |
| ISFP-S7020-31-E  | SM         | 20km             | 1310            | -8~-2              | -23                  | 15                | -1               | 1W                |      | -40~85°C              |
| ISFP-S7020-31-DE | SM         | 20km             | 1310            | -8~-2              | -23                  | 15                | -1               | 1W                | V    | -40~85°C              |
| ISFP-S7040-31-D  | SM         | 40km             | 1310            | -2~3               | -23                  | 21                | -3               | 1W                | V    | -10~70°C              |
| ISFP-S7040-31-DE | SM         | 40km             | 1310            | -2~3               | -23                  | 21                | -3               | 1W                | V    | -40~85°C              |
| ISFP-S7020-WA-D  | SM         | 20km             | T1310 / R1550   | -8~-2              | -23                  | 15                | -2               | 1W                | V    | -10~70°C              |
| ISFP-S7020-WB-D  | SM         | 20km             | T1550 / R1310   | -8~-2              | -23                  | 15                | -2               | 1W                | V    | -10~70°C              |
| ISFP-S7020-WA-DE | SM         | 20km             | T1310 / R1550   | -8~-2              | -23                  | 15                | -2               | 1W                | V    | -40~85°C              |
| ISFP-S7020-WB-DE | SM         | 20km             | T1550 / R1310   | -8~-2              | -23                  | 15                | -2               | 1W                | V    | -40~85°C              |

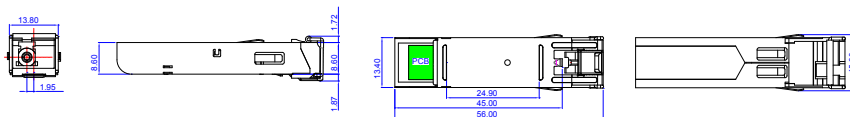
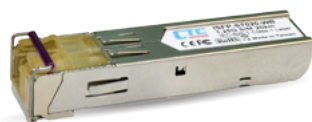
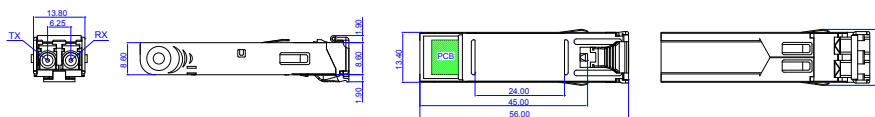
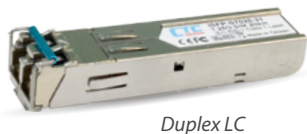
## ■ 1.25Gbps 1000Base-T UTP SFP



## Order Information

| Model Name      | Cable Type | Typical Distance | Power Consumption | Operating Temperature |
|-----------------|------------|------------------|-------------------|-----------------------|
| ISFP-T7T00-00   | UTP Cat 5E | 100m             | 1.1W              | -10~70°C              |
| ISFP-T7T00-00-E | UTP Cat 5E | 100m             | 1.1W              | -40~85°C              |

## ■ 155Mbps 100Base-FX fiber SFP



## Order Information

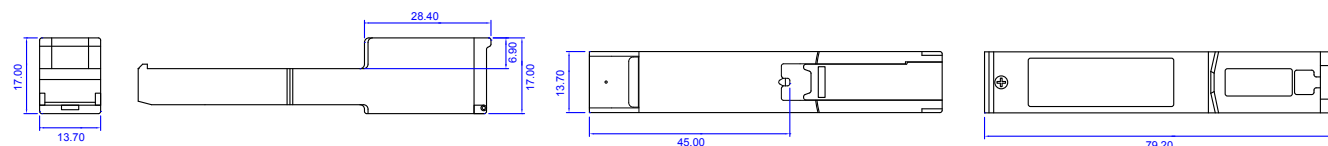
| Model Name       | Cable Type | Typical Distance | Wavelength (nm) | TX (dBm) (Min~Max) | RX Sensitivity (dBm) | Power Budget (dB) | Saturation (dBm) | Power Consumption | DDMI | Operating Temperature |
|------------------|------------|------------------|-----------------|--------------------|----------------------|-------------------|------------------|-------------------|------|-----------------------|
| ISFP-M5002-31    | MM         | 2km              | 1310            | -20~-14            | -32                  | 12                | -8               | 1W                |      | -10~70°C              |
| ISFP-M5002-31-D  | MM         | 2km              | 1310            | -20~-14            | -32                  | 12                | -8               | 1W                | V    | -10~70°C              |
| ISFP-M5002-31-E  | MM         | 2km              | 1310            | -20~-14            | -32                  | 12                | -8               | 1W                |      | -40~85°C              |
| ISFP-M5002-31-DE | MM         | 2km              | 1310            | -20~-14            | -32                  | 12                | -8               | 1W                | V    | -40~85°C              |
| ISFP-S5030-31    | SM         | 30km             | 1310            | -15~-8             | -34                  | 19                | -5               | 1W                |      | -10~70°C              |

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# Industrial SFP Transceiver

|                  |    |      |               |        |     |    |    |    |   |          |
|------------------|----|------|---------------|--------|-----|----|----|----|---|----------|
| ISFP-S5030-31-D  | SM | 30km | 1310          | -15~-8 | -34 | 19 | -5 | 1W | V | -10~70°C |
| ISFP-S5030-31-E  | SM | 30km | 1310          | -15~-8 | -34 | 19 | -5 | 1W |   | -40~85°C |
| ISFP-S5030-31-DE | SM | 30km | 1310          | -15~-8 | -34 | 19 | -5 | 1W | V | -40~85°C |
| ISFP-S5050-31-D  | SM | 50km | 1310          | -5~0   | -35 | 30 | -5 | 1W | V | -10~70°C |
| ISFP-S5050-31-DE | SM | 50km | 1310          | -5~0   | -35 | 30 | -5 | 1W | V | -40~85°C |
| ISFP-S5020-WA-D  | SM | 20km | T1310 / R1550 | -14~-8 | -32 | 18 | -3 | 1W | V | -10~70°C |
| ISFP-S5020-WB-D  | SM | 20km | T1550 / R1310 | -14~-8 | -32 | 18 | -3 | 1W | V | -10~70°C |
| ISFP-S5020-WA-DE | SM | 20km | T1310 / R1550 | -14~-8 | -32 | 18 | -3 | 1W | V | -40~85°C |
| ISFP-S5020-WB-DE | SM | 20km | T1550 / R1310 | -14~-8 | -32 | 18 | -3 | 1W | V | -40~85°C |

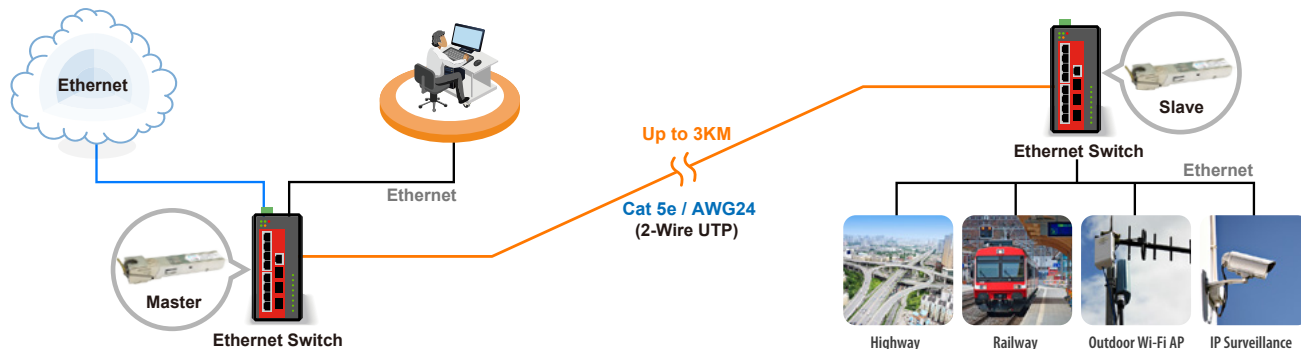
## Long Reach Ethernet extender SFP for UTP (2 wire)



## Order Information

| Model Name      | Cable (2 wire)                   | Connector | Distance (meter) / Data rate (Mbps) |                   |                   |                  | Power Consumption | Master/Slave side | Operating Temperature |
|-----------------|----------------------------------|-----------|-------------------------------------|-------------------|-------------------|------------------|-------------------|-------------------|-----------------------|
| ISFP-T3T00-MA   | Cat 5E / AWG 24 UTP (Phone line) | RJ45/RJ11 | 400meter /100Mbps                   | 1000meter /20Mbps | 1500meter /10Mbps | 3000meter /2Mbps | 2.1W              | Master            | -10~70°C              |
| ISFP-T3T00-SL   |                                  |           |                                     |                   |                   |                  |                   | Slave             | -10~70°C              |
| ISFP-T3T00-MA-E |                                  |           |                                     |                   |                   |                  |                   | Master            | -40~85°C              |
| ISFP-T3T00-SL-E |                                  |           |                                     |                   |                   |                  |                   | Slave             | -40~85°C              |

## Application



## ISFP Naming Rule

