

IFC-FDC

1x RS232/422/485 to 2-ports Fiber (SC/ST) Media Converter

- ▲ 2.5KV isolation for serial port (RS485/422/232)
- ▲ Supports fiber port several topology, cable redundancy, ring redundancy, daisy chain, point to point
- ▲ Auto Baud Rate, no need to set Baud Rate
- ▲ Adjustable pull high/low resistor and terminator for RS-422/485 transmission
- ▲ UL60950-1, EN61000-6-2, EN61000-6-4, CE and FCC certified



The IFC-FDC converter is capable of selecting interface mode for connection to RS-232 (3 wire), RS-485 (2 wire, half duplex) or RS-422/485 (4 wire, full duplex) and features a three-way communication plus a second independent RS-232 communication channel. Additionally, the terminal block offers an alarm relay contact and two redundant DC power inputs. IFC-FDC is also available in two operating temperature ranges, a standard -10° to 60°C commercial temperature range and an extended -40° to 75°C range. With all these specifically designed features, IFC-FDC is a reliable and ideal solution for keeping your industrial automation applications running smoothly and continuously even in harsh environments. The product is protocol transparent that can be applied to RS485/422/232 networks, such as MODBUS to achieve reliable network.

Features

- Supports 2 fiber link
- Supports dual channel communication, including Triple-Way communication, and Two-Way communication
- Extend serial transmission distance up to 2km, 30km, 50km
- Redundant dual power inputs (12/24/48VDC)
- Protocol transparent, suitable for all serial (RS485/422/232) transmission protocol, such as Modbus...
- Baudrate up to 1024kbps for serial port
- Supports relay output for power or link failure warning
- Hardened housing with IP30 protection
- Fanless and DIN-Rail design for harsh industrial environment

Specifications

| | | |
|---------------------|--|--|
| FieldBus Protocol | Protocol Transparent | Protocol applicable to all operations available on RS485/422/232, such as Modbus,... |
| Data Flow | Dual Channel Communication | Both of Triple-Way and Two-Way Communication Way (Figure 1) |
| Optical Interface | Connector | SC, ST |
| | Fiber Port | 2 fiber ports |
| | Fiber Type | MM 2km, SM 30km, 50km Bidi 20KM |
| | Wavelength | MM 1310nm, SM 1310nm Bidi: Mode A : TX1310nm/RX1550nm, Mode B : TX1550nm/RX1310nm |
| | Point to Point Transmission | Full duplex |
| | Ring Transmission | Full duplex |
| Fiber port Topology | Cable redundancy (Figure 2), ring redundancy (Figure 3), daisy chain (Figure 4), point to point (Figure 5) | |

| | | |
|----------------------|---|---|
| Electrical Interface | Serial Port Connector | RS-232 (DB9), RS-422/RS-485 (5 pin terminal block) RS-485 : 4, 2 wires, RS-422 : 4 wires |
| | RS-485 Direction | Automatically detection |
| | Serial Port Baudrate | 50 to 1024kbps, Auto baudrate, no need to set baudrate |
| | Serial Port Isolation | 2.5KV isolation for serial signals EMC/noise isolation, to reduce mutual interference between serial port device |
| | Pull High Resistor | Selected by 10 position rotary switch |
| | Pull Low Resistor | Selected by 10 position rotary switch |
| | 120 Ohm Terminator | Built-in 120 ohm terminator (Selected by Dip Switch) |
| | Environmental | Operating Temperature |
| Storage Temperature | | -40 ~ 85°C |
| Humidity | | 5 ~ 95% RH |
| LED Indications | PWR1, PWR2, Alarm, Master, TD, RD, Fiber Link, Fiber 2 Link, Ring | |
| Alarm Relay | Alarm exists for power, fiber link or ring protection Relay output with carry capacity 1A @ 24VDC | |
| Power | Power Input | Redundant Dual Power 12, 24, 48 VDC (9.6 ~ 58VDC) |
| | Power Consumption | 6W |
| | Power Reversal Protection | Yes |
| | Over Current Protection | Signal Short Together Protected |
| | Terminal Block for Power and Alarm : | Terminal Block : V1+, V1-, V2+, V2-, Alarm NC, Alarm COM, Alarm NO |
| Mechanical | Water & Dust Proof | IP30 Protection, Fanless |
| | Dimensions | 106 x 38.6 x 142.1mm (D x W x H) |
| | Mounting | DIN-Rail, or wall mounting (Optional) |
| | Weight | 0.64kg |
| Certification | EMC | CE |
| | EMI | FCC Part 15 Subpart B Class A, CE |
| | Immunity for Heavy Industrial Environment | EN61000-6-2 |
| | Emission for Heavy Industrial Environment | EN61000-6-4 |
| | EMS (Electromagnetic Susceptibility) Protection Level | EN61000-4-2 ESD Level 3 |
| | | EN61000-4-3 RS Level 3 |
| | | EN61000-4-4 EFT Level 3 |
| | | EN61000-4-5 Surge Level 3 |
| | | EN61000-4-6 CS Level 3 |
| | Safety | UL60950-1 |
| | Free Fall | IEC 60068-2-32 |
| | Vibration | IEC 60068-2-6 |
| | Shock | IEC 60068-2-27 |
| Green | RoHS | |
| MTBF | 739,886 Hours (MIL-HDBK-217) | |
| Warranty | 5 years | |

Application & Topology

Figure 1 : Dual Channel Data Flow (IFC-FDC)

Channel 1 : Triple Way
Channel 2 : Two Way

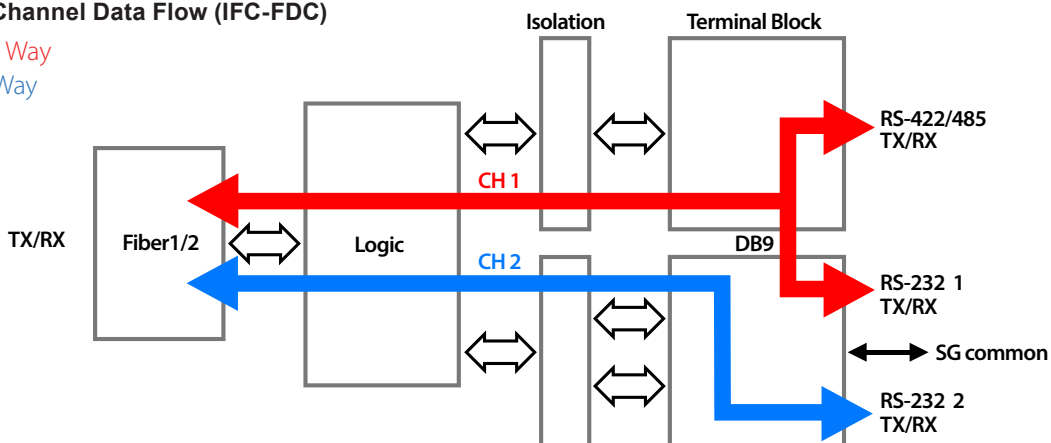


Figure 2 : Redundant Fiber Point to Point topology & application

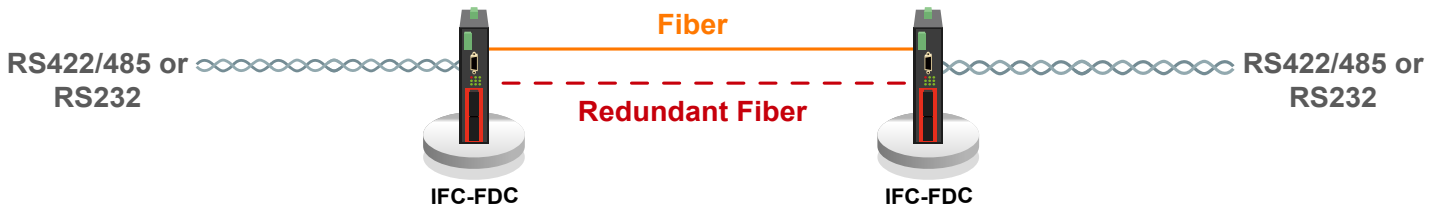


Figure 3 : Fiber Ring Redundancy topology & application

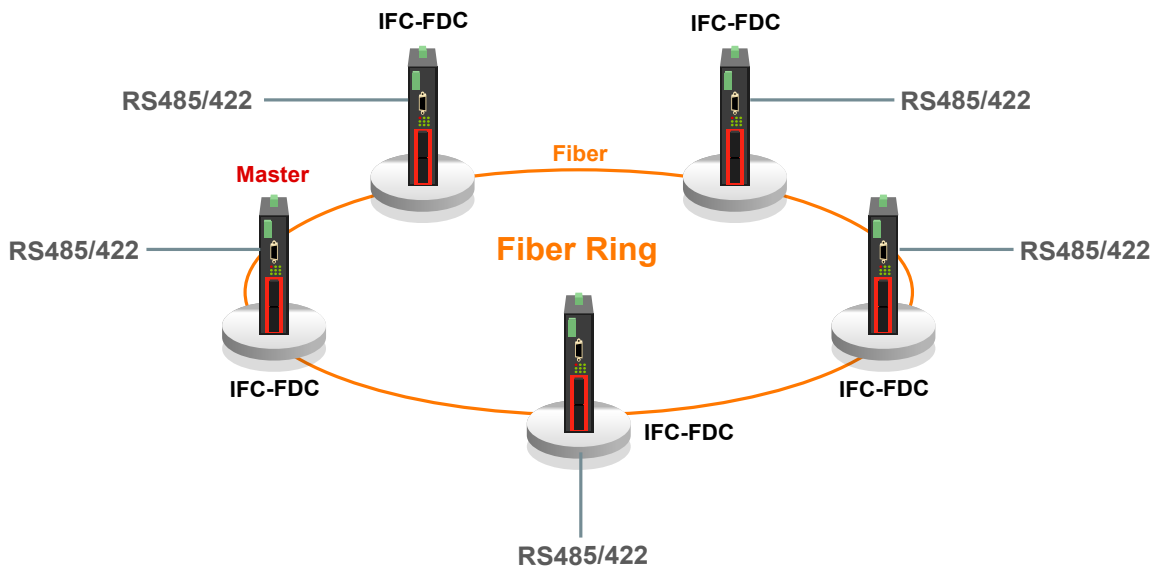


Figure 4 : Fiber Daisy Chain topology & application

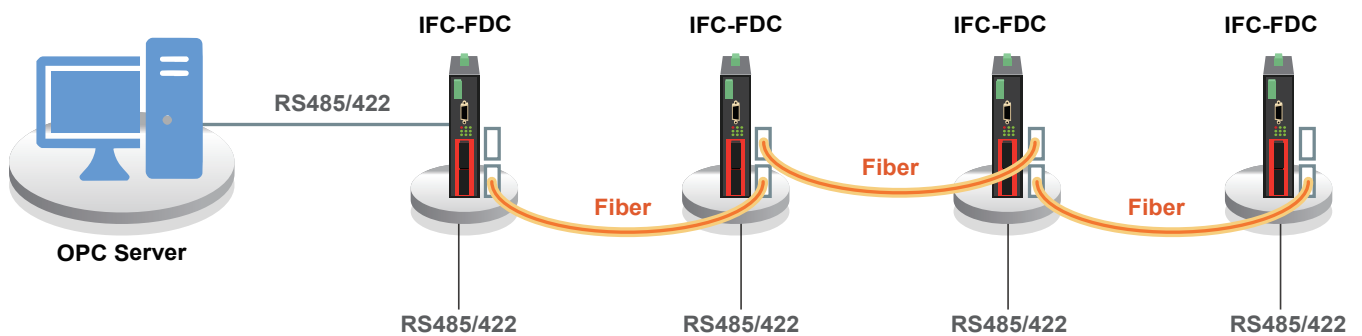
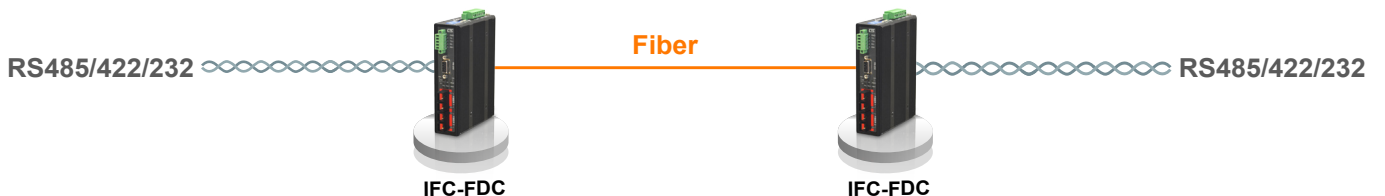
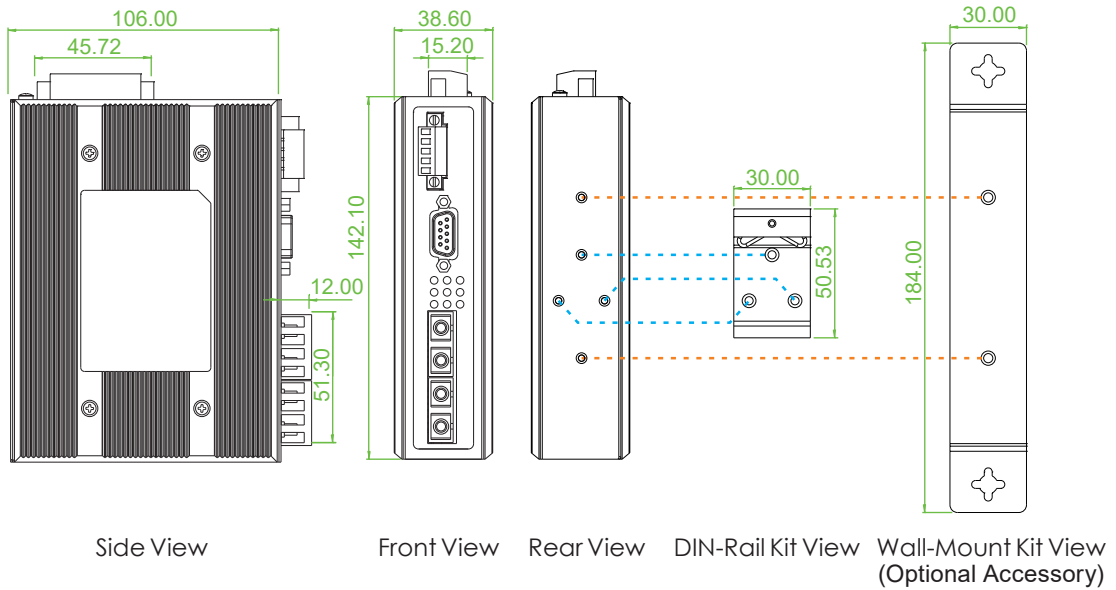


Figure 5 : Fiber Point to Point topology & application



Dimensions



Ordering Information

| Model Name | Dual Channel | Serial (ModBus or others) | | | Fiber | Power Input | Certification | | | Operating Temperature |
|------------|--------------|---------------------------|-----------|-----------------|-------|-------------|---------------|----------------------------|---------|-----------------------|
| | | RS232 | RS422/485 | Isolation 2.5KV | | | UL60950-1 | EN61000-6-2 EN61000-6-4 | CE, FCC | |
| IFC-FDC | V | 2 | 1 | V | 2 | 12/24/48VDC | V | V | V | -10~60°C |
| IFC-FDC-E | V | 2 | 1 | V | 2 | 12/24/48VDC | V | V | V | -40~75°C |

| Connector Type | Connectivity Distance |
|----------------|--|
| SC,ST | 002:M/M 2km 030: S/M 30km 050: S/M 50km |
| | 020AB: 20km Bidi (20km 1x mode A + 1x Mode B) |
| | Mode A: TX 1310nm/RX1550nm Mode B: TX 1550nm/RX1310nm |

Optional Accessories

■ Wall Mount Kit

IND-WMK01 Wall Mount kit for Industrial product, 184 x 30mm

■ Industrial Power Supply

MDR-20-24 Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 24VDC, 24W, -20 ~ +70°C

MDR-40-48 Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 48VDC, 40W, -20 ~ +70°C