

New



IFC-FDC-PRO

PROFIBUS to Daisy Chain Fiber Converter

IFC-Serial-PRO

PROFIBUS to Fiber Converter



These products are PROFIBUS to fiber optic converters which secure PROFIBUS data transmission via fiber optical cabling for extending distance and isolating EMC/noise to reduce mutual interference between PROFIBUS devices.

These products are protocol transparent, can be applied to the PROFIBUS, and also can be applied to other networks using RS485 interfaces (See Figure 1).

These converters are capable of selecting interface modes for connection to RS-485 2-wire half duplex or 4-wire full duplex. Additionally, the terminal block offers an alarm relay contact and two redundant DC power inputs. IFC Series converters are 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, the series is reliable and an ideal solution for keeping your industrial automation applications running smoothly and continuously even in harsh environments.

Features

- Supports 2 fiber link (IFC-FDC-PRO)
- Supports 1 fiber link (IFC-Serial-PRO)
- Extend serial transmission distance up to 2km, 30km, 60km
- Supports several topology , cable redundancy (Figure 3), ring redundancy (Figure 4), daisy chain (Figure 5), point to point (IFC-FDC-PRO)
- Supports point to point (Figure 6) (IFC-Serial-PRO)
- Redundant dual power inputs (12/24/48VDC)
- Protocol transparent. These products can be applied to the PROFIBUS, but also can be applied to other network using RS485 interface
- Baudrate up to 12Mbps
- Auto baudrate, no need to set baudrate
- 2.5KVrms isolation for serial port
- CE, FCC, heavy industrial grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- Supports relay output for power or link failure warning
- Hardened housing with IP30 protection
- Fanless and DIN-Rail design for harsh industrial environment
- Adjustable pull high/low resistor and terminator for RS-422/485 transmission

Specifications

FieldBus Protocol	Protocol transparent	PROFIBUS and all operations available on RS485
Problem isolation	Isolate EMC/noise to reduce mutual interference between PROFIBUS device. Isolate the PROFIBUS side of the failure, to avoid the impact of the other side (See Figure 2)	
Fiber Port Interface	Connector	SC, ST
	Fiber Port	2 fiber ports (IFC-FDC-PRO) 1 fiber port (IFC-Serial-PRO)
	Fiber Type	MM 2km, SM 30km, 60km Bidi 20KM
	Wavelength	MM 1310nm, SM 1310 Bidi: Mode A : TX1310nm/RX1550nm Mode B : TX1550nm/RX1310nm
	Point to Point Transmission	Full duplex
	Ring Transmission	Full duplex, self-healing operation Zero recovery time
Fiber port Topology	Cable redundancy(Figure 3) with zero recovery time Ring redundancy(Figure 4) with zero recovery time Daisy chain(Figure 5) Point to point (IFC-FDC-PRO) Point to point(Figure 6) (IFC-Serial-PRO)	
Serial port Interface	Serial Port Connector	DB9 Female RS-485 : 4, 2 wires
	RS-485 direction	Automatically detection
	Serial port Baudrate	50 to 12Mbps Auto baudrate, no need to set baudrate
	Serial port isolation	2.5KVrms isolation for serial signals EMC/noise isolation, to reduce mutual interference between serial port device
Serial port Interface	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	-10 ~ 60°C (IFC-FDC-PRO, IFC-Serial-PRO) -40 ~ 75°C (IFC-FDC-PRO-E, IFC-Serial-PRO-E)
	Storage Temperature	-40 ~ 85°C
	Humidity	5 ~ 95% RH
LED Indications	PWR1, PWR2, Alarm, Master, TD, RD, Fiber Link, Fiber2 Link (IFC-FDC-PRO only), 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 ~ 60VDC)
	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	TBD

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
Free Fall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Green	RoHS
MTBF	TBD

Application & Topology (IFC-FDC-PRO)

Figure 1 : Application for PROFIBUS Network

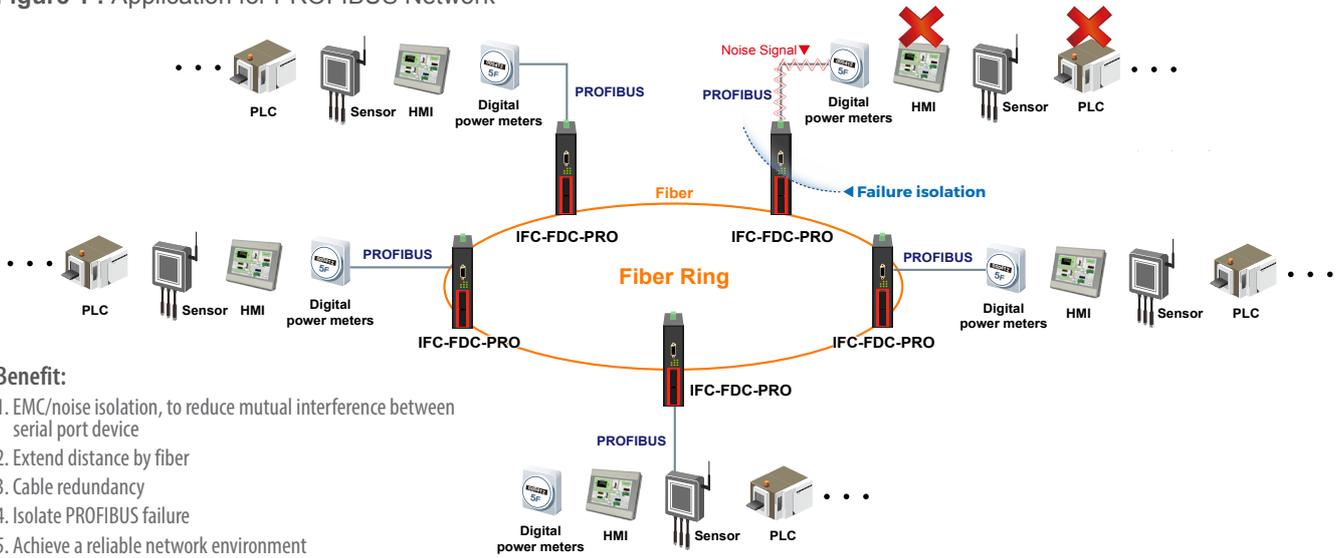


Figure 2 : Isolate PROFIBUS Failure

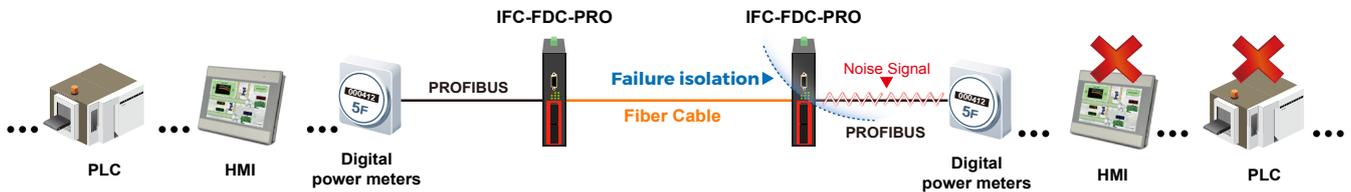


Figure 3 : Fiber Cable Redundancy topology & application

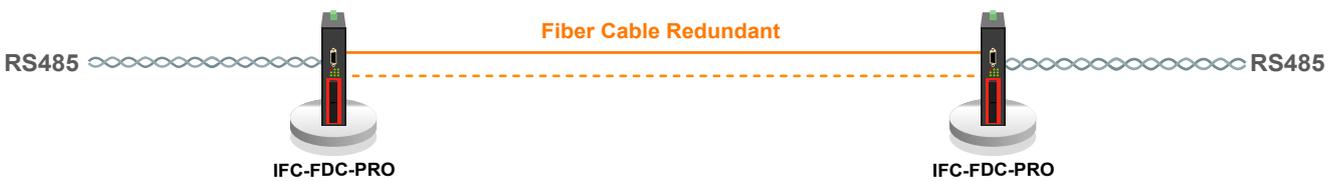


Figure 4 : Fiber Ring Redundancy topology & application

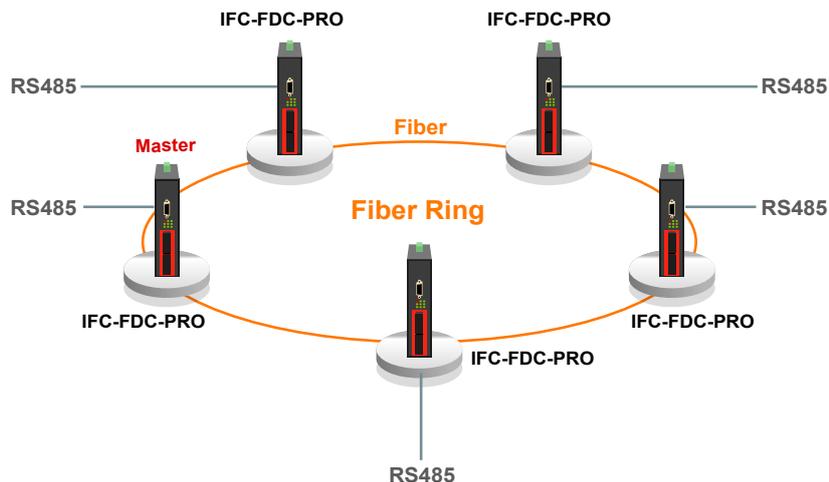
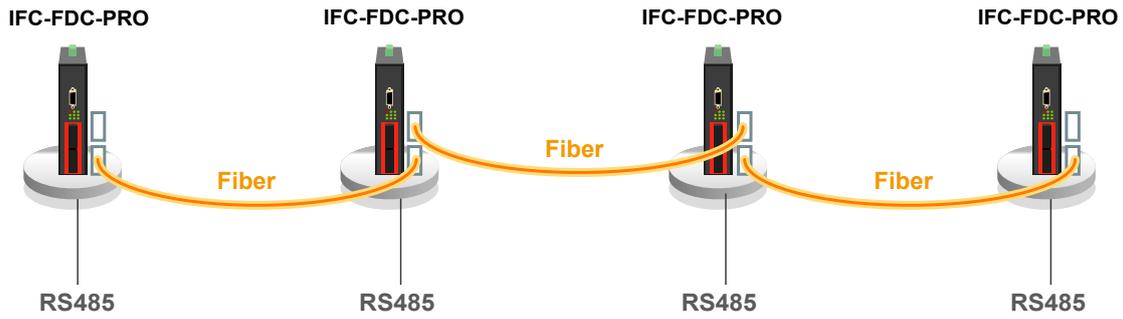


Figure 5 : Fiber Daisy Chain topology & application



Application & Topology (IFC-Serial-PRO)

Figure 6 : IFC-Serial-PRO Application for PROFIBUS

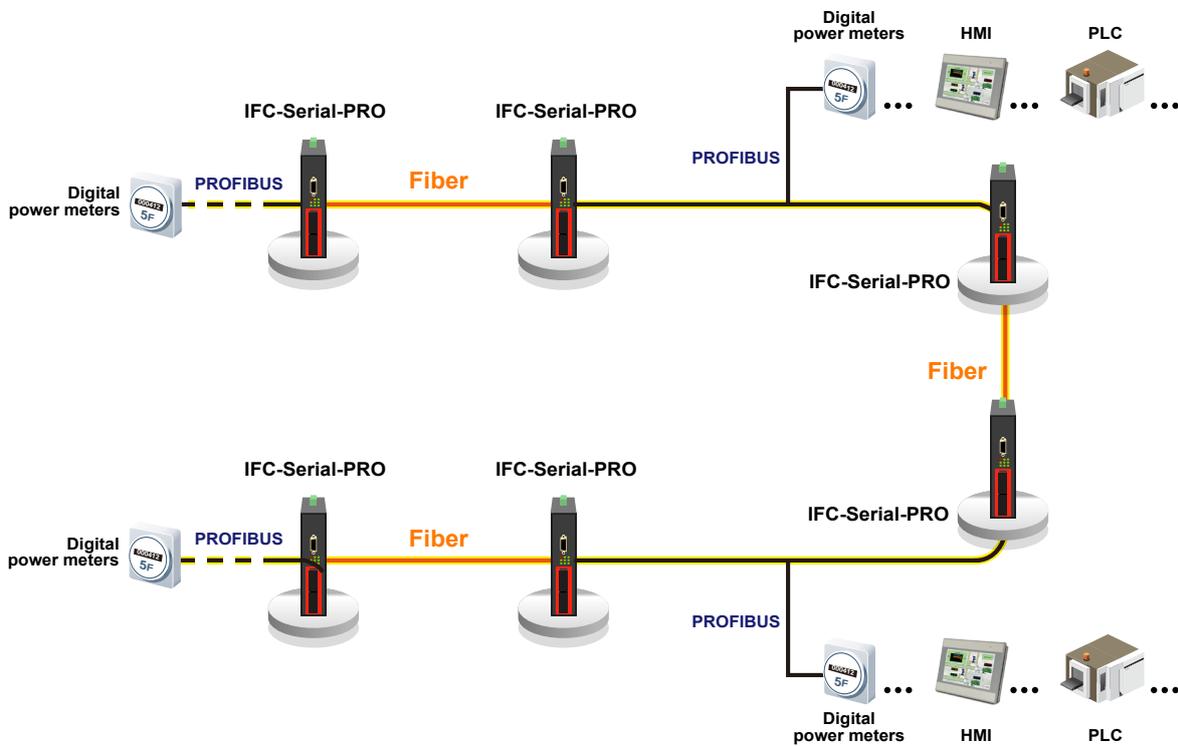


Figure 7 : Fiber Point to Point topology & application



Benefit:

1. Reduce mutual interference between serial port device
2. Extend distance by fiber
3. Achieve a reliable network environment

