IFC-Serial

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

- *2.5KV Isolation for Serial Port (RS485/422/232)*
- *Auto Baud Rate, No Need to Set BaudRate*
- *Adjustable Pull High/Low Resistor and Terminator for RS-422/485 Transmission*
- *UL60950-1, EN61000-6-2, EN61000-6-4, CE and FCC Certified*

UL60950-1 Modbus EN61000-6-2 EN61000-6-4

The IFC-Serial media converter is a 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-Serial 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-Serial 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 (See Figure 2).

Features

- Supports 1 fiber link
- Supports dual channel communication, including Triple-Way communication, and Two-Way communication
- Extend serial transmission distance up to 2km, 30km, 50km
- Supports fiber port point to point (Figure 3)
- 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	1 fiber port
	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
	Rin Transmission	self-healing operation
Fiber Port Topology	Point to Point (Figure3)	

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	-10 ~ 60°C (IFC-Serial), -40 ~ 75°C (IFC-Serial-E)
	Storage Temperature	-40 ~ 85°C
	Humidity	5 ~ 95% RH
LED Indications	PWR1, PWR2, Alarm, Master, TD, RD, Fiber Link	
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	5W
	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	0.63kg
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	847,029 Hours (MIL-HDBK-217)	
Warranty	5 years	

Application & Topology

Figure 1 : Dual Channel Data Flow

Channel 1 : Triple Way

Channel 2 : Two Way

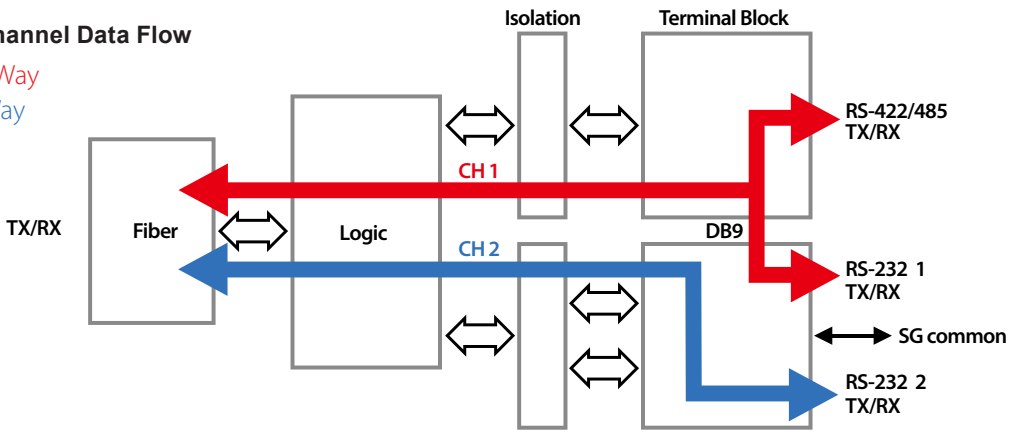
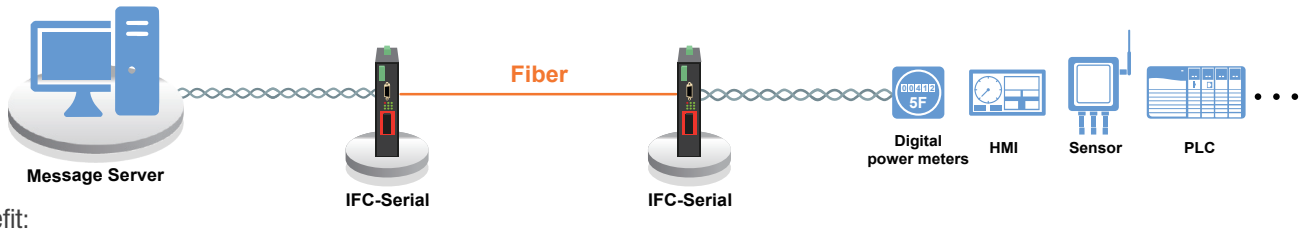
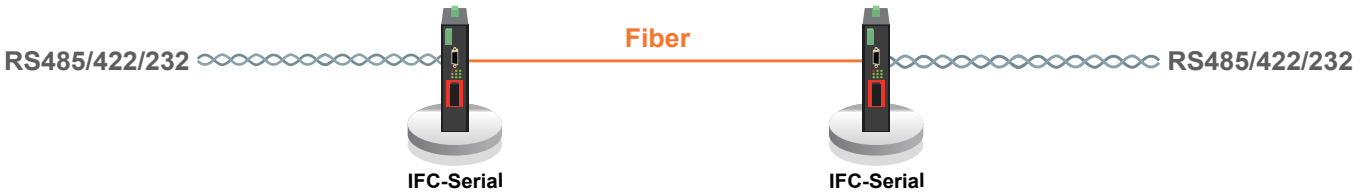


Figure 2 : Application for Modbus Network

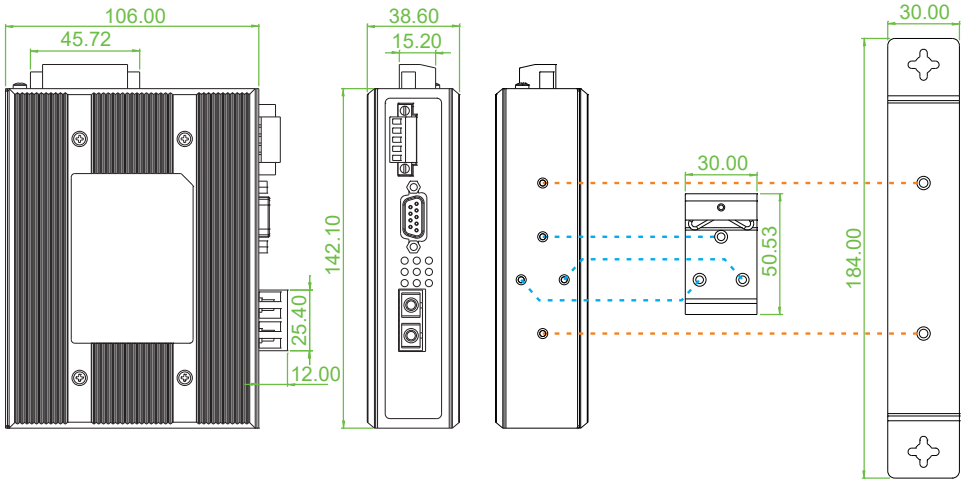


Benefit:
1. EMC/noise isolation, to reduce mutual interference between serial port device
2. Extend distance by fiber
3. Achieve a reliable network environment

Figure 3 : Fiber Point to Point topology & application



Dimensions



Side View | Front View | Rear View | DIN-Rail Kit View | Wall-Mount Kit View (Optional Accessory)

Ordering Information

Model Name	Dual Channel	Serial Port (Modbus or others, Field Bus transparent)			Fiber	Power Input	Certification			Operating Temperature
		RS232	RS422/485	Isolation 2.5KV	SC/ST	Redundant	UL60950-1	EN61000-6-2 EN61000-6-4	CE FCC	
IFC-Serial	V	2	1	V	1	12/24/48VDC	V	V	V	-10~60°C
IFC-Serial-E	V	2	1	V	1	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
	020A: 20km Bidi mode A
	020B: 20km Bidi 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