



IFC-Serial

RS-422/485/232 Fiber Converter



The IFC-Serial 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-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 1024kpbs for serial port
- Auto baudrate, no need to set baudrate
- 2.5KV isolation for serial port (RS485/422/232)
- UL60950-1, 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	Protocol applicable to all operations available on RS485/422/232, such as Modbus,...	Environmental	Operating Temperature	-10 ~ 60°C (IFC-Serial) -40 ~ 75°C (IFC-Serial-E)	
Data Flow	Dual Channel Communication	Both of Triple-Way and Two-Way Communication Way (Figure 1)		Storage Temperature	-40 ~ 85°C	
Optical Interface	Connector	SC, ST		Humidity	5 ~ 95% RH	
	Fiber Port	1 fiber port	LED Indications	PWR1, PWR2, Alarm, Master, TD, RD, Fiber Link		
	Fiber Type	MM 2km, SM 30km, 50km Bidi 20KM	Alarm Relay	Alarm exists for power, fiber link or ring protection Relay output with carry capacity 1A @ 24VDC		
	Wavelength	MM 1310nm, SM 1310nm Bidi: Mode A : TX1310nm/RX1550nm Mode B : TX1550nm/RX1310nm	Power	Power Input	Redundant Dual Power 12, 24, 48 VDC (9.6 ~ 58VDC)	
	Point to Point Transmission	Full duplex		Power Consumption	5W	
	Ring Transmission	self-healing operation		Power Reversal Protection	Yes	
Fiber port Topology	Point to point (Figure3)			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		
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	Mechanical	Water & Dust Proof	IP30 Protection, Fanless	
	RS-485 direction	Automatically detection		Dimensions	106 x 31.6 x 142.1mm (D x W x H)	
	Serial port Baudrate	50 to 1024kpbs Auto baudrate, no need to set baudrate		Mounting	DIN-Rail, or wall mounting (Optional)	
	Serial port isolation	2.5KV isolation for serial signals EMC/noise isolation, to reduce mutual interference between serial port device		Weight	0.63kg	
	Pull high resistor	Selected by 10 position rotary switch	Certification	Safety	UL60950-1	
	Pull low resistor	Selected by 10 position rotary switch		EMC	CE	
	120 ohm terminator	Built-in 120 ohm terminator (Selected by Dip Switch)		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	

Certification	EMS	EN61000-4-2 ESD Level 3
	(Electromagnetic Susceptibility)	EN61000-4-3 RS Level 3
	Protection Level	EN61000-4-4 EFT Level 3
		EN61000-4-5 Surge Level 3
		EN61000-4-6 CS Level 3

Certification	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

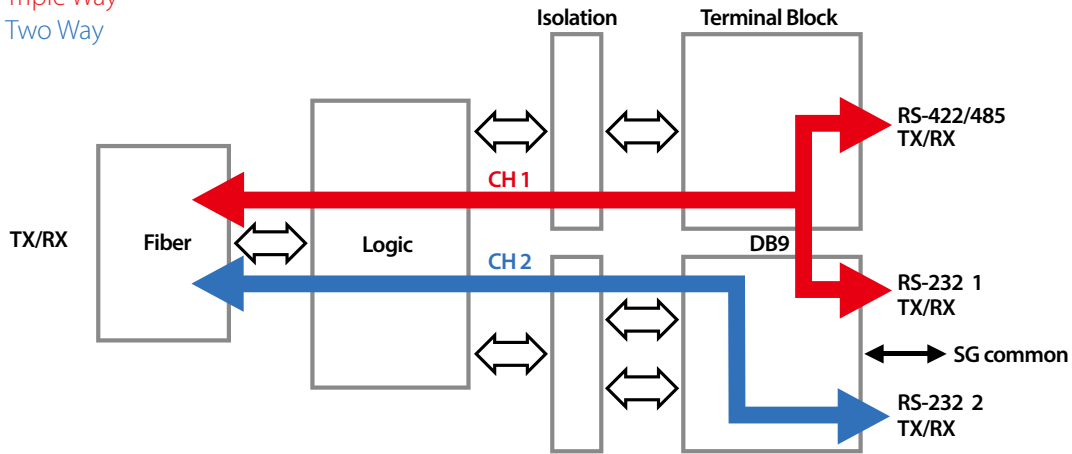
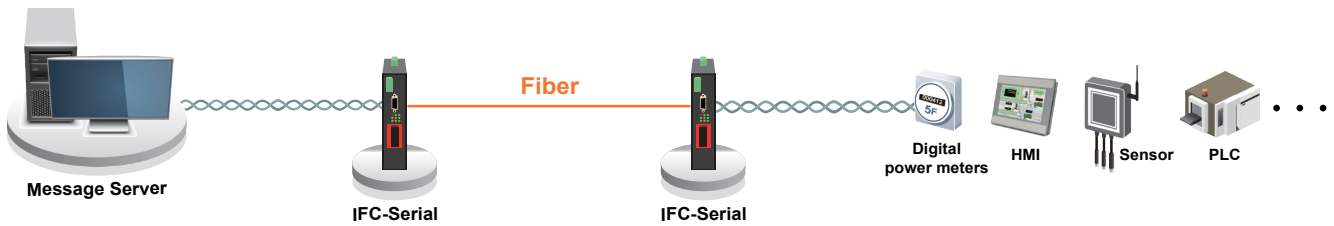


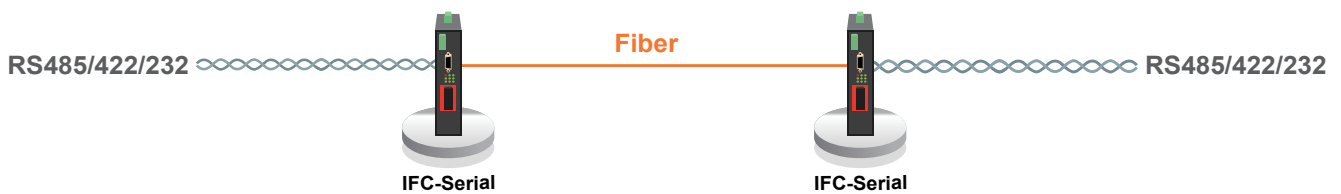
Figure 2 : Application for Modbus Network



Benefit:

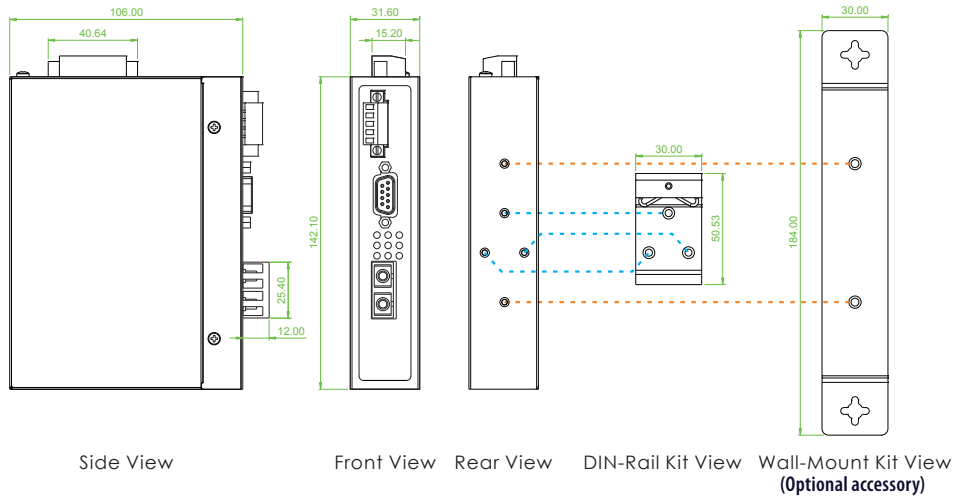
1. EMC/noise isolation, to reduce mutual interference between serial port device
2. Extend distance by fiber
3. Achieve a reliable network environment

Figure 3 : Fiber Point to Point topology & application



Dimensions

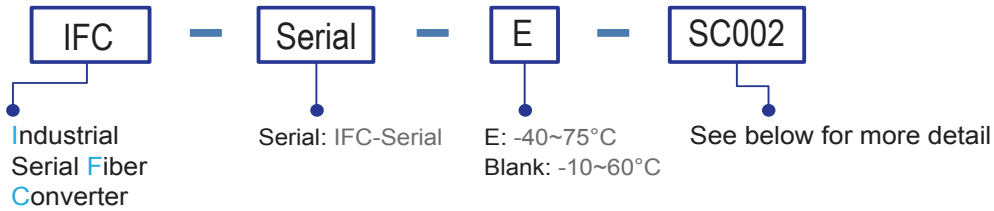
► IFC-Serial



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	Safety UL60950-1	EN61000-6-2 EN61000-6-4	
IFC-Serial	V	2	1	V	1	12/24/48VDC	V	V	V	V	-10~60°C
IFC-Serial-E	V	2	1	V	1	12/24/48VDC	V	V	V	V	-40~75°C

Model Naming Rule



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



■ Package List

- One device of the series
- Quick installation guide
- Din Rail with screws
- Terminal block

Optional Accessories

■ Wall Mount kit Accessories

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