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SAN TELEQUIP
Connecting. Converting. Leading!

User Manual: Industrial grade Fiber to Ethernet Media Converter. Model SC12FEIS

SC12FEI is a **Industrial grade** 10/100Base-TX to 100Base-FX unmanaged standalone media converter. It enables you to mix legacy twisted-pair to a fiber-optic backbone and optimize total cost of ownership allowing trouble free & robust process of Data conversion

Both Multi-mode and Single mode Fiber options are available. With Auto-Negotiation function, these units will automatically tailor themselves to convert both Half or Full duplex Ethernet signals, depending on your specific network needs

Packing list

Before you start to install the converter, please verify that the package contains the following:

1. SC12FEIS
2. User manual
3. Warranty Certificate
4. Power terminal block and Din Rail

Features

- 1 Ethernet Port, 1 Fiber port
- Auto Negotiation in TP port
- Auto Crossover for MDI/MDIX in TP port
- Store and forward Switching mechanism
- Broadcast Storm
- Flow Control on Full Duplex
- Back Pressure on Half Duplex
- Full or Half-Duplex on both copper and fiber

Port Details

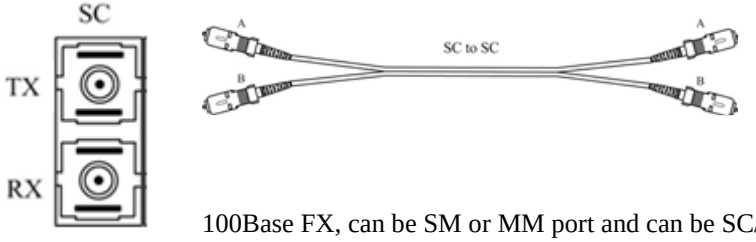
All ports on this unit support automatic MDI/MDI-X operation, you can use straight-through cables for all network connections to PCs or servers, or to other switches or hubs. In straight-through cable, pins 1, 2, 3, and 6, at one end of the cable, are connected straight through to pins 1, 2, 3 and 6 at the other end of the cable.

The RJ45 PIN details are as in the table as below.

Pin	MDI signal	MDI-X Signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4,5,7,8	-	-

"TX±" : Transmit data ±,
"RX±" : Receive data ±,
"-" : not used
MDI : Straight- through cable
MDI-X : Cross cable

100BaseFX port



100Base FX, can be SM or MM port and can be SC/ST/FC type.
The fiber port must be used in pair, TX (transmit) port will connect to remote devices RX (receive) port; RX (receive) port will connect to remote device's TX (transmit) port.

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Cabling

Twisted-pair segment can be connected with unshielded twisted pair (UTP) or shielded twisted pair (STP) cable. The cable must comply with the IEEE 802.3u 100Base TX standard for Category 5. The cable between the converter and the link partner (converter, switch, hub, workstation, etc.) must be less than 100 meters (328 ft.) long.

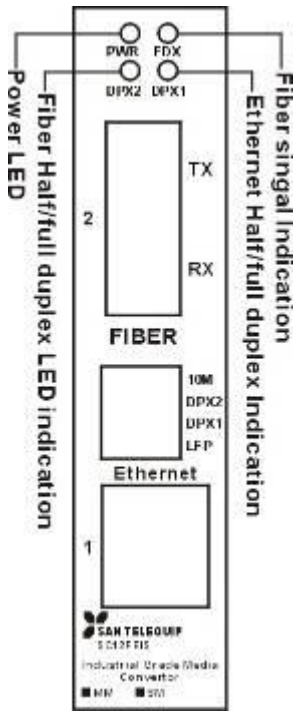
Fiber segment using single-mode connector type must use 9/125µm single-mode fiber cable. User can connect two devices in the distance up to 20 Kilometers (or more depending on the model).

Fiber segment using multi-mode connector type must use 50 or 62.5/125 µm multi-mode fiber cable. User can connect two devices up to 2Km distances.

Installation Steps

- Unpack the unit packing.
- Check the DIN-Rail is screwed on the unit.
- Power on the Unit.
- The power LED on the unit will light up.
- Please refer to the LED Indicators section for meaning of LED lights.
- Prepare the twisted-pair, straight through Category 5 cable for Ethernet connection.
- Insert one side of Category 5 cables into the Ethernet port (RJ-45 port) and another side of category 5 cables to the network devices' Ethernet port (RJ-45 port), ex: switch, PC, or Server.
- The UTP port (RJ-45) LED on the unit will light up when the cable connected with the network device. Please refer to the LED Indicators section for LED light meaning.
- Connect one end of the fiber cable to the SC single-mode connector on this converter and the other end of the fiber cable to the SC single-mode connector on the other 100 Base-FX device.
- **Note** Be sure the connected network devices support MDI/MDI-X. If it does not support, then use the crossover Category 5 cable.
- When all connections are all set and LED lights all show in normal, the installation is complete.

Front View



SW no	ON/OFF	Function
1	OFF	Ethernet at 100M
	ON	Ethernet at 10M
2	OFF	Fiber Port, full duplex mode
	ON	Fiber Port, half duplex mode
3	OFF	Ethernet at full duplex mode
	ON	Ethernet at half duplex mode
4	OFF	LFP Disable
	ON	LFP Enable

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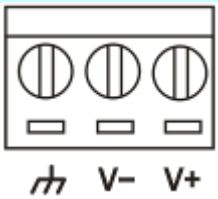
Power



SC12FEIS has Industrial terminal connectors (FG,V-, V+). V- and V+ is for 12VDC～48VDC input and FG.

LED indicator

LED	Indicate	Description
PWR (Green)	ON	Power supply ON
	OFF	Power supply OFF
FDX (Optic port indicator)	ON	Connect
	OFF	Not connected
10M/100M (Green)	ON	100Base-TX
	OFF	10Base-T
Link/ACT (Yellow)	ON	Network connected
	Blink	Network communication
	OFF	No network connected

Mounting Installation

DIN-Rail Mounting
The DIN-Rail is screwed on the unit.

- Insert the top of DIN-Rail into the track.
- Then, lightly push the DIN-Rail into the track.
- Check if the DIN-Rail is tightened on the track or not.
- To remove the unit from the track, reverse steps above.

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Specifications

Standard	IEEE 802.3 10Base-T, 802.3u 100Base-TX and 100Base-FX standards				
	IEEE 802.3x Flow Control & Back Pressure				
OPTICAL PORT		**Multimode**		**Single Mode**	
	Wavelength (nm)	850	1310	1310	1550
	Distance (Km)	0 to 2	0 to 5	0 to 120	0 to 120
	Transmit Power (dbm)	-5 to -18	-5 to -18	-12 to 0	-12 to 0
	Sensitivity (<dbm)	-28	-32	-35	-35
	Optical Saturation (dBm)	-3	-3	-3	-3
	Optical Loss (dBm/Km)	-3	0.5	0.4	0.25
	Fiber Cable (µm)	50/62.5-125, 100/140		8.3, 8.7, 9, 10/125	
	Connector	SC, ST, FC			
	Data Rate	155M			
Ethernet Port	Data Rate	10/100 Mbps			
	MAC Address	1K			
	Buffer	288Kb			
	Connector	RJ45			
	Isolation	1.5KV Magnetic			
Power	Power	12 to 48V DC, 200mA. 3 Pin screw type terminal			
	Wattage	2.5 W			
	Lightening Protection	5KA			
	Reverse Polarity Protection	Yes			
	Overload Protection	Yes			
Operating Conditions	Temperature Operating	-40 to 85°C			
	Temperature Storage	-55 to 110 °C			
	Humidity	5 to 95% non condensing			
Mechanicals	Mounting	DIN Rail			
	Dimensions (mm)	100 * 81 *35			
	Weight	360g			
	Class	IP30			

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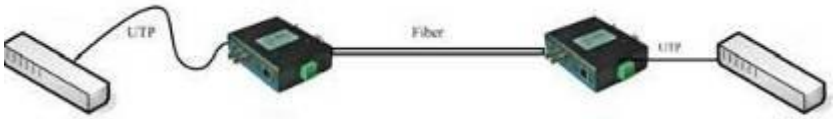
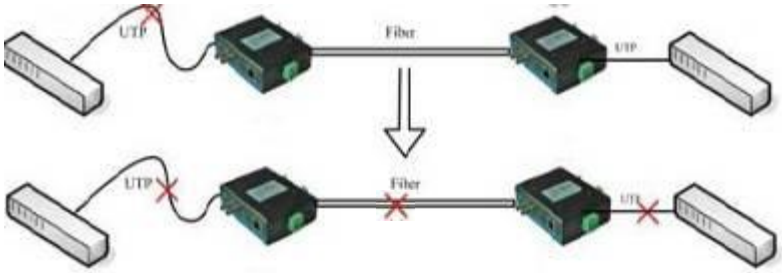
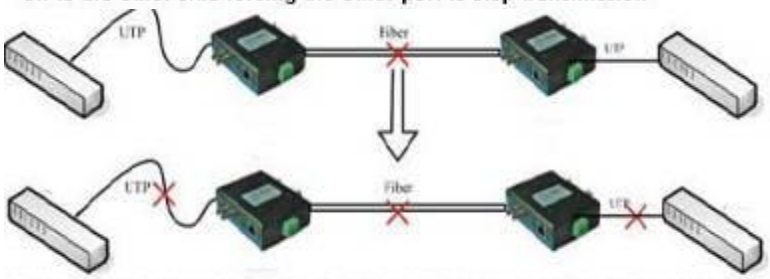
LFP (Link Fault Pass through) details



System as connected in the normal condition. Fiber back to back & Ethernet at outer ends.



If there is a break in the Ethernet port, this failure information is transmitted on to the other side forcing the other port to stop transmission



If there is a break in the Fiber then the LFP forces both the TP to stop data communication altogether

Product Selection Code : SC12FEIS M/S SC/ST/FC

SC12FEIS : Standard Model Code
Mode : M= Multimode, S= Single mode
Connector : SC= SC, ST= ST, FC=FC