![Protec Fire and Security Group logo]

TCF-142 Series - RS485 to Fibre Converters

- **Ring and point-to-point transmission**

- **Protects against electrical interference and chemical corrosion**

- **Automatic Baud Rate Detection**

- **Low Current**

- **Wide Temperature Range**

- **Single Mode and Multi Mode Fibre Compatible**

The Protec fibre converters are used to convert the RS485 signalling used when networking equipment, to optical fibre signals. Two variants of the interface are available, one that is compatible with multimode optical fibre and one that is compatible with single mode fibre. The correct unit must be specified for the fibre being used in a particular installation.

The units automatically detect the Baud rate being used on the system, meaning that, in general, no setup is required.

The interface is compatible with Protec 6500 fire alarm control equipment and also Cirrus HYBRID, Cirrus CCD, Pro Point PLUS and Cirrus RDP range of devices.

Order Codes
TCF-142-M-ST - Multi-mode ST Connector
TCF-142-S-ST - Single-mode ST Connector

Technical Specification

Serial Interface
Optical Fibre

TCF-142-M-ST Series: 100BaseFX ports (multi-mode ST connector)
TCF-142-S-ST Series: 100BaseFX ports (single-mode ST connector)

Low-Speed Fibre Module		Multi-Mode	Single-Mode
Fibre Cable Requirements		50/125 µm, 800 MHz	G.652
		62.5/125 µm, 500 MHz	
Typical Distance		5 km	40 km
Wavelength	Typical (nm)	850	1310
	TX Range (nm)	840 to 860	1290 to 1330
	RX Range (nm)	800 to 900	1100 to 1650
Optical Power	TX Range (dBm)	0 to -5	0 to -5
	RX Range (dBm)	0 to -20	0 to -25
	Link Budget (dB)	15	20
	Dispersion Penalty (dB)	1	1

Note: When using a power meter to measure the fibre TX power, set the baudrate to 9,600 bps and send data (00, ..., 0h) to the serial converter's serial port.

Pull High/Low Resistor for RS-485   150 kΩ (¼W ± 5%)
Terminator for RS-485   120Ω (¼W ± 5%)

Serial Signals
RS-485-4w   Tx+, Tx-, Rx+, Rx-, GND

Power Parameters
No. of Power Inputs   1
Input Current   15mA @ 24 VDC
Input Voltage   12 to 48 VDC
Overload Current Protection   Supported
Power Connector   Terminal block
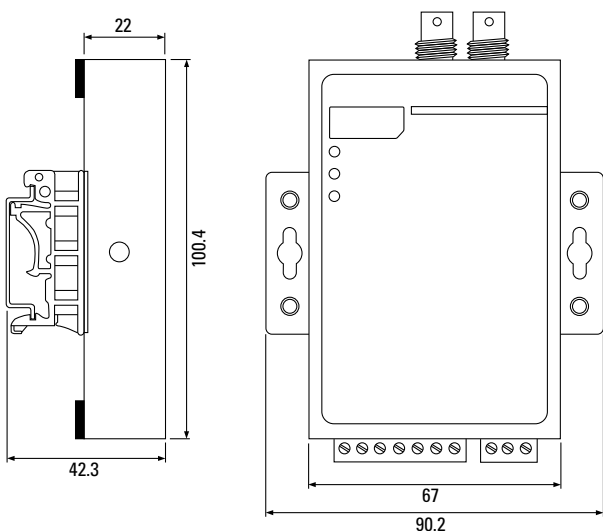Power Consumption   15mA @ 24 VDC

Physical Characteristics
IP Rating   IP30
Housing   Metal
Dimensions (with ears)   (W)90 x (H)100 x (D)22 mm
Dimensions (without ears)   (W)67 x (H)100 x (D)22 mm
Weight   320g
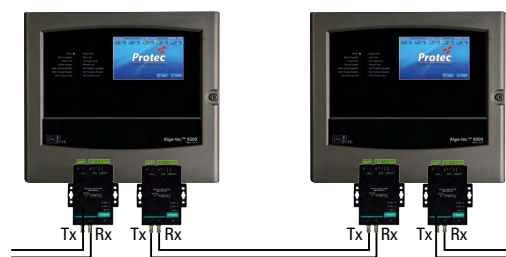Installation   Wall mounting

Environmental Limits
Operating Temperature   -40 to 75°C (-40 to 167°F)
Storage Temperature   -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity   5 to 95% (non-condensing)

Dimensions (mm)

22
100.4
42.3
67
90.2

Typical 6500 Configuration

Tx | Rx   Tx | Rx   Tx | Rx   Tx | Rx

For full details of network topology and fibre types please consult DEL2141.