E-SER-2FOSMST/SC
Industrial RS-232/RS-485/RS-422 To Fiber Optic Single-Mode Converter

General Features:

- Point to Point Fiber 20KM SM Configuration
- Plug-and-Play (hot-pluggable)
- Externally Powered
- Fiber optic range of up to 12.4 miles (20 KM)
- RS-232/RS-485/RS-422 can be mixed or matched
- Data direction auto-turnaround- no flow control necessary
- Built-in surge and static protection
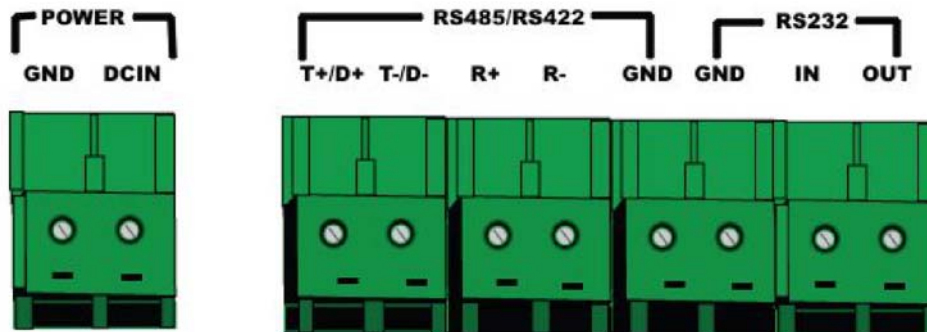- CE,FCC, RoHS and REACH certified

Description

The E-SER-2FOSMST/SC is a industrial grade bi-directional externally powered multi-functional RS-232/RS-485/RS-422 to Single Mode Fiber Optic Converter which converts either full-duplex RS-232, half-duplex RS-485 or full-duplex RS-422 to a Single Mode ST or SC connector type fiber optic link. A data direction auto-turnaround feature automatically enables the serial transmit and receive data signals when data is present, avoiding the need for software drivers, and making the device fully plug-and-play. The E-SER-2FOSMST has a 8-position terminal block for the serial port, and an ST type connector for the fiber optic link. (The E-SER-2FOSMSC is the same but with an SC type connector.) The unit extends the maximum distance of any RS-232/RS-485/RS-422 signal up 12.4 miles (20 KM) using SM fiber optic cable. The unit is enclosed in a rugged steel housing. An external power supply is included.

Flexible Serial Conversion

This serial converter is versatile. Not only can you extend RS-232, RS-485 or RS-422 data but convert from one serial protocol to another. For instance, on one end of the fiber optic you can connect RS-232 and the other RS-485 or RS-485 to RS-422 or any other combination.
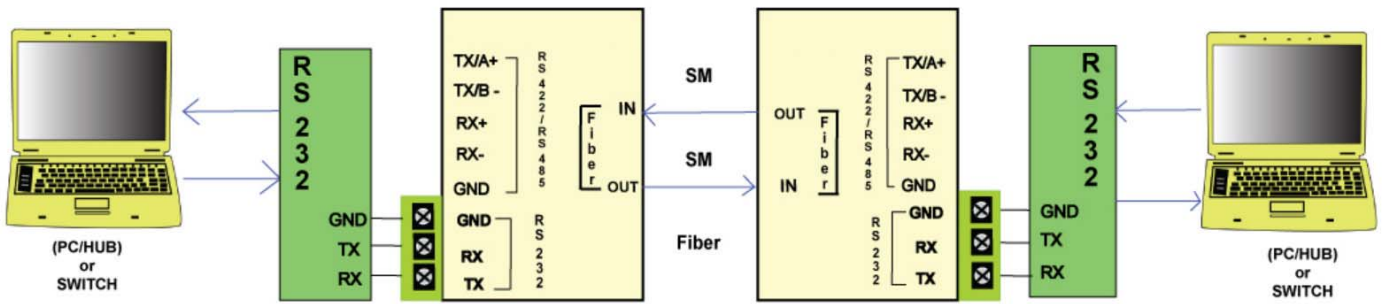
Connectors

Applications

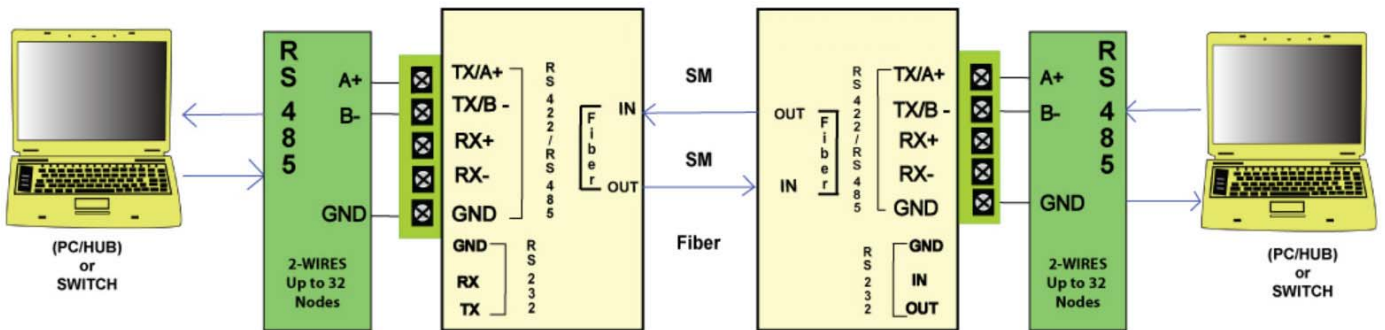## RS232-FIBER-SM

FIGURE 1: EXTENDING RS-232 DATA DISTANCE

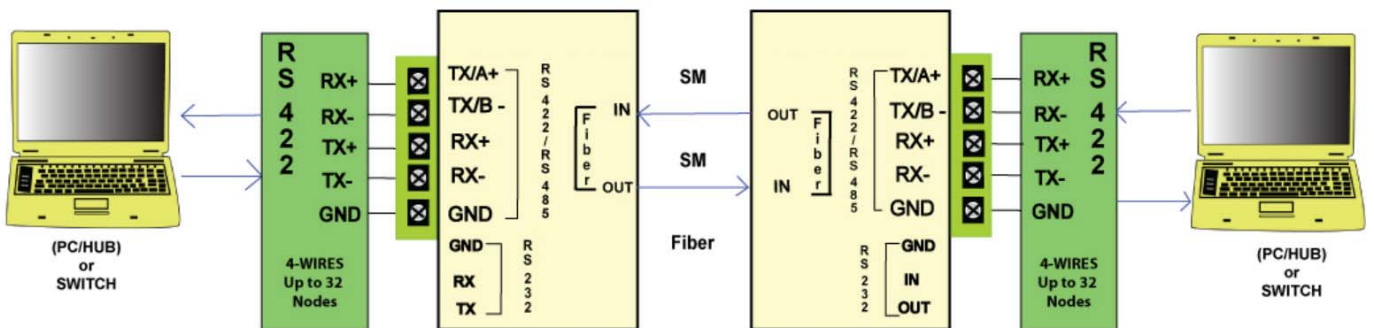## RS485-FIBER-SM

FIGURE 2: EXTENDING RS-485 DATA DISTANCE

RS422-FIBER-SM

FIGURE 3: EXTENDING RS-422 DATA DISTANCE

Specifications

COMMUNICATION	
STANDARDS:	EIA/TIA RS-232C, RS-485 and RS-422 Standards
BAUD RATES:	From 300 bps to 460,000 bps
CONNECTOR TYPES:	DC Input: 2-way Terminal Block, Serial Side: 8 Position Terminal Block and Fiber Side: 2 X SC or ST Connectors
DISTANCE:	RS-232 Side: 16ft (5m), RS-485/RS-422 Side: 4000 ft (1.2KM) and Single Mode Side: 12.4 miles (20KM)

ELECTRICAL	
POWER SOURCE:	9VDC to 36VDC
POWER ADAPTERS:	Included 2 X 12VDC,500 mA / 5VDC,3A (100 - 240VAC 50/60hz US Type A Plugs)
POWER CONSUMPTION:	4 Watts
STATIC PROTECTION:	15KV Electric Static Discharge (ESD) Protection
SURGE PROTECTION:	600W Surge Protection

FIBER OPTIC	
FIBER OPTIC OPERATION:	Point to Point Fiber 20KM Single Mode Configuration
FIBER OPTIC CABLING:	8.3/12μm, 8.7/125μm, 9/125μm or 10/125μm SM Cable
WAVELENGTH:	1310 nm
OUTPUT LEVEL (MIN):	-14 dBm
OUTPUT LEVEL(MAX):	-7 dBm
FIBER SENSITIVITY:	-34 dBm

MECHANICAL	
HOUSING:	Heavy Duty Steel Housing
WEIGHT:	8.73oz (245.3 grams)
DIMENSIONS:	4.65" X 3.58" X 0.87" (118.0 mm X 91.0 mm X 22.0 mm)

ENVIRONMENTAL	
OPERATING TEMP:	-40° F to 185° F (-40°C to 85° C)
STORAGE TEMP:	-40° F to 185° F (-40°C to 85° C)
OPERATING HUMIDITY:	5% To 95% - No Condensation

QUALITY	
PRODUCT SAFETY:	CE, FCC, RoHS, REACH Third-party Certified
RELIABILITY:	Low Failure Rate – 99+% Reliability Since Inception
WARRANTY:	2 Year Replacement Warranty

Sensors Compatible with E-SER-2FOSMST/SC

MODEL		MODEL		MODEL	ADAPTER REQUIRED
E-STS		E-S60VDC		E-CO2	E-S5VDC
E-STHSB		E-ACDCLM		E-AVK	E-S5VDC
E-STHS-LCDW		E-DCLM-6		E-STHS-WLM	E-S420MA-24V
E-STHSM-E7		E-AV-LC-7		E-ULT	E-S420MA-24V
E-STSM-E7		E-ACLM-P18		E-BPT	E-S420MA-24V
E-STS-PRC		E-ACLM-P12			
E-STSP-x		E-ACLM-P8			
E-STSP-SL7		E-ACLM-V			
E-STS-O		E-ACLM-3P480			
E-DI16DO16					
E-DI16DOR16					

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TECHNOLOGIES
INCORPORATED

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WIRING DIAGRAM FOR INSTALLATION OF E-SER-2FOSMST/SC

E-2D/5D/16D
(RJ45 PORT)

RJ45 Pin Numbers

CATx CABLE

1
2
3
4
5
6
7
8

E-SER-2FOSMST/SC
Local Unit

OUT
IN
GND
GND
R-
R+
T-/D-
T+/D+
DCIN
GND

OUT — A
IN — B

Legend:
—— Solid color wire
········ White wire with color

12VDC
Adapter
(Supplied)

**Blue and
Brown/White wires
are not used at this end**

Fiberoptic Cables (Up to 12.4 miles (20km) long)

**Duplex Single-mode ST or SC Cable
(Sold separately)**

Mating face of
RJ45 Male
EIA/TIA 568B

1 2 3 4 5 6 7 8

Color Code:

1- Orange/White
2- Orange
3- Green/White
4- Blue
5- Blue/White
6- Green
7- Brown/White
8- Brown

Wire
Splice
5VDC

E-SER-2FOSMST/SC
Remote Unit

B — OUT
A — IN

OUT
IN
GND
GND
R-
R+
T-/D-
T+/D+

DCIN
GND

RJ45 Pin Numbers

1
2
3
4
5
6
7
8

CATx CABLE

Compatible
ENVIROMUX
Sensor

Ground (-)   Ground (-)

12VDC
Adapter
(Supplied)

5VDC
Adapter
(Supplied)