Electro Standards Laboratories
ADVANCED SYSTEMS DESIGN & SERVICES

GSA Schedule
Contract GS-35F-0286V

SPECIFICATIONS
Desktop Unit... Model 4172
(Cat No. 304172)

Model 4172 Very High Speed Ruggedized ST Duplex Fiber-to-Multi-Point RS485/422 Interface Converter

• Ideal for RS485 Multi-Point Applications

The Model 4172 is a high speed ruggedized ST Duplex Fiber to RS485/422 interface converter from Electro Standards Laboratories. Typical operating speeds are up to 5 Mbps for RS485/422 to fiber conversion. When operating in RS485/422 mode, the converter can be configured for 2-wire half duplex or 4-wire full duplex operation. This converter provides an industrial solution for applications requiring a single point-to-point or a **multi-point communications link** over short and long distances. Typical applications include PC to PC long distance communications, factory automation, multi-drop data collection devices, barcode readers, time clocks, scales, data entry terminals, ATMs and serial communications in harsh environments.

The Model 4172 is designed to operate from -40°C to +85°C and is a member of Electro Standards Laboratories rugged

Desktop Unit

Model 4172 (Cat No. 304172)

community media converter family. The unit features ESD protection circuitry on all receivers and transmitters for RS485/422 interface. The unit's power input is protected from transients and features 3kVDC isolation to prevent system ground loops. It can be powered from a wide input range of 10VDC-36VDC, with models also available for other voltage ranges such as 4.5VDC-9VDC and 19VDC-72VDC. Other features include user selectable fiber polarity, and also TX, RX and Power indicator LEDs. Accessories include DIN rail mounting hardware and various AC input voltage power supplies.

SPECIFICATIONS:

Fiber Interface:
Connectors: Fiber Optic ST Duplex
TX Power: -12.5 dBm
RX Sensitivity: -27.5 dBm
Optical Budget: 15 dB
Max. Link Distance with 62.5/125 µm fiber:
    5.35 kM at up to 5 Mbps, 25°C
    3.75 kM at up to 5 Mbps, -40°C to +85°C
Wavelength: 820 nm/850 nm, multimode
Fiber Size: 50/125 µm, 62.5/125 µm, 100/140 µm

Fiber Polarity:
Logical 1 = Light ON/OFF: Jumper Selectable

Copper Interface:
Connectors: DB9, Female
Type: RS485 (2-wire/4-wire)
Terminations: RS485 120 Ohm jumper selectable

Bit Rate (nom.):
RS485/422   0 to 5 Mbps

Network Configurations:
RS485/422   Point-to-Point
         Multi-Point (Default ~280 uSec TX disable time)
(User configurable TX disable time via a single thru-hole resistor)

Indicators:
LEDs: TXD, RXD, PWR

Power:
Input Power: 10VDC-36VDC std, 4.5VDC-9VDC, 19VDC-72VDC, Others at 1.5W.
Isolation: 3 kVDC
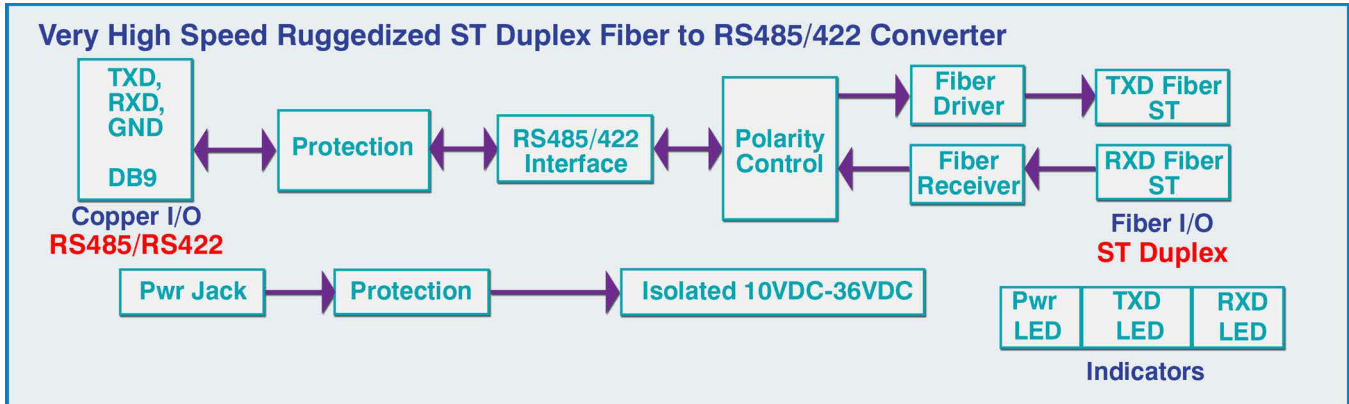
Operating Environment:
-40°C to +85°C

Model 4172 Mechanical (Desktop Unit):
Model / Cat No: 4172 / 304172
Size: 5" x 4.25" x 1.4"
Weight: 10.1 oz (286g)
Mounting: 4 Threaded Holes Std, DIN Rail Optional

Electro Standards Laboratories
ADVANCED SYSTEMS DESIGN & SERVICES

Model 4172 Very High Speed Ruggedized ST Duplex Fiber-to-Multi-Point RS485/422 Interface Converter

• Ideal for RS485 Multi-Point Applications

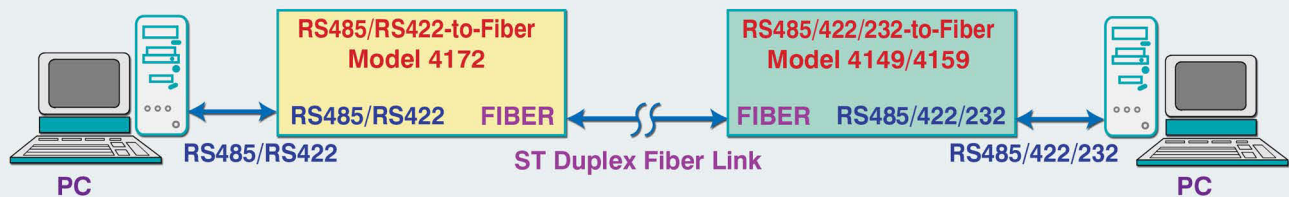### Very High Speed Ruggedized ST Duplex Fiber to RS485/422 Converter

Model 4172 RS485/RS422 Multi-Point Application:
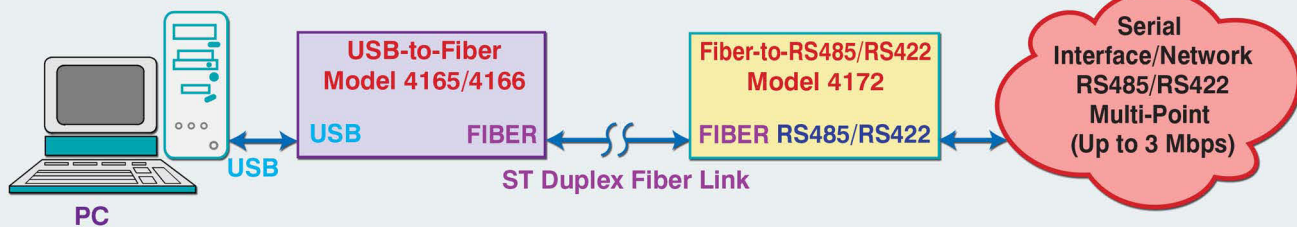

Isolated PC RS485/RS422 communications to fiber serial interface/network.

Model 4172 to Model 4149/4159 Application:

Point-to-Point Isolated PC RS485/RS422 Communications.

Model 4165/4166 to Model 4172 Application:

Isolated PC USB to RS485/RS422 communications serial interface/network.