Electro Standards Laboratories
ADVANCED SYSTEMS DESIGN & SERVICES

Very High Speed Ruggedized ST Fiber-to-Multi-Point RS485/422/232 Interface Converter
• Ideal for RS485 Multi-Point Application

The Model 4152/4153 is a high speed ruggedized ST Fiber to RS485/422/232 interface converter from Electro Standards Laboratories. Typical operating speeds are up to 1.5 Mbps for RS232 to fiber conversion and 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.

Desktop Unit

Model 4152 (Cat No. 304152)

The Model 4152/4153 is designed to operate from -40°C to +85°C and is a member of Electro Standards Laboratories rugged community media converter family. The unit features ESD protection circuitry on all receivers and transmitters for both RS232 and RS485/422 interfaces. 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, dual DB9 power connectors (board only) for convenience in bused power applications, TX, RX and Power indicator LEDs. The converter is available as a board only with front mounting threaded brackets for rack mounting in embedded applications. It is also available in a desk top package for applications that require an enclosure. Accessories include DIN rail mounting hardware and various AC input voltage power supplies

Specifications:

Fiber Interface:
Connectors: Fiber Optic ST
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: RS232, RS485 (2-wire/4-wire)
Terminations: RS485 120 Ohm jumper selectable

Bit Rate (nom.):
RS232:   0 to 1.5 Mbps
RS485/422   0 to 5 Mbps

Network Configurations:
RS232:   Point-to-Point
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
Connectors: Dual DB9F for Power Daisy Chaining (board only), DC Power Jack (desktop unit)

Operating Environment:
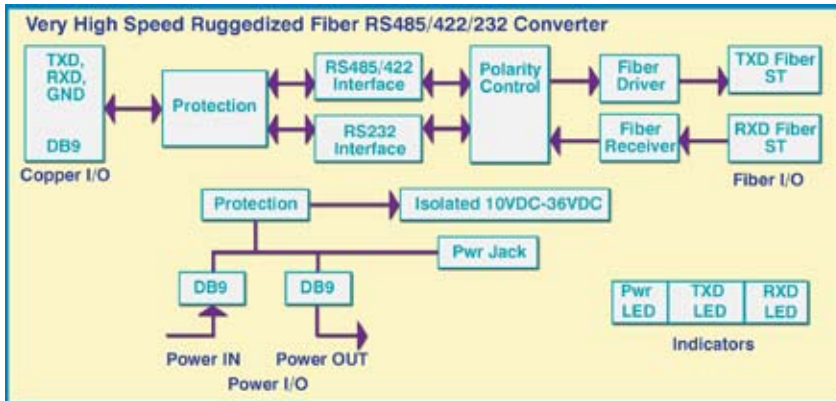-40°C to +85°C

Model 4153 Mechanical (Board Only):
Model / Cat No: 4153 / 304153
Size: 4.8" x 3.9" x 0.63"
Weight: 3.5 oz (99g)
Mounting: Mounting Holes, Rt Angle Brackets
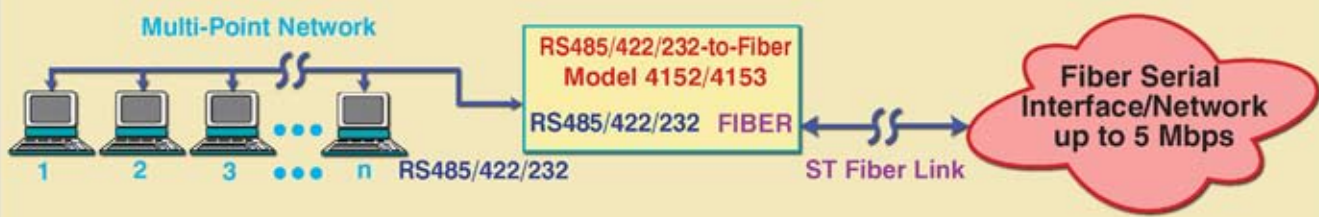
Model 4152 Mechanical (Desktop Unit):
Model / Cat No: 4152 / 304152
Size: 5" x 4.25" x 1.4"
Weight: 10.1 oz (286g)
Mounting: 4 Threaded Holes Std, DIN Rail Optional

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Very High Speed Ruggedized Fiber RS485/422/232 Converter
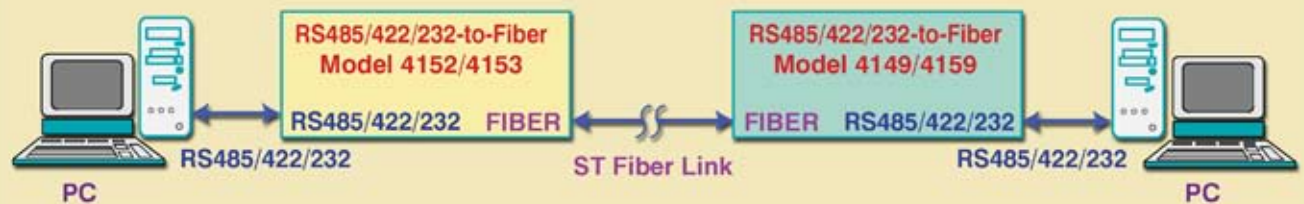
Board Unit

Model 4153 (Cat No. 304153)
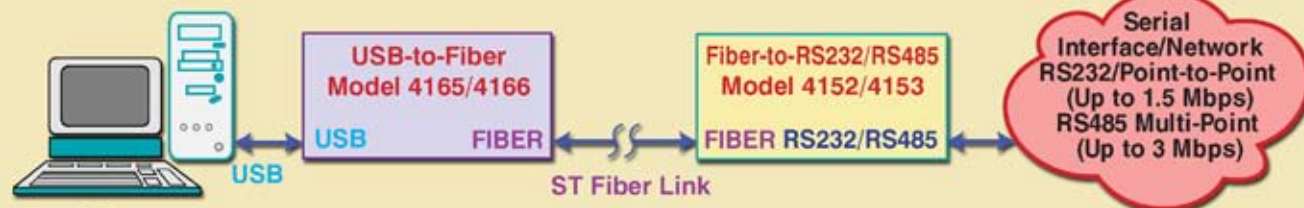
Model 4152/4153 RS485 Multi-Point Application:

Isolated PC RS485/422/232 communications to fiber serial interface/network.

Model 4152/4153 to Model 4149/4159 Application:

Point-to-Point Isolated PC RS485/422/232 Communications.

Model 4165/4166 to Model 4152/4153 Application:

Isolated PC USB to RS232/RS485 communications serial interface/network.