Electro Standards Laboratories
ADVANCED SYSTEMS DESIGN & SERVICES

MADE IN USA

SPECIFICATIONS

Desktop Unit..... Model 4165 (Cat No. 304165)
DIN Rail Mounted Unit.... Model 4165-DIN (Cat No. 304165-DIN)
Board Unit..... Model 4166 (Cat No. 304166)

High Speed Ruggedized ST Fiber-to-USB Interface Converters

▪ Popular Application: Isolated PC USB Communications to Fiber Serial Interface Network.

ST Fiber-to-USB Models 4165, 4165-DIN, and 4166 with integrated rate buffering convert USB 2.0 compliant data rate from a standard PC to a serial asynchronous data interface over fiber with a user-selectable baud rate of up to 3 Mbps. These converters are ideal for high speed, secure communications, and optical isolation.

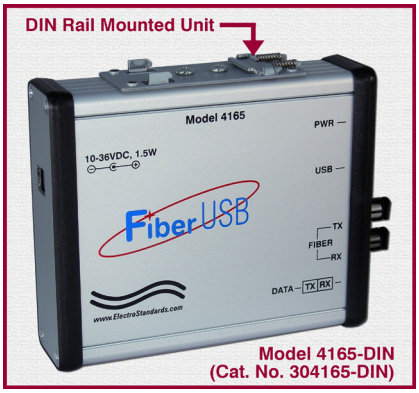
Typical Applications: (1) Constructing an optically isolated point-to-point communications link between the USB ports of two PC's. (2) Constructing an optically isolated high-speed communication link between a PC and a serial data network that is subject to a high EMI environment that might corrupt communications over a copper interface.

These units feature ESD protection circuitry on the USB I/O connector. Their power input is protected from transients and features 3kVDC isolation to prevent system ground loops. These converters can be powered from a wide input range of 10VDC-36VDC. Models are available for other voltage ranges such as 4.5VDC-9VDC and 19VDC-72VDC.

Models 4165, 4165-DIN and 4166 are factory configurable for USB port powered operation. Other features include user-selectable fiber polarity, user-selectable asynchronous data format, dual DB9 power connectors (board only) for convenience in bused power appliations, and Tx, Rx and Power indicator LEDs.

Three configurations are:

Model 4165 Desktop Unit, for applications requiring an enclosure.
Model 4165-DIN, for applications requiring mounting on a DIN rail.
Model 4166 (board only) for embedded applications. The board has front mounting threaded brackets that facilitate rackmounting.



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 m fiber:
5.35 km up to 3 Mbps, 25°C
3.75 km up to 3 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: User Selectable.

Fiber Data Format:
Type: Asynchronous, user selectable format
Rate: User selectable baud rates from 300 bps to 3 Mbps
Fiber-to-USB rate conversion: Internally buffered.

USB Interface:
Connectors: USB, Type B, High Retention.

USB Data Format:
Type: USB 2.0 Compliant USB Client
Rate: Supports low speed (1.5 Mbps), and
Full speed (12 Mbps) USB Data transfer rates.

Indicators:
LEDs: TXD, RXD, PWR

★ **Municipalities, schools, government: Models 4165 & 4166 are on GSA Schedule!**

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: The Model 4165 and 4165-DIN are made via a circular barrel connector with a 0.1" center pin.
Power Supply: Models 4165 & 4165-DIN are supplied with an external power supply operating from 100-240VAC/50-60Hz. (Cat No 523520).

Operating Environment:
-40°C to +85°C

Model 4166 Mechanical (Board Only):
Model 4166, Cat No 304166
Size: 4.8" x 3.9" x 0.63"
Weight: Approx. 3.2 oz (91g)
Mounting: Mounting Holes, Right Angle Brackets

Model 4165 Mechanical (Desktop Unit):
Model 4165, Cat No 304165
Size: 5" x 4.25" x 1.4"
Weight: Approx. 9.8 oz (278g)

Model 4165-DIN Mechanical (DIN Rail Mounted Unit):
Model 4165-DIN, Cat No 304165-DIN
Size: 5" x 4.25" x 1.4"
Weight: Approx. 9.8 oz (278g)
Mounting: 2 Threaded Holes Standard, DIN rail
DIN Rail Bracket Size: 2.84" x 1.24" x 0.16"
DIN Rail Bracket Weight: 0.9 oz (25.5g)

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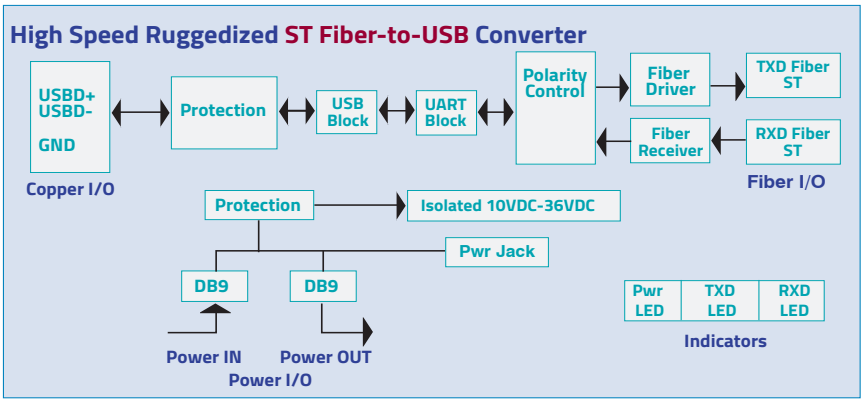
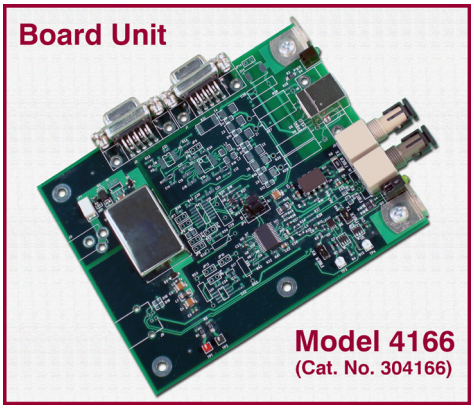
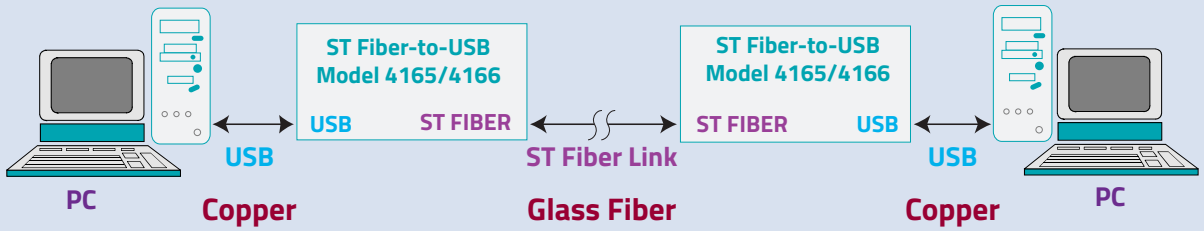
Desktop Unit..... Model 4165 (Cat No. 304165)
DIN Rail Mounted Unit.... Model 4165-DIN (Cat No. 304165-DIN)
Board Unit..... Model 4166 (Cat No. 304166)
Included USB A-B Cable, 6 ft.....(Cat No. 507366)

High Speed Ruggedized ST Fiber-to-USB Interface Converters



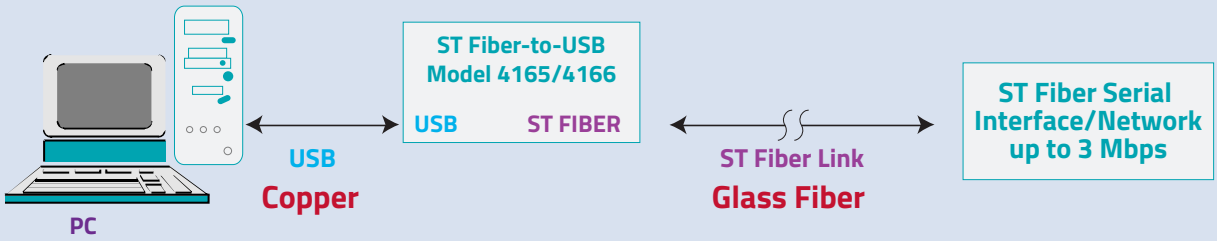


Model 4165, 4165-DIN, and 4166 Application:



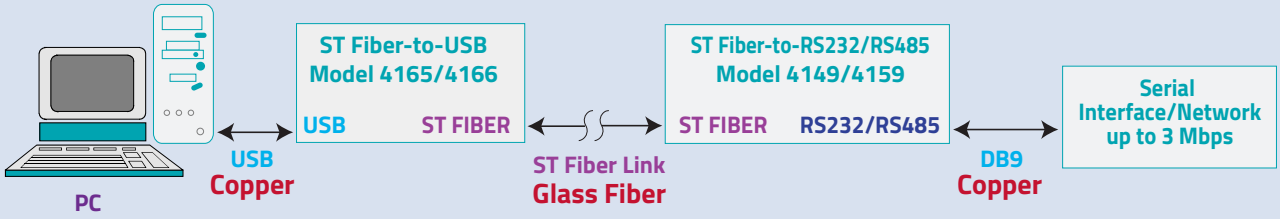
Point-to-Point Isolated PC USB Communications.

Model 4165, 4165-DIN, and 4166 Application:



Isolated PC USB communications to fiber serial interface/network.

Model 4165/4165-DIN, & 4166 to Model 4149/4149-DIN & 4159/4159CC Application:



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

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