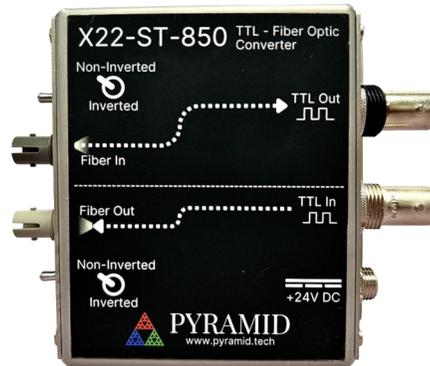# X22-ST-850— Bi-directional Optical to TTL Converter 850 mm

Features

- Converts fiber-optic signals to TTL, and TTL to fiber-optic
- Selectable polarity
- Compact package
- Low latency and jitter
- Square wave transmission up to 50 MHz
- DC operation
- Compatible with 50/125 μm, 62.5/125 μm, and 200 μm multimode fiber optic cables

Applications	
	• EMI-immune trigger and logic level signal delivery in distributed systems
	• Long-range digital signal transmission
	• Frequency transmission
	• High voltage isolation
	• General-purpose optical-TTL signal conversion

Specifications

Fiber-optic input	Broadcom AFBR-2418TZ receiver (ST bayonet), 850 nm light (near infra-red)
TTL output	47 ohm output series impedance driving TTL levels into >= 5 kohm. Polarity switch-selectable for the output to be the same or inverted relative to the fiber-optic input.
TTL input	TTL levels, input impedance 1 Mohm .
Fiber optic output	Broadcom HFBR-1415TZ 50 MBd transmitter (ST bayonet) , 850 nm light (near infra-red) Polarity switch-selectable for output to be the same or inverted relative to the TTL input.
Propagation delay	<= 15 nsec optical to TTL <= 15 nsec TTL to optical
Propagation jitter	< 1 nsec
Frequency range	DC to 50 MHz (50% duty cycle square wave)
Power input	+24 +/- VDC, 100 mA max. Fused 1.1 A.

Connectors

Fiber optics	ST bayonet. Recommended fiber 62.5/125 µm step index multimode
TTL	BNC jacks 50 ohm, two. Signal on core.
24 VDC input	2.1 mm threaded jack. Mate with Switchcraft S761K or equivalent. Pin: +24 VDC; Shell: 0V
Ground	Case grounded via mounting flange

Controls and indicators

Polarity switches	Independent toggle switches for optical to TTL, and TTL to optical.
Indicators	Power on green LED

Case

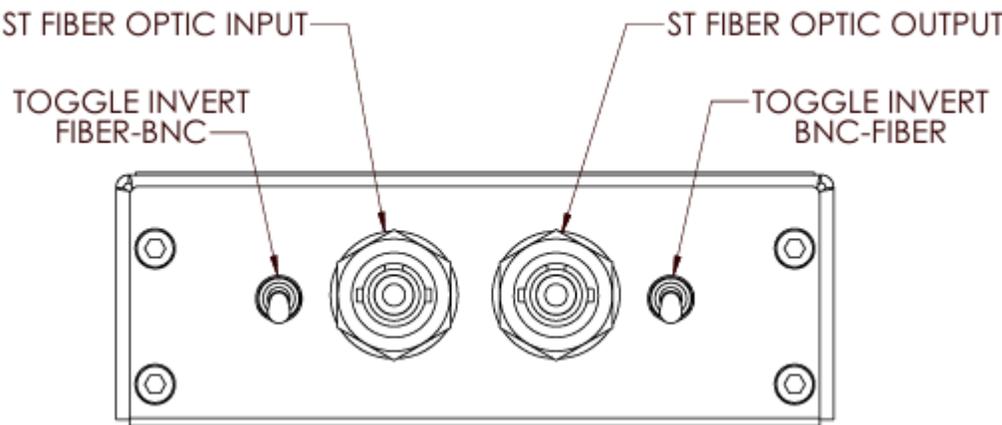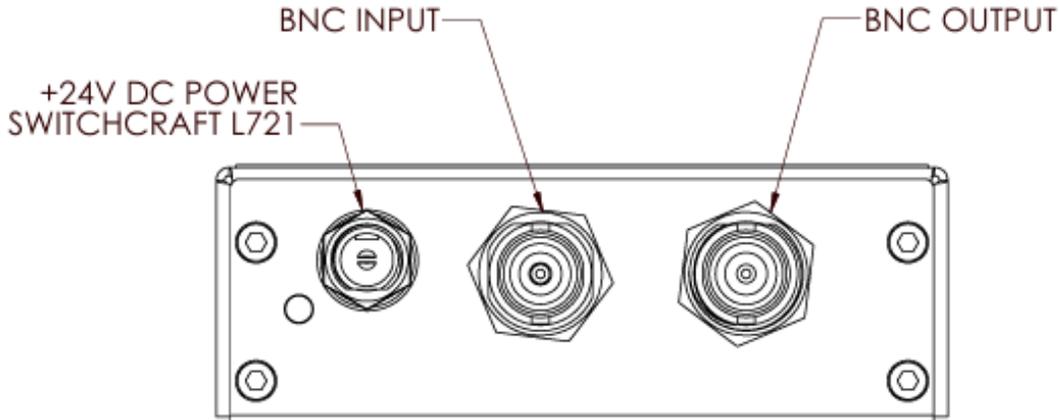|	
Type	Stainless steel sheet with mounting flange
Weight	0.20 kg (0.44 lb)

Environment

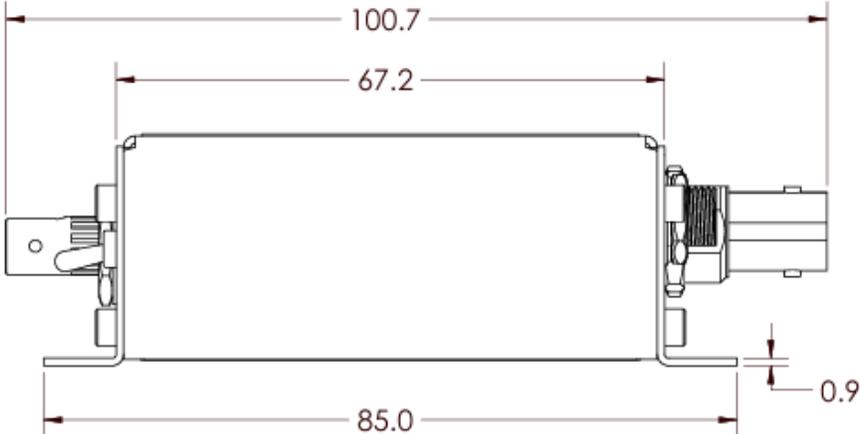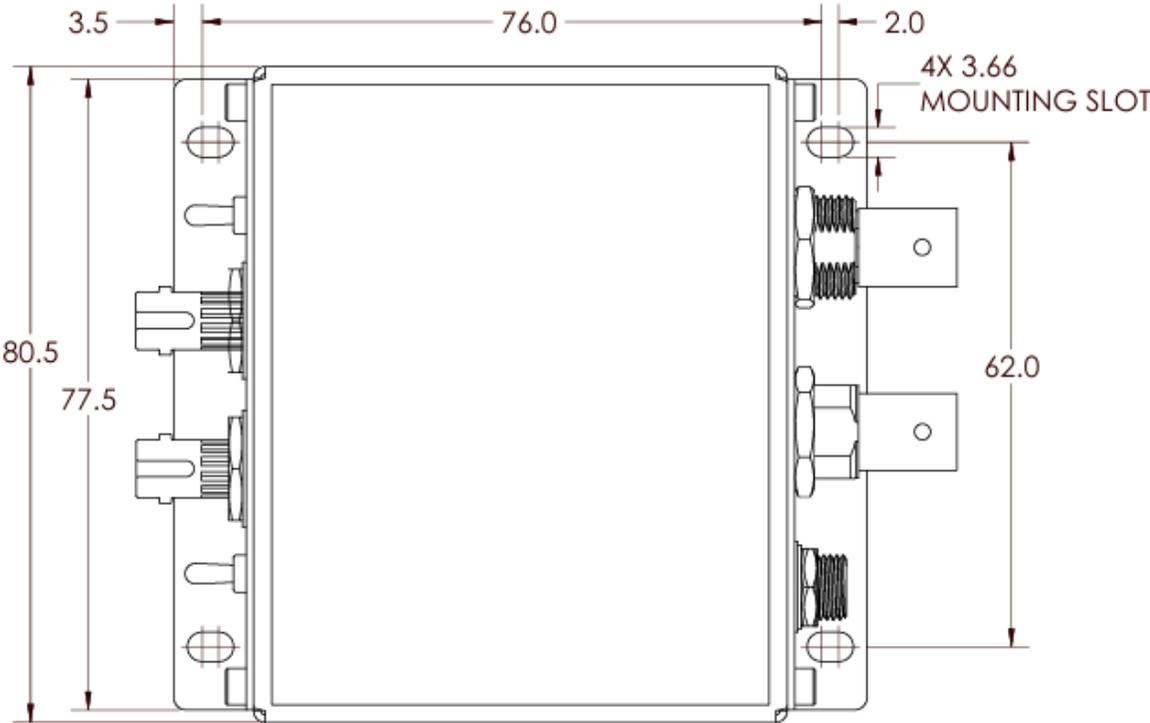|	
Operating environment	10 to 35C, < 80% humidity, non-condensing, vibration < 0.2 g all axes, 1 to 100Hz
Storage environment	0 to 50C, < 80% humidity, non-condensing, vibration < 2g all axes, 1 to 100Hz

Ordering information

X22-ST-850	Bi-directional Optical to TTL converter, ST bayonet fiber optic connectors
MTG-DIN35-7662	DIN rail mounting adaptor
PSU24-25-1	Universal 24 VDC power supply, medical rated, 25 W, C8 line inlet, Switchcraft S761 threaded jack outlet.

Connectors

+24V DC POWER
SWITCHCRAFT L721

BNC INPUT

BNC OUTPUT

ST FIBER OPTIC INPUT

ST FIBER OPTIC OUTPUT

TOGGLE INVERT
FIBER-BNC

TOGGLE INVERT
BNC-FIBER

Mounting & Dimensions

3.5

76.0

2.0

4X 3.66
MOUNTING SLOT

80.5

77.5

62.0

100.7

67.2

85.0

0.9

Dims mm

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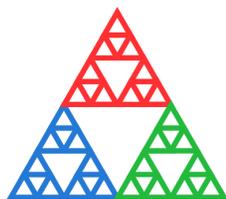
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