

Fiber-Optic Systems - Analog Transmitter

Model FO-ST

- Monitor two Analog Signals at bandwidths from DC to 20 kHz
- RFI/EMI validated for EMC at 200 V/m (46 dBV/m) from 500 kHz to 18 GHz and 600V/m (pulsed 5% duty-cycle & 5 μ s rise-time) 1GHz to 2.5 GHz
- Low-Power circuitry for operating >100-hours with 3 alkaline 'AA' batteries
- User selectable full-scale input ranges of ± 16 , ± 32 , and ± 48 VDC or optional user defined
- Compatible with 2 or 4-channel bench-top and 6 to 12-channel 3RU 19" Euro-rack bench-top or rack-mount Receivers



Description

The model *FO-ST* is a versatile 2-channel Fiber-Optic Analog Signal Transmitter that provides a means to transmit electrical signals over fiber-optic cables from remote sources in high electromagnetic fields or anechoic chambers to the model *FO-SR-XX* receiver located in a low field area.

The *FO-ST* transmitter monitors analog signals at bandwidths from DC to 20 kHz. High impedance input leads reduce signal re-radiation and complement the input filter circuitry to ensure electromagnetic compatibility (EMC) without compromising signal integrity. Selectable Gain Jumpers allow the tester to configuring the transmitter modules for full-scale input levels of ± 16 , ± 32 , and ± 48 VDC. Input Gain may also be configured to optional full-scale input levels from ± 160 mv FS to ± 320 V FS.

Just 3 standard 'AA' alkaline batteries provide more than 100 hours of operation. The transmitters are validated for EMC up to 200 V/m (46 dBV/m) at 500 kHz to 18 GHz and 600 V/m (pulsed 5% duty-cycle & 5 μ s rise-time) 1GHz to 2.5 GHz.

Compatible Analog Receivers are available in 2 or 4-channel bench-top or 6 to 12-channel 19" 3RU Euro-racks w/ wo handles for bench-top or rack mounting.

The *FO-ST* uses 820 nm wavelength multi-mode 62.5/125 μ m, 100/140 μ m or step-index 200 μ m HCS fiber cables. SMA type 905 connectors are standard.

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SPECIFICATIONS

PARAMETER	SPECIFICATION
SYSTEM CHARACTERISTICS AND PERFORMANCE	
GENERAL	
Bandwidth	DC to 20 kHz (-3 dB)
Input Range 1 (± 16 Vdc)	
Resolution	< 16/mV
Stability	< 80 mV drift over specified temperature range
Input Range 2 (± 32 Vdc)	
Resolution	< 32/mV
Stability	<160 mV drift over specified temperature range
Input Range 3 (± 48 Vdc)	
Resolution	< 48/mV
Stability	<240 mV drift over specified temperature range
Over-Range Protection	± 100 V continuous and ± 350 V transient protection
Input Impedance	> 1 M Ω
Input Leads	Special High 'Z' type @ 5k Ω /ft - 18in minimum length
Power Source	3-AA Alkaline Batteries
Battery Life	continuous >4 days
PHYSICAL	
Channels	2 - Each w/jumper FS ranges of ± 16 , ± 32 , ± 48 VDC, or Optional ± 160 mV to ± 320 V FS - User Defined
Dimensions (L x W x H)	6.8x3.0x1.0 in (172x76x25 mm)
Volume	< 20.4 in ³ (<334.3 cm ³)
Weight	13 oz. (404 g)
Input Connector	BNC
Optical Connectors	SMA type 905
Optical Cables	820 nm wavelength multimode graded-index 62.5/125 μ m, 100/140 μ m, or step-index 200 μ m HCS (Hard Clad Silica)
Optical Cable Length	500 ft (150 m) special order to 4500 ft (1500m)
ENVIRONMENTAL	
Operating Temperature	-4° F to +185° F (-20° to +85° C)
Operating Humidity	95% R.H. max. non-condensing
EMC	300 V/m at 500 kHz to 1 GHz, 200 V/m at 1 GHz to 18 GHz, and 600 V/m (pulsed 5% duty-cycle & 5 μ s rise-time) 1 GHz to 2.5 GHz
QUALITY AND SAFETY	
CE Mark	Declaration of Conformity provided
RoHS & WEEE	Compliant
CONFIGURATIONS	
Receivers are available in 2, 4 or 12-channel bench-top and 6, 8, 10, & 12-channel 19" Euro-rack configurations. Custom Receiver output scaling available.	

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