

# 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 $\mu$ 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  $\pm 16$ ,  $\pm 32$ , and  $\pm 48$  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  $\pm 16$ ,  $\pm 32$ , and  $\pm 48$  VDC. Input Gain may also be configured to optional full-scale input levels from  $\pm 160$ mv FS to  $\pm 320$ 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 $\mu$ 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 $\mu$ m, 100/140 $\mu$ m or step-index 200 $\mu$ m HCS fiber cables. SMA type 905 connectors are standard.

8500 Ance Road  
Charlevoix, MI 49720  
Tel: 231-547-5511  
Fax: 231-547-7070

**MICHIGAN SCIENTIFIC**  
<http://www.michsci.com>  
Email: [miscinfo@michsci.com](mailto:miscinfo@michsci.com)  
corporation

321 East Huron Street  
Milford, MI 48381  
Tel: 248-685-3939  
Fax: 248-684-5406

Rev: 4/28/12

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## SPECIFICATIONS

PARAMETER	SPECIFICATION
<b>SYSTEM CHARACTERISTICS AND PERFORMANCE</b>	
<b>GENERAL</b>	
Bandwidth	DC to 20 kHz (-3 dB)
Input Range 1 ( $\pm 16$ Vdc)	
Resolution	< 16/mV
Stability	< 80 mV drift over specified temperature range
Input Range 2 ( $\pm 32$ Vdc)	
Resolution	< 32/mV
Stability	<160 mV drift over specified temperature range
Input Range 3 ( $\pm 48$ Vdc)	
Resolution	< 48/mV
Stability	<240 mV drift over specified temperature range
Over-Range Protection	$\pm 100$ V continuous and $\pm 350$ V transient protection
Input Impedance	> 1 M $\Omega$
Input Leads	Special High 'Z' type @ 5k $\Omega$ /ft - 18in minimum length
Power Source	3-AA Alkaline Batteries
Battery Life	continuous >4 days
<b>PHYSICAL</b>	
Channels	2 - Each w/jumper FS ranges of $\pm 16$ , $\pm 32$ , $\pm 48$ VDC, or Optional $\pm 160$ mV to $\pm 320$ V FS - User Defined
Dimensions (L x W x H)	6.8x3.0x1.0 in (172x76x25 mm)
Volume	< 20.4 in <sup>3</sup> (<334.3 cm <sup>3</sup> )
Weight	13 oz. (404 g)
Input Connector	BNC
Optical Connectors	SMA type 905
Optical Cables	820 nm wavelength multimode graded-index 62.5/125 $\mu$ m, 100/140 $\mu$ m, or step-index 200 $\mu$ m HCS (Hard Clad Silica)
Optical Cable Length	500 ft (150 m) special order to 4500 ft (1500m)
<b>ENVIRONMENTAL</b>	
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 $\mu$ s rise-time) 1 GHz to 2.5 GHz
<b>QUALITY AND SAFETY</b>	
CE Mark	Declaration of Conformity provided
RoHS & WEEE	Compliant
<b>CONFIGURATIONS</b>	
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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