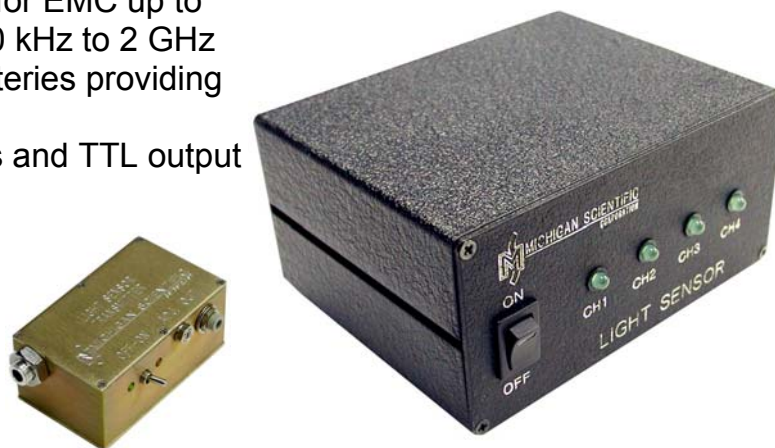


Fiber-Optic Systems – IR Monitor/Repeater

Model FO-IRM/FO-IRR

- Remote monitoring of IR remote control devices
- Remote transmitting of IR remote controls signals to DUT
- EMI Hardened and validated for EMC up to 200 V/m (46 dBV/m) from 500 kHz to 2 GHz
- Uses just 2 alkaline 'AAA' batteries providing >250-hours battery-life
- LED channel status indicators and TTL output



Description

The MSC model FO-IR is an EMI hardened Fiber-Optic IR Monitor that provides a means to monitor remote-control modules and other DUT's that emanate IR in a high field environment or anechoic chamber. The IR monitors are configured for IR bandwidths of 870 nm or 930 nm wavelength.

Signals sent over optic fiber are immune to interference or signal impairment typically seen with wire cable. Benefits provided are small size in a self-powered transmitter having electromagnetic immunity and extended battery life.

The active sensor is a photo-conductive cell with a wide dynamic range capable of response to both very low light levels (moonlight) and to very high light levels (direct sunlight). The resistance changes several orders of magnitude between "light" and "no light." An external sensitivity adjustment w/status LED is provided to set the detector threshold.

The receiver accepts 4 transmitter inputs and demodulates each incoming signal back to the light state as originally detected. A green LED displays the light state on the front panel and a BNC connector provides the TTL output on the back panel.

The FO-IR transmitter and the FO-IRR Repeater are EMI hardened and validated for EMC in harsh RF environments at power levels up to 200 V/m (46 dBV/m) from 500 kHz to 2 GHz. The systems use 820 nm wavelength multimode 62.5/125 μm , 100/140 μm or step-index 200 μm HCS fiber cables. SMA type 905 connectors are standard.

Fiber-Optic Systems – IR Monitor/Repeater

SPECIFICATIONS

PARAMETER	SPECIFICATION
<i>PHOTOCONDUCTIVE-CELL CHARACTERISTICS</i>	
GENERAL	
Relative Spectral Response	400 nm - 700 nm wavelength
Response at 1fc of illumination	35 ms Rise-Time (1-1/e)
	5 ms Fall-Time (1/e)
SENSITIVITY	0.85 γ typ. (LOG (R10/R100) / LOG (100/10))
ENVIRONMENTAL	
Operating Temperature	-4° F to +185° F (-25° to +85° C)
Operating Humidity	95% R.H. max. non-condensing
Vibration	15 G's 0.1 ms max.
Shock	50 G's 0.1 ms max.
<i>SYSTEM CHARACTERISTICS AND PERFORMANCE</i>	
GENERAL	
Signal/Noise	>60 dB
Crosstalk	>60 dB
Transmitter Power Source	3-AAA Alkaline Batteries
Battery Life	continuous >200 hrs.
PHYSICAL	
Transmitter	
Channels	1
Dimensions (L x W x H)	2.75x1.875x1.10 in (70x48x28 mm)
Volume	5.7 in ³ (94 cm ³)
Weight	4 oz (124 g)
Receiver	
Channels	4
Dimensions (L x W x H)	4.17x5.31x2.60 in (106x135x66 mm)
Weight	20 oz (622 g)
Output Connectors	BNC
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 Connectors	SMA type 905
Optical Cable Length	4921 ft (1500 m) max.
EMC	300 V/m at 500 kHz to 1 GHz, 200 V/m at 1 GHz to 11 GHz, and 600 V/m 1 GHz to 2 GHz (pulsed 5% duty-cycle & 5 μ s rise-time)
CONFIGURATIONS	
Receiver Module	4-channel bench-top
Receiver Power	110 VAC Power
Note: Receivers are capable of driving a 1k Ω load	

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