Fiber-Optic Systems - CAN Link

Model FO-CAN & FO-CAN-R

- Monitor / Stimulate equipment under test (EUT) with differential CAN Signals at rates up to 1Mbit/s
- RFI/EMI validated for EMC at 200V/m (46dBVm) from 500 kHz to 18 GHz and 600V/m (pulsed 5% duty-cycle & 5µs rise-time) 1GHz to 2.5 GHz
- Low-Power circuitry for operating >30 hours with 3 alkaline 'AA' batteries
- Switch selectable termination values of 60Ω, 120Ω, and ∞.

- *Fiber-Optic CAN Receiver used with FO-CAN EM Hardened Transceiver*
- 4 channel bench top/ rack mount receiver
- Universal AC power input
- Jumper selectable termination values of 60Ω, 120Ω, and ∞.

Description

Two *FO-CAN* modules combine to create a robust and versatile differential CAN link. In addition up to 4 *FO-CAN* modules can be used with a *FO-CAN-R* for an economical, multi-channel solution. Custom circuitry was specifically engineered to reduce latency providing a bi-directional link even at rates of 1Mbit/s with 20m of fiber-optic cable. The modules are inherently compatible with most differential CAN protocols.

Designed with the tester in mind the *FO-CAN* modules have easily selectable termination values of 60Ω, 120Ω, and ∞ by the flick of a switch. You will not have to interrupt tests to recharge equipment because a battery run time of more than 30 hours will exceed even the longest tests. The *FO-CAN* modules are compatible with 'AA' sized alkaline batteries for easy replacement or more cost effective rechargeable batteries. The CAN bus pin-out is standard to most equipment avoiding custom cables.

The *FO-CAN* modules have integrated filtering that ensures signal integrity. The *FO-CAN* module shielding provides high immunity from electromagnetic interference (EMI) and electromagnetic pulse (EMP), while providing low radiated emissions. This allows for uncompromising electromagnetic compatibility (EMC) testing/engineering. The *FO-CAN* modules are validated for EMC up to 200 V/m (46 dB V/m) at 500 kHz to 18 GHz, and 600V/m (pulsed 5% duty-cycle & 5µs rise-time) 1GHz to 2.55 GHz.

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7/6/15

Rev. B

SPECIFICATIONS

PARAMETER	FO-CAN SPECIFICATION	FO-CAN-R SPECIFICATION
SYSTEM CHARACTERISTICS AND PERFORMANCE **(all specs over temperature)**		
GENERAL		
TX/RX Signal Type	differential	differential
Data Rate	up to 1Mbit/s	up to 1Mbit/s
Copper Length Equivalent of Both Modules[1]	19.7 m	19.7 m
Termination Resistance	switch selectable 60Ω / 120Ω / ∞	jumper selectable 60Ω / 120Ω / ∞
Power Source	3-AA batteries or external adapter	Universal AC input
Battery Life (alkaline batteries)	>30 Hours	
PHYSICAL		
Dimensions (L x W x H)	6 x 2.3 x 1 in (153 x 59 x 25 mm)	8 x 16.625 x 1.75 in (204 x 423 x 45 mm)
Weight (w/o Batteries)	0.66 lbs (300.5 g)	3.875 lbs (1758 g)
Input / Output Connector	D-Sub 9 pin	2x D-Sub 9 pin
Optical Connectors	ST	ST
Optical Cables	multimode graded-index 62.5/125 µm or 100/140 µm	multimode graded-index 62.5/125 µm or 100/140 µm
Optical Cable Length[2]	65 ft (20 m) maximum @ 1Mbit/s	65 ft (20 m) maximum @ 1Mbit/s
ENVIRONMENTAL		
Operating Temperature	0º F to +185º F (-18º to +85º C)	0º F to +70º F (-18º to +21ºC)
Operating Humidity	95% R.H. max. non-condensing	95% R.H. max. non-condensing
EMC	200 V/m (46 dB V/m) at 500 kHz to 18 GHz 600V/m (pulsed 5% duty-cycle & 5µs rise-time) 1GHz to 2.5 GHz	
QUALITY AND SAFETY		
CE Mark	Declaration of Conformity provided	Declaration of Conformity provided

1 Does not include the delay for fiber-optic cable
2 Longer fiber-optic cable lengths possible at lower data rates.

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