

# Fiber-Optic Systems - CAN Link

## Model FO-CANFD & CANFD-R

- Monitor / Stimulate equipment under test (EUT) with differential CANFD Signals at rates up to 4 Mbit/s
- RFI/EMI validated for EMC at 200 V/m (46dB V/m) from 500 kHz to 18 GHz and 600V/m (pulsed 5% duty-cycle & 5  $\mu$ s rise-time) 1 GHz to 2.5 GHz
- Low-Power circuitry for operating >24 hours with 3 alkaline 'AA' batteries
- Fiber-Optic CANFD Receiver used with FO-CANFD EM Hardened Transceiver
- Universal AC power input
- Jumper selectable termination values of 60  $\Omega$ , 120  $\Omega$ , and  $\infty$



## Description

The *FO-CANFD* and *FO-CANFD-R* modules combine to create a robust and versatile differential CANFD link. Custom circuitry was specifically engineered to reduce latency providing a bi-directional link even at rates of 4 Mbit/s. The modules are inherently compatible with most differential CAN and CANFD protocols.

Designed with the tester in mind, you will not have to interrupt tests to recharge equipment because a battery run time of more than 24 hours will exceed even the longest tests. The *FO-CANFD* 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-CANFD* modules have integrated filtering that ensures signal integrity. The *FO-CANFD* 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-CANFD* 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 & 5  $\mu$ s rise-time) 1GHz to 2.55 GHz.

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## Specifications

PARAMETER	FO-CANFD SPECIFICATION	FO-CANFD-R SPECIFICATION
<b>System Characteristics and Performance (all specs over temperature)</b>		
<b>General</b>		
TX/RX Signal Type	Differential	Differential
Data Rate	Up to 4 Mbit/s	Up to 4 Mbit/s
Copper Length Equivalent of Both Modules <sup>1</sup>	19.7 m @ 1 MHz	19.7 m @ 1 MHz
Termination Resistance		Jumper selectable 60Ω / 120Ω / ∞
Power Source	3-AA batteries	Universal AC input
Battery Life (alkaline batteries)	>24 Hours	
<b>Physical</b>		
Input / Output Connector	D-Sub 9 pin	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 <sup>2</sup>	49 ft (15 m) maximum @ 1 Mbit/s	49 ft (15 m) maximum @ 1 Mbit/s
<b>Environmental</b>		
Operating Temperature	32 °F to 122 °F (0 °C to 50 °C)	32 °F to 122 °F (0 °C to 50 °C)
EMC	200 V/m (46 dB V/m) at 500 kHz to 18 GHz 600 V/m (pulsed 5 % duty-cycle & 5μs rise-time) 1 GHz to 2.5 GHz	
<b>QUALITY AND SAFETY</b>		
CE Mark	Declaration of Conformity provided	Declaration of Conformity provided

<sup>1</sup> Does not include the delay for fiber-optic cable

<sup>2</sup> Longer fiber-optic cable lengths possible at lower data rates

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