ICF-1170I Series

Industrial CAN-to-fiber converters

Features and Benefits

- Transmits data up to 2 km over optical fiber
- Converts CAN signals to fiber and fiber to CAN signals
- Baudrate up to 1 Mbps
- Dual power inputs for redundancy
- DIP switch for 120 ohm terminal resistance
- DIP switch for fiber test mode
- LEDs for Fiber Tx, Fiber Rx, Power 1, Power 2
- Wide-temperature model available for -40 to 85°C environments
- Fully compatible with the ISO 11898 standard

Certifications

Introduction

The ICF-1170I Series CAN-to-fiber converters are used to convert CAN signals from copper to optical fiber. The converters come with 2 kV optical isolation for the CAN bus system and dual power inputs with alarm contact relay to ensure that your CAN bus system will remain online.

Fiber Test Mode

Fiber Test Mode can be used to test the fiber cable between two ICF-1170I units, and it provides a simple way to determine if the fiber cable is transmitting data correctly. When in Fiber Test Mode, the fiber transceiver (Tx) will continuously send out a data signal and the Fiber Tx LED will light up. On the other side of the connection, when the ICF-1170I fiber transceiver (Rx) receives the data signal from the Tx side, the Fiber Rx LED will light up.

Specifications

Serial Interface

Optical Fiber

ICF-1170I-M-ST: 100BaseFX ports (multi-mode ST connector)

Low-Speed Fiber Module		Multi-Mode
Fiber Cable Requirements		50/125 µm, 800 MHz
		62.5/125 µm, 500 MHz
Typical Distance		5 km
Wavelength	Typical (nm)	850
	TX Range (nm)	840 to 860
	RX Range (nm)	800 to 900
Optical Power	TX Range (dBm)	0 to -5
	RX Range (dBm)	0 to -20
	Link Budget (dB)	15
	Dispersion Penalty (dB)	1

CAN Interface

Isolation	2 kV (built-in)
No. of Ports	1
Signals	CAN_L, CAN_H, CAN Signal GND
Terminator	N/A, 120 ohms (by DIP)

Power Parameters

Input Current	221 mA @ 12 VDC
Power Consumption	221 mA @ 12 VDC
Input Voltage	12 to 48 VDC
No. of Power Inputs	2
Overload Current Protection	Supported
Power Connector	Terminal block (for DC models)

Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	30.3 x 70 x 115 mm (1.19 x 2.76 x 4.53 in)
Weight	178 g (0.39 lb)
Installation	DIN-rail mounting

Environmental Limits

Operating Temperature	ICF-1170I-M-ST: 0 to 60°C (32 to 140°F) ICF-1170I-M-ST-T: -40 to 85°C (-40 to 185°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF
Environmental Testing	IEC 60068-2-1 IEC 60068-2-2 IEC 60068-2-3
Safety	EN 60950-1, IEC 60950-1
Vibration	IEC 60068-2-6

MTBF

Time	792,085 hrs
Standards	Telcordia (Bellcore), GB

Warranty

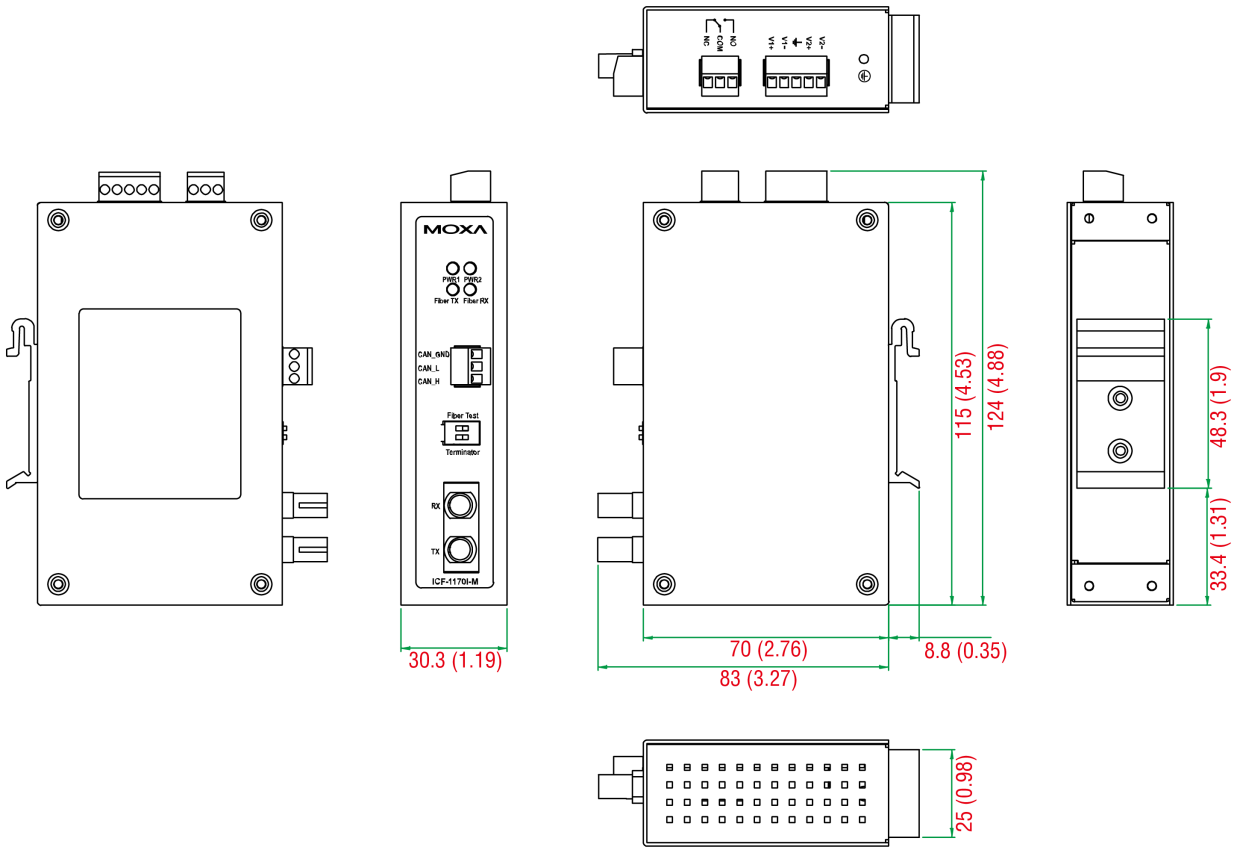
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x ICF-1170I Series converter
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.
ICF-1170I-M-ST	0 to 60°C
ICF-1170I-M-ST-T	-40 to 85°C