

ICF-1170I Series

Industrial CAN-to-fiber converters



15 KV
ESD

- > Transmits 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



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 CANbus system and dual power inputs with

alarm contact relay to ensure that your CANbus system will remain online.

Fiber Test Mode

Fiber Test Mode can be used to test the fiber cable between two ICF-1170I units, and 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

CAN Communication

CAN Interface: ISO 11898-2, Terminals (CAN_H, CAN_L, CAN_GND)

Protocols: CAN 2.0A and 2.0B (ISO 11898-2)

Connector Type: 3-pin removable screw terminal x1

Termination Resistor: Dip switch selector for 120 Ω terminal resistor

Transfer Rate: Up to 1 Mbps

System Delay: 150 ns

Isolation Protection: 2 kV

ESD Protection: Supports 15 kV

Transmission Distance: Max 2 km (depends on the data rate and the protocol used)

Note: The transmission distance is limited by the signal rate, as indicated in the ISO 11898-2 standard.

LED Indicators: PWR1, PWR2, Fiber TX, Fiber RX

Fiber Communication

Connector Type: ST (multi-mode) fiber ports

Support Cable: 50/125, 62.5/125, or 100/140 μm (multi-mode)

Wavelength: 850 nm

TX Output: Multi-mode (> -5 dBm)

Rx Sensitivity: Multi-mode (-20 dBm)

Physical Characteristics

Housing: Metal

Dimensions: 30.3 x 70 x 115 mm (1.19 x 2.76 x 4.53 in)

Environmental Limits

Operating Temperature:

Standard Models: 0 to 60°C (32 to 140°F)

Wide Temp. Models: -40 to 85°C (-40 to 185°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 12 to 48 VDC dual power inputs for redundant power

Power Consumption:

ICF-1170I: 221 mA @ 12 V

Alarm Contact: 1 relay output with current carrying of 1 A @ 24 VDC

Voltage Reversal Protection: Protects against V+/V- reversal

Over Current Protection: 1.1 A (protects against two signals shorted together)

Standards and Certifications

Safety: UL 508, EN 60950-1

EMC: CE, FCC

EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A

EMS:

EN 61000-4-2 (ESD) Level 4,

EN 61000-4-3 (RS) Level 2,

EN 61000-4-4 (EFT) Level 4,

EN 61000-4-5 (Surge) Level 3,

EN 61000-4-6 (CS) Level 2,

EN 61000-4-8 (PFMF) Level 3

Green Product: RoHS, CRoHS, WEEE

Freefall: IEC 60068-2-32

MTBF (mean time between failures)

Time: 792,085 hrs

Database: Telcordia (Bellcore), GB

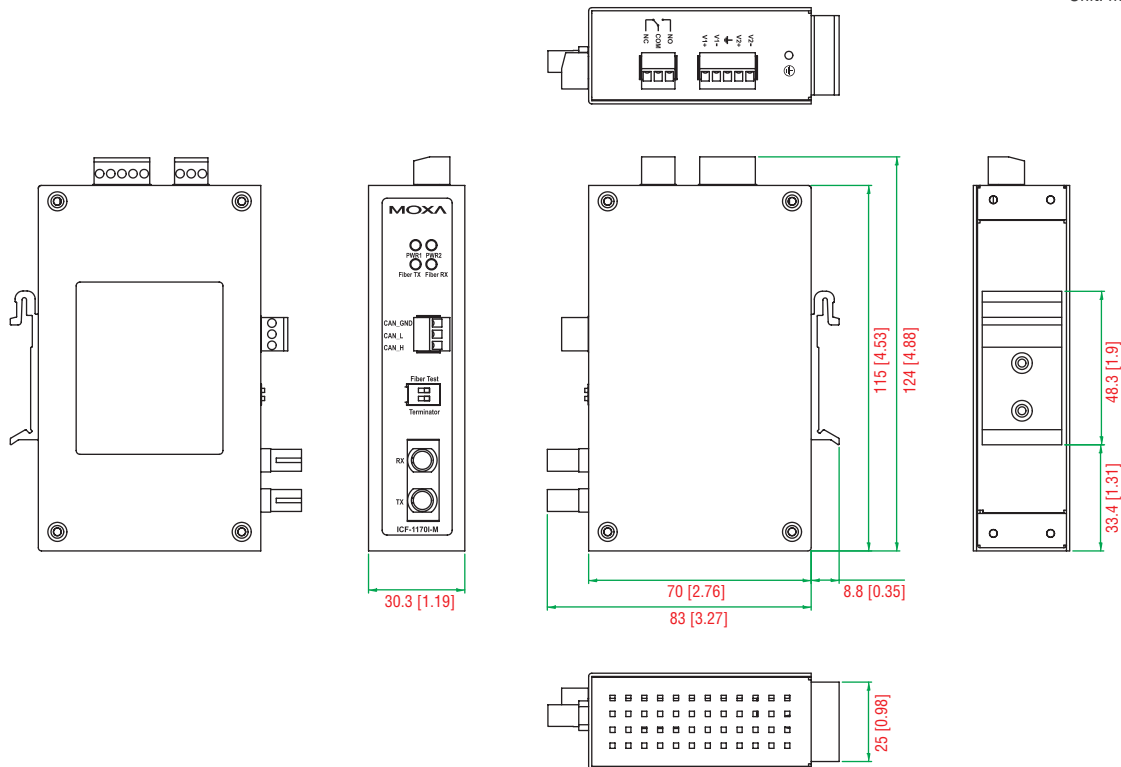
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

ICF-1170I-M-ST: CAN-to-fiber converter, multi-mode, ST connector, 0 to 60°C

ICF-1170I-M-ST-T: CAN-to-fiber converter, multi-mode, ST connector, -40 to 85°C

Package Checklist

- 1 ICF-1170I CAN-to-fiber converter
- Quick installation guide (printed)
- Warranty card