

TO1013



Product Overview

The TO1013, developed by TOSUN, is a dual-channel CAN/CAN FD to fiber optic converter, supporting CAN FD bus rates up to 8 Mbps. By using fiber optic as the transmission medium, it minimizes signal loss and significantly extends transmission distance. Its superior EMI and EMC performance enhances resistance to interference, ensuring reliable communication.

Integrated with the TSMaster software, the TO1013 supports loading DBC and ARXML database files for simplified monitoring, analysis, and simulation of CAN bus data. It also provides features such as UDS diagnostics, ECU flashing, and CCP/XCP calibration.

The product offers APIs for both Windows and Linux, supporting languages like C++, C#, LabView, and Python, making it flexible for integration into diverse testing environments.

Key Features

- Uses the latest CAN FD bus opto-isolator with built-in ESD and surge protection
- Automotive-grade design supporting dbc, a2l, blf, and asc files
- Supports blf and asc data recording and offline/online playback

- Supports UDS diagnostics and CCP/XCP calibration
- Supports UDS-based Bootloader flashing
- Secondary development APIs for Windows and Linux
- Configurable CAN channel capacitance to ground (22pF/470pF) via toggle switch

Technical Specifications

- Network Device: 2 × CAN FD
- PC Interface: USB 2.0
- CAN Interface: DB9
- Driver: Driver-free for Windows and Linux
- Buffer: Each channel supports up to 1000 CAN frames
- CAN: CAN 2.0A/B (ISO11898-1), baud 125 Kbps – 1 Mbps
- CAN FD: ISO and non-ISO, baud 125 Kbps – 8 Mbps
- Timestamp Accuracy: 1 μs hardware message timestamp
- Terminal Resistor: Built-in 60/120-ohm, configurable via toggle switch
- Capacitance to Ground: Configurable at 22pF/470pF via toggle switch
- Messages Sent/sec: Up to 20,000
- Messages Received/sec: Up to 20,000
- Isolation: Opto-isolation
- Power Supply: USB + DC 12V
- Power Consumption: 2.5 W
- Casing Material: Aluminum alloy
- Dimensions: 109 × 97 × 35 mm
- Weight: ~429 g (device only), ~1132 g (with packaging)
- Operating Temperature: -40 °C to +80 °C
- Operating Humidity: 10% – 90% (non-condensing)
- Environment: Keep away from corrosive gases

Connector Pinout

- Pin 2: CAN FD_Shield
- Pin 3: CAN FD2_Low
- Pin 4: CAN FD2_High
- Pin 5: CAN FD_GND
- Pin 7: CAN FD1_High
- Pin 8: CAN FD1_Low

Ordering Information

Product Name: TO1013

Model Number: Dual-channel CAN/CAN FD to fiber optic converter

Scope of Supply:

- TO1013 device
- TO1013 isolator
- 12V/2A power adapter
- 2 × FC-FC single-mode single-core fiber optic cables
- DB9 female to dual DB9 male CAN cable