TOSUN

TC1012

Single channel CAN FD/LIN bus interface

Classic Application:

- ECU data acquisition
- Various test benches
- ECU flashing

Feature Overview

TC1012 is a portable and easy-to-install device introduced by TOSUN, featuring a 1 channel CAN FD/ 1 channel LIN bus to USB interface. The CAN FD bus supports a maximum data rate of 8 Mbps, while the LIN bus device supports rates ranging from 0 to 20 Kbps. The product utilizes a high-speed USB 2.0 interface for connection to PCs, and its driver-free design ensures system compatibility on Windows platforms.

With the powerful TSMaster software, TC1012 supports the loading of DBC, LDF, and ARXML database files, enabling convenient monitoring, analysis, and simulation of CAN FD/LIN bus data. It also provides support for UDS diagnostics, ECU flashing, CCP/XCP calibration, and other functionalities.

For secondary development, TC1012 offers APIs compatible with both Windows and Linux, supporting various development environments such as C++, C#, LabView, Python, etc. This facilitates seamless integration into diverse testing systems, ensuring efficiency and ease of use.

Product Features

- Hardware message timestamping at the microsecond (μs) level, meeting advanced requirements
- High-speed USB 2.0 interface with driverless compatibility for Windows and Linux systems, ensuring system compatibility
- CAN channel isolation up to DC2500V
- Automotive-grade design supporting dbc, a2l, blf, and asc file formats
- Adjustable CAN bus baud rates from 125Kbps to 8Mbps
- Support for recording data in blf and asc formats, enabling offline/online playback
- Supports UDS diagnostics and CCP/XCP calibration
- Support for UDS-based Flash Bootloader
- Support Information Security Testing
- Secondary development interfaces for Windows and Linux systems
- Built-in 120-ohm terminal resistor, software-configurable
- Ability to load all paid licenses for TSMaster

Specification

Channel	1 x CAN/ 1 x LIN
PC End	High-speed USB 2.0 interface
CAN End	DB9 interface
Driver	Driver-free design for Windows and Linux systems, ensuring system compatibility
Buffer	Each channel supports a transmit buffer of up to 1000 CAN frames
CAN	Supports CAN 2.0A, 2.0B protocols, compliant with ISO11898-1 standard, with baud rates ranging from 125Kbps to 1Mbps
CAN FD	Supports both ISO and non-ISO standard CAN FD with baud rates from 125Kbps to 8Mbps
LIN	Supports LIN 1.3 and 2.0, with a baud rate ranging from 0 to 20 Kbps
Schedule Table	Supports LDF files and running scheduling tables, or configuring scheduling tables independently
Timestamp	1μs hardware message timestamp
Terminal Resistor	Built-in 120-ohm terminal resistor, software-configurable
Messages Sent per Second*	Maximum of 20,000 frames/second
Messages Received per Second*	Maximum of 20,000 frames/second
Isolation	CAN channel isolated at DC 2500V, with ESD protection of ±4KV (contact discharge) and ±8KV (air discharge)
Power Supply	USB powered; external power supply required for LIN communication
Casing Material	Plastic
Operating Temperature	-40℃ to 85℃
Operating Humidity	10% to 90% (non-condensing)
Operating Environment	Keep away from corrosive gases

*Single channel at 1Mbps with a 0-byte data field

Ordering information

Product Name	Model Number	Function Description
Network Device	TC1012	1 channel CAN FD / LIN to USB interface

Shipping list

· TC1012 device

· DB9 female to two DB9 connectors
   for CAN/LIN cable *1

Pin definition

5 → Shield
9 → V$_{BAT}$_LIN
8 → LIN
3 → GND
7 → CAN_High
2 → CAN_Low