TOSUN

TC1016

Multi channel CAN FD/LIN bus interface

Classic Application:

- Whole vehicle multi-channel CAN FD/CAN/LIN bus data acquisition
- Domain controller testing
- Various automated testing systems
- ECU flashing

Feature Overview

TC1016 is a multi channel CAN FD and LIN bus interface device introduced by TOSUN. It supports a maximum CAN FD bus speed of 8Mbps and LIN speeds ranging from 0 to 20Kbps. The product connects to a PC via a high-speed USB 2.0 interface, designed with driverless compatibility for Windows and Linux systems, ensuring system compatibility.

Paired with the robust TSMaster software, it supports loading DBC, LDF, ARXML database files, facilitating convenient monitoring, analysis, and simulation of CAN FD/LIN bus data. Additionally, it supports functionalities such as UDS diagnostics, ECU flashing, CCP/XCP calibration, among others.

This device provides secondary development APIs for Windows and Linux systems, supporting various development environments such as C++, C#, LabView, Python, etc. This flexibility allows for easy integration into diverse testing systems, ensuring efficiency and user-friendliness.

Characteristics

- Microsecond (µs) level hardware message time-stamping,meeting high-level requirements
- High-speed USB 2.0 interface, designed for compatibility with Windows and Linux systems, driverless setup
- CAN channel isolation up to DC2500V
- Automotive-grade design, supporting LDF, dbc, a2l, blf, asc, and arxml file formats
- Adjustable CAN bus baud rate from 125Kbps to 8Mbps
- LIN bus master and slave nodes can be configuredvia softwareSupport for recording data in blf and asc formats, enablingoffline/online playback
- Supports UDS diagnostics and CCP/XCP calibration
- Supports UDS-based Flash Bootloader
- Supports LIN bus-based UDS diagnostics
- Supports information security testing
- Secondary development interfaces for Windows and Linux systems
- Built-in 120-ohm terminal resistor, software configurable
- Supports all paid licenses for TSMaster software

Specification

Channel	4 x CAN FD 2 x LIN
PC End	High-speed USB 2.0 interface
CAN/LIN 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, B protocols, compliant with ISO11898-1 standard, with baud rate 125Kbps-1Mbps
CAN FD	Supports CAN FD that complies with both ISO and non-ISO standards, with baud rates from 125Kbps to 8Mbps
LIN	Supports LIN1.3 and 2.0, baud rate from 0 to 20Kbps
Schedule Table	Supports LDF files and running scheduling tables, or configuring scheduling tables independently
Timestamp	1 μs 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 isolation up to DC2500V, electrostatic discharge level ±8KV
Power Supply	USB-powered, external power supply required for LIN communication
Casing Material	Aluminum
Dimensions	100mm x 80mm x 30mm
Operating Temperature	-40℃ to 80℃
Operating Humidity	10% to 90% (non-condensing)
Operating Environment	Keep away from corrosive gases

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

Ordering information

Product Name	Model Number	Function Description
Network Device	TC1016	4 channel CAN FD and 2 channel LIN to USB interface

Shipping list

- TC1016 device
- USB Cable *1
- DB9 female to two DB9 male CAN cable *2
- DB9 female connector to 5 banana plugs LIN bus cable *1

Pin definition   Left: LIN 1/2   Center: CAN FD 1/3   Right: CAN FD 2/4

Left connector (LIN 1/2):
- 9 → V_BAT_LIN1
- 8 → LIN1
- 3 → GND1
- 7 → VBAT_LIN2
- 2 → GND
- 6 → LIN2

Center connector (CAN FD 1/3):
- 5 → CANFD_Shield
- 4 → CANFD3_Low
- 8 → CANFD3_High
- 3 → CANFD_GND
- 7 → CANFD1_High
- 2 → CANFD1_Low

Right connector (CAN FD 2/4):
- 5 → CANFD_Shield
- 4 → CANFD4_Low
- 8 → CANFD4_High
- 3 → CANFD_GND
- 7 → CANFD2_High
- 2 → CANFD2_Low