TOSUN

TC1016P

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

TC1016P is a multi channel CANFD and LIN bus interface device introduced by TOSUN. It supports a maximum CAN FD bus rate of 8 Mbps and LIN bus rates ranging from 0 to 20 Kbps. The product utilizes a high-speed USB 2.0interface for connection to a PC, and it's driver-free design is compatible with both Windows and Linux systems.

With the powerful TSMaster software, the device supports loading DBC, LDF, ARXML database files, enabling convenient monitoring, analysis, and simulation of CAN FD/LIN bus data.It also supports functions such as UDS diagnostics, ECU flashing, CCP/XCP calibration, among others.

The device is suitable for secondary development APIs on Windows and Linux, supporting various development environments such as C++, C#, LabView, Python, making it easy to integrate into various testing systems for efficient and user friendly operation.

Characteristics

- Microsecond-level hardware timestamp for meeting high-level requirements
- High-speed USB 2.0 interface with driver-free design for
- Windows and Linux systems, ensuring system compatibility
- CAN channel isolation up to DC2500V
- Automotive-grade design, supporting LDF, dbc, a2l, blf, asc, and arxml file formats
- CAN channel baud rate adjustable from 125Kbps to 8Mbps
- LIN bus master and slave nodes can be software configured
- Support for blf and asc format data logging and offline/online replay
- Capable of UDS diagnostic
- Capable of CCP and XCP calibration
- Supports UDS-based Flash Bootloader
- Supports LIN bus-based UDS diagnostics
- Supports information security testing
- Secondary development interfaces available for Windows and Linux systems
- Built-in 120-ohm terminal resistor configurable through software
- Compatible with loading 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 connectors
Driver	Driverless 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, baud rate from 5Kbps to 1Mbps
CAN FD	Supports both ISO and non-ISO 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 Precision	1us 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 Voltage	CAN channel isolation up to DC2500V, electrostatic discharge level ±8KV
Power Supply Method	USB-powered, external power supply required for LIN communication
Enclosure Material	Aluminum
Dimensions	100mm*80mm*30mm
Operating Temperature	-40°C to 80°C
Operating Humidity	10% to 90% (non-condensing)
Operating Environment	Keep away from corrosive gases

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

Ordering Information

Product Name	Model Number	Function Description
Network Device	TC1016P	4 channel CAN FD, 2 channel LIN to USB interface

Shipping list

- TC1016P device
- USB Cable
- DB9 female to dual male signal splitter x 2
- DB9 female connector to 5 banana plugs LIN bus cable

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

8 → LIN1
3 → GND
2 → GND
6 → LIN2

5 → CANFD_Shield
4 → CANFD3_Low
8 → CANFD3_High
3 → CANFD_GND
7 → CANFD1_High
2 → CANFD1_Low

5 → CANFD_Shield
4 → CANFD4_Low
8 → CANFD4_High
3 → CANFD_GND
7 → CANFD2_High
2 → CANFD2_Low