TOSUN

TC1026

Multi-channel CAN FD/LIN Bus Interface

Classic Application:

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

Feature Overview

TC1026 is a multi-channel CAN FD and LIN bus interface device introduced by TOSUN. It supports a maximum CAN FD bus rate of 8 Mbps and LIN support at rates from 0 to 20 Kbps. The product utilizes a high-speed USB 2.0 interface for connection to a PC, and its Windows plug-and-play design ensures system compatibility.

Combined with the powerful TSMaster software, TC1026 supports the loading of DBC, LDF, and ARXML data base files. This facilitates convenient monitoring, analysis, and simulation of CAN FD/LIN bus data. Additionally, it supports functionalities such as UDS diagnostics, ECU flashing, CCP/XCP calibration, and more.

It is suitable for secondary development with APIs available for both Windows and Linux systems, supporting various programming environments such as C++, C#, LabView, Python, among others. This versatility enables easy integration into diverse testing systems, ensuring high efficiency and usability.

Characteristics

- Microsecond (µs)-level hardware message timestamping, meeting advanced requirements
- High-speed USB 2.0 interface, plug-and-play design for Windows and Linux systems, ensuring system compatibility
- CAN channels isolated at DC 2500V
- Automotive-grade design, supporting LDF, dbc, a2l, blf, asc, and arxml files
- Adjustable CAN bus baud rates from 125Kbps to 8Mbps
- LIN bus master and slave nodes configurable via software
- Support for recording and offline/online replay in blf and asc formats
- Capable of UDS diagnostics, CCP, and XCP calibration
- Support for UDS-based Flash Bootloader
- Capability for UDS diagnostics based on the LIN bus
- Support for information security testing
- Secondary development interfaces for Windows and Linux systems
- Built-in 120-ohm terminal resistance configurable via software
- Capability to load all paid licenses for TSMaster

Specification

Channel	1 x CAN FD 6 x LIN
PC End	High-speed USB 2.0 interface
CAN/LIN interface	DB9
Drivers	Driverless design for Windows and Linux systems, ensuring system compatibility
Buffer	Each channel supports a transmit buffer of up to 1000 CAN frames
CAN	Support for CAN 2.0A, B protocols, compliant with ISO11898-1 standard, baud rate from 5Kbps to 1Mbps
CAN FD	Support for ISO and non-ISO standard CAN FD, baud rate from 125Kbps to 8Mbps
LIN	Support for LIN 1.3 and 2.0, baud rate from 0 to 20Kbps
Schedule Table	Support for LDF files and execution of scheduling tables, or self-configuration of scheduling tables
Timestamp Precision	1μs hardware message timestamp
Termination Resistor	Built-in 120-ohm terminal resistance configurable via software
Messages Sent per Second*	Maximum 20,000 frames/second
Messages received per second*	Maximum 20,000 frames/second
Isolation Voltage	CAN channel isolation at DC 2500V, electrostatic discharge contact level ±8KV
Power Supply Method	USB-powered; external power supply required for LIN communication
Casing Material	Aluminum
Size	100mm*80mm*30mm
Operating Temperature	-40°C to 80°C
Operating Humidity	10% to 90% relative humidity (non-condensing)
Operating Environment	Keep away from corrosive gases

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

Ordering information

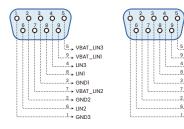| Product Name	Model Number
Network Device	TC1026
Function Description	
1 channel CAN FD, 6-channel LIN to USB interface	

Shipping list

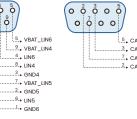· TC1026 device   · USB cable   · DB9 female connector to 5 banana plugs LIN bus cable

Pin definition

· Left: LIN1/2/3   · Middle: LIN4/5/6   · Right: CANFD

Left (LIN1/2/3):
- 5 → VBAT_LIN3
- 9 → VBAT_LIN1
- 4 → LIN3
- 8 → LIN1
- 3 → GND1
- 7 → VBAT_LIN2
- 2 → GND2
- 6 → LIN2
- 1 → GND3

Middle (LIN4/5/6):
- 5 → VBAT_LIN6
- 9 → VBAT_LIN4
- 4 → LIN6
- 8 → LIN4
- 3 → GND4
- 2 → GND5
- 6 → LIN5
- 1 → GND6

Right (CANFD):
- 5 → CANFD_Shield
- 3 → CANFD_GND
- 7 → CANFD_High
- 2 → CANFD_Low