

TC1034

2 channels of CAN FD/FlexRay



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Classic Application:

- FlexRay Bus Flexible Analysis
- Precise Time Analysis of Bus Communication Data
- ECU Testing Analysis and Gateway Applications

Feature Overview

TC1034 is a high performance multi channel CAN FD and FlexRay bus interface device launched by TOSUN Technology. The CAN FD bus rate supports up to 8 Mbps, and FlexRay uses a dual line redundant method for data transmission, providing very low latency and flexible bandwidth allocation mechanism. It supports various data types and rich topological structures, and can be used as a bus system or as an element in star/tree network structure. The product uses a USB 2.0 interface to connect with the PC and features a driver-less design for Windows and Linux systems, ensuring excellent system compatibility.

With the powerful TSMaster software, it supports loading DBC and ARXML database files, making it very convenient to monitor, analyze, and simulate CAN FD/-FlexRay bus data, and it also supports functions such as UDS diagnostics, ECU flashing, CCP/XCP calibration, etc. It can also easily handle tasks such as FlexRay network development, simulation, testing, etc.

The secondary development APIs for Windows and Linux can support various development environments such as C++, C#, LabView, Python, etc., making it highly efficient and easy to use, and is convenient to integrate into various testing systems.



Characteristics

- μ s (microsecond) level hardware message timestamps to meet advanced requirements
- CAN channel DC 2500 V isolation
CAN channel baud rate adjustable from 125 Kbps to 1 Mbps, and CAN FD supports a maximum of 8 Mbps
- Supports blf and asc format data recording and offline/online playback
- Supports UDS diagnostics and CCP/XCP calibration
- Supports UDS based Bootloader flashing
- Auxiliary communication controller, eliminating the need to add extra nodes during cold starts
- Perfectly adapts to FlexRay, CAN/CAN FD bus applications based on TSMaster
- Supports secondary development interfaces for Windows and Linux systems

Functions of FlexRay

- Flexible configuration for communication controller buffer
- Capable to detect empty frame
- Capable of forming composite communication modes through multiple cycles (Cycle multiplexing)
- Supports frame payloads up to a maximum of 254 bytes
- Supports PDUs
- Features a start up monitoring function
- Supports FlexRay message recording and replay
- Supports using two FlexRay channels as two separate FlexRay nodes (parallel connected)

Specification

Channel	2 x FlexRay / 2 x CAN FD
PC Interface	USB 2.0
CAN/FlexRay Interface	DB9
Driver	Driver-free design for Windows and Linux systems, ensuring system compatibility
FlexRay	FlexRay channels (A and B)
Cold start	Supported
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 125 Kbps to 1 Mbps
CAN FD	Supports CAN FD that complies with both ISO and non-ISO standards, with baud rates from 125 Kbps to 8 Mbps
Timestamp Accuracy	1 μ s hardware message timestamp
Isolation	CAN/FlexRay channel isolated at DC 2500 V, with ESD protection of ± 4 KV (contact discharge) and ± 8 KV (air discharge)
CAN Terminal Resistor*	Built in 120 ohm resistor, software configurable
FlexRay Terminal Resistor*	Built in 100 ohm resistor, software configurable

Messages Sent per Second*	Up to 20,000 frames per second
Messages Received per Second*	Up to 20,000 frames per second
Power Supply	USB powered
Power Consumption	3 W
Casing Material	Metal
Dimension	Approx. 108 x 88 x 35 mm
Weight	Approx. 262 g (without packaging)/Approx. 779 g (with packaging)
Operating Temperature	-40°C ~ 75°C
Operating Humidity	10% ~ 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	TC1034	2 channel CAN FD / FlexRay to USB interface

Shipping list

- TC1034 device
- USB Cable
- DB9 female to dual male signal cable (CAN)
- DB9 female to dual male signal cable (FlexRay)



USB Cable



DB9 adapter cable
(CAN)



DB9 adapter cable
(FlexRay)

Pin definition

- Left: FlexRay 1/2
- Right: CAN FD 1/2

