

TP1051

100Base-Tx 1000Base-T 100/1000Base-T1 Interface Tool



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Classic Application:

- In vehicle Ethernet remaining bus simulation
- In vehicle Ethernet data monitoring and analysis
- In-vehicle Ethernet communication testing
- ECU flashing based on DoIP

Feature Overview

TP1051 is a tool that serves as a 2 channel Ethernet to PCIe interface. Users can transmit data in one of the modes, including standard Ethernet 100Base-Tx, 1000Base-T, or in-vehicle Ethernet 100/1000Base-T1, through the PCIe interface to a PC. This allows for the simulation, analysis, and testing of Ethernet data using TSMaster software. Additionally, TP1051 supports functionalities such as DoIP and SOMEIP.

TP1051 enables computers with PCIe slots to conveniently connect to in-vehicle Ethernet networks. It has a compact size and can be easily integrated into in-vehicle industrial computers, single-board computers (SBCs), portable industrial hosts, and industrial notebooks. The installation is convenient, and the usage is straightforward.

Characteristics

- Hardware timestamping at the hundred microsecond (μ s) level
- Plug-and-play design for Windows 10 /11 systems; driver installation required for Windows 7
- 2 channels supporting 100Base-Tx, 1000Base-T, and 100/1000Base-T1, switchable at any time through software
- In-vehicle Ethernet interface options: TE MATenet or Rosenberger H-MTD
- Automotive-grade design, supports loading ARXML files in TSMaster for parsing in-vehicle Ethernet messages
- Supports DoIP (Diagnostics over Internet Protocol)
- Supports SOMEIP (Scalable service-Oriented Middle-ware over IP)
- Comes with Windows secondary development API interface, supporting Ethernet message RAW format reception, transmission with timestamps, transmission completion events, CRC modification hardware MAC filtering, and sub-device software VLAN filtering
- Provides TCP/IP example projects based on API interface and lwIP protocol stack for easy secondary development
- Loopback maximum rate approximately 7 megabytes (full-duplex)
- Operating temperature range: -40°C to 80°C

Specification

Channel	Standard Ethernet 100Base-Tx, 1000Base-T, or in-vehicle Ethernet 100/1000Base-T1
PC End	Standard PCIe interface
Ethernet interface	RJ452 and TE MATenet2 or Rosenberger H-MTD2
Driver	Plug-and-play design for Windows 7/10/11 systems
Timestamp accuracy	Microsecond-level hardware packet timestamp
Isolation	Network transformer/capacitor isolation
Power supply	Powered through PCIe port
Operating temperature	-40°C ~ 80°C
Dimension	128mm x 98mm x 21.5mm

Ordering Information

Product name	Model	Interface Type	Feature description
Network Devices	TP1051	TE MATenet	2 channel 100M/1G In-Vehicle Ethernet to PCIe Interface
		Rosenberger H-MTD	

Shipping list

- TP1051 Board
- TE MATenet or Rosenberger H-MTD Cables
(Non-standard configuration, must be ordered separately)

