MEDIACONVERTER 1000BASE-T1 TC10

CONVERSION BETWEEN STANDARD ETHERNET AND 100/1000BASE-T1 WITH TC10 SUPPORT

technica engineering
Member of KPIT Group

THE MEDIACONVERTER IS AVAILABLE IN TWO VARIANTS

- MediaConverter 1000BASE-T1 MATEnet TC10
- MediaConverter 1000BASE-T1 H-MTD TC10

FITS WELL WITH

- Capture Module 100High TC10
- Enhanced Ethernet Switch MATEnet MACsec
- Capture Module 1000 High MATEnet

DESCRIPTION

The **MediaConverter 1000BASE-T1 TC10** of Technica Engineering establishes a direct point-to-point conversion between Automotive ECUs using 100/1000BASE-T1 Automotive Ethernet and a Standard Ethernet interface (e.g., test PC). In the conversion, no packets are stored or modified the conversion takes place on the physical layer with the highest proven reliability.

This device uses the 88Q2221x Automotive Ethernet PHY supporting wakeup over Ethernet according to the Open Alliance TC10 specification. We ensure a trustworthy and effective tool to our customers who are looking for a cost-efficient, quick, and manageable solution for their testing requirements, with no latency and no packet loss.

The supported wakeup over Ethernet according to the Open Alliance TC10 is used to trigger the startup and shutdown of ECUs in the vehicle network. This is used for the first startup/wakeup of central ECUs, when the car is started by the driver.

The MC 1000BASE-T1 TC10 features bi-directional conversion between Automotive Ethernet standards (100/1000BASE-T1) to, for example, a test PC with a Standard Ethernet network interface card. No customized driver is needed to interact with this MediaConverter.

A convenient housing coupled with DIP switches for ease of configuration, enables the user to interact with the converter in an easy–to–use manner. Its design makes it portable and easy to install in test racks. The metal housing makes it robust with IP20 protection.

The devices can also be accessed using the USB connector to read PHY register values and information about link quality and SQI. With the in-built status LEDs, the operation of the device is transparent and aids the tester to detect link-up and data transmission visually.

Thus, the MC 1000BASE-T1 TC10 is the ideal solution for working quickly and efficiently with the new TC10 technology for Automotive Ethernet without the burden of extra wiring, customized connectors, and vendor specific tools.

FACTS

- 4 × DIP switches for easy configuration
- 5 × Status LEDs
- 1 × Standard Ethernet port (100/1000BASE-T) for connection to a test PC or similar device
- 1 × MATEnet/H-MTD port for 100/1000BASE-T1 Automotive Ethernet
- 1 × MQS connector
- Cable set:
  - Tyco MQS socket
  - 1 × Automotive MATEnet/H-MTD connecting cable
  - Power cabling
  - Standard Ethernet cable
- Voltage requirement: 12/24 Volt DC
- Temperature Range: -40°C to + 85°C
- Robust metal case with black powder coating
- Size: 89 x 72 x 28mm

FEATURES

- Support for wakeup via the BASE-T1 link according to the Open Alliance TC10 specification
- TC10 wakeup can be configured using simple commands in the Media Converter console
- Wake-up/Sleep functionality
- Converts between 100/1000BASE-T1 Automotive Ethernet and 100BASE–TX/1000BASE-T Standard Ethernet
- Force Slave mode and link down (input) and provide link status (output) via special MQS connector
- Debugging possible via Micro USB connection
- Configuration via DIP switches:
  - DIP switch 1: Master/Slave
  - DIP switch 2: 100/1000 Mbps
  - DIP switch 3: IEEE-/Legacy mode
  - DIP switch 4: Frame Generator

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