

DATASHEET

MEDIACONVERTER 100BASE-T1

General description

MediaConverters of Technica Engineering are compact and reliable devices for development and testing activities. These hardware tools establish a physical layer conversion between Automotive Ethernet IEEE connections and any device with a standard Ethernet Network Interface Card with a RJ-45 connector.

Conversion

MediaConverters transmit data frames directly from the physical layer 100BASE-T1 and the physical layer 100BASE-TX, with a deterministic and constant delay of approximately 2 microseconds.

Application Areas

MediaConverters of Technica Engineering can be used on the development desk and even in harsh environments. With its robust design and ease of use, it's perfect for integration into test racks, rapid prototyping, and lab setups. Whether you're testing for data transmission, link quality, or interfacing between Ethernet speed, this converter offers a reliable, efficient solution for automotive Ethernet applications.

Configuration

MediaConverters can be statically configured for standalone operation but also controlled remotely for dynamic operation.

Standalone operation is defined via 4x DIP switches for basic configuration of the device:

- DIP Switch 1: Master/Slave
- DIP Switch 2: not used
- DIP Switch 3: not used
- DIP Switch 4: Frame Generator

For advanced use cases, to control remotely the operation or additional debugging purposes, there is a serial interface (console), which is accessible through micro USB-B connector. This interface enables the users to read TX/RX register counters, SQI values of the channels, CRC errors, and other information as well as dynamically change the MediaConverters configuration overriding DIP switches. It can also be used for Firmware updates of the device.



MediaConverter 100BASE-T1

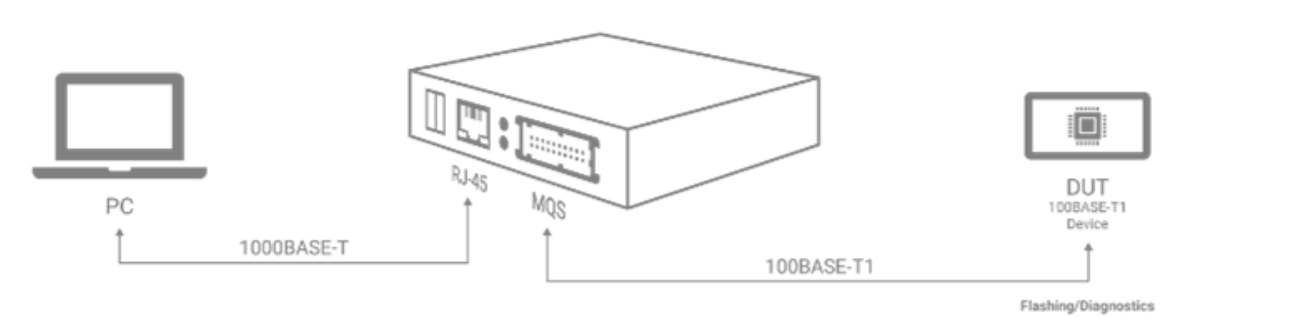
Technical Data

Operating Temperature	-40 °C to +85 °C
Supply Voltage	6 V to 30 V DC (typ. 12 V)
Connector	MQS 6 pin (plug counterpart BU-GEH 6P)
Power consumption	2 W
IP Protection Class	IP20
Housing Dimensions	89 mm (W), 72 mm (L), 28 mm (H)
Weight	0,2 kg (approx..)
Interfaces	1x 100BASE-T1 (MQS) 1x 100BASE-TX (RJ45) Micro USB-B

Characteristics of MediaConverter 100BASE-T1

Conversion from TX to T1	100BASE-T1
Ports/Connectors	RJ-45 Ethernet port
	MQS connector
	Micro USB-B port
Configuration method	DIP Switches
	Console (serial Interface)
Features	Frame generator
	Status LEDs
	Diagnostics
	Firmware updates
Transceiver	Marvell 88Q2112 A2

Use case



Order Information

Name	Article Number	Cable set number*
MediaConverter 100BASE-T1 MQS	TE-1420	KS-1420

*Cable set needs to be ordered separately