DATASHEET

MEDIACONVERTER MultiGigabit

General description

MediaConverters of Technica Engineering are compact and reliable devices for development and testing activities. They establish a direct point-to-point conversion between Automotive ECUs using the 2.5/5/10GBASE-T1 MultiGigabit standard and an SFP+ module compatible with MultiGigabit Ethernet interfaces.

Physical layer conversion

MediaConverters provide direct point-to-point conversion uses the 2.5G/5G/10GBASE-T1 IEEE 802.3ch compliant Automotive Ethernet PHY with MACsec/TC10 support. It supports bi-directional conversion across Ethernet standards.

Application areas

MultiGigabit MediaConverter is designed for a range of application areas, particularly in automotive ECU testing environments. It supports testing with the latest 2.5/5/10GBASE-T1 MultiGigabit Ethernet standards, making it ideal for automotive Ethernet development, validation, and troubleshooting. 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 different Ethernet speeds, this converter offers a reliable, efficient solution for high-speed automotive Ethernet applications.

Configuration Options

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 MultiGigabit MediaConverter:

- DIP Switch 1: Master/Slave
- DIP Switch 2: 10G/other
- DIP Switch 3: 2.5G/5G
- DIP Switch 4: not used

Remote-controlled operation without computer is available through GPIOs in MQS connector.

Finally for advanced use cases, to control remotely the operation or additional debugging purposes, there is a serial interface (console), which is accessible through via USB. 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.

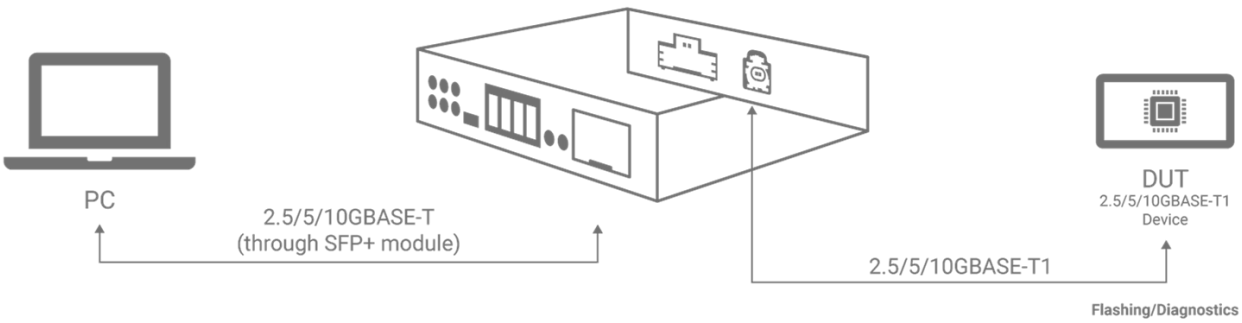
MediaConverter MultiGigabit

Technical Data

Operating Temperature	-40 °C to +85 °C
Supply Voltage	6 V to 30 V DC (typ. 12 V)
Power connector	MQS 6 pin (plug counterpart BU-GEH 6P)
Power consumption	3.5 Watt
IP Protection Class	IP 20
Housing Dimensions	100 mm (W) x 93.5 mm (L) x 27 mm (H)
Weight	0,3 kg (approx.)
Interfaces	1x 2.5/5/10GBASE-T1 (H-MTD) 1x 2.5/5/10GBASE-T (SFP+ Port) Micro USB-B

Characteristics of MediaConverters variants		PT-1416 Marvell variant	PT-1415 BCM variant
Conversion from TX to T1	2.5/5/10GBASE-T1	✓	✓
Ports/Connectors	MQS power connector	✓	✓
	SFP+ port	✓	✓
	H-MTD	✓	✓
	Micro USB-B debug port	✓	✓
Configuration method	Standalone DIP Switches	✓	✓
	Remote console (serial Interface)	✓	✓
	Remote through GPIOs	✓	✓
Features	Status LEDs	✓	✓
	Rate matching	-	✓
	Diagnostics	✓	✓
	Test modes	✓	✓
	Firmware updates	✓	✓
Transceiver	Marvell MVQ3244-A2	✓	-
	Broadcom BCM89890-B1	-	✓

Use case



Order Information

Name	Article Number	Article number cable set*
MediaConverter MultiGigabit Broadcom	PT-1415	KS-141X
MediaConverter MultiGigabit Marvell	PT-1416	KS-141X

*Cable set needs to be ordered separately