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100/1000BASE-T1 Media Converter H-MTD

Fast/Gigabit Automotive Ethernet to Standard Ethernet converter with advanced features

FEATURES

- Automotive Ethernet to Standard Ethernet conversion
- 1000BASE-T1 and 100BASE-T1 support
- Rosenberger H-MTD connector
- Speed auto-negotiation or manual selection
- Master/slave auto-negotiation or manual selection
- IEEE and Legacy mode
- Frame generator mode
- USB for configuration, status and port diagnostic
- Can be used as a USB to CAN(/FD) interface
- USB or externally powered
- Aluminium enclosure
- DIN rail mounting possibility

The 100/1000BASE-T1 Media Converter H-MTD establishes a point-to-point link between the Automotive Ethernet and Standard Ethernet, supports both 100 Mbit and 1000 Mbit speeds, and features the Rosenberger H-MTD connector.

The media converter realizes a full-duplex physical-layer conversion between 1000BASE-T1 and 1000BASE-T (Gigabit Ethernet), or 100BASE-T1 and 100BASE-TX (Fast Ethernet) networks, and features Rosenberger H-MTD and RJ-45 connectors. Communication speed and master/slave settings can be auto-negotiated with a link partner or set manually by the user.

The device offers advanced features such as frame generator, cable diagnostic, as well as a possibility to be used as a USB to CAN(/FD) interface simultaneously with the media conversion function.

An open communication protocol over USB or CAN(/FD), which allows to read status information and configure port parameters, enables to easily integrate the converter into any system. The user can programmatically configure the device. A free-of-charge PC application is available to visualise the device's status, configure its parameters and use the advanced functions.

The media converter is an ideal tool for connecting a 100BASE-T1 or 1000BASE-T1 ECU into a computer or a laptop. The in-built status LEDs and dip switches allow to easily use the converter without a PC.

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TECHNICAL SPECIFICATION

FEATURES

Media conversion	1000BASE-T1 to 1000BASE-T 100BASE-T1 to 100BASE-TX
Status information	Link status / activity / error
Configuration	Speed: 100 / 1000 / Auto-negotiation Mode: Master / Slave / Auto-negotiation Frame generator: On / Off Link mode: IEEE / Legacy
Integration	Open communication protocol over USB VCP or CAN(/FD) allows to configure port parameters, read port status, and run cable diagnostic
USB-CAN(/FD) Interface	Possibility to use the device as a USB-CAN(/FD) interface (open communication protocol over USB VCP) – simultaneously to the media conversion function
PC application	Free-of-charge PC application to read status information, configure the converter, run cable diagnostic, use USB-CAN(/FD) function
Firmware update	Over USB

COMMUNICATION CHANNELS

Automotive Ethernet	1000BASE-T1 (IEEE 802.3bp) or 100BASE-T1 (IEEE 802.3bw)
Ethernet	1000BASE-T (IEEE 802.3ab – Gigabit Ethernet) or 100BASE-TX (IEEE 802.3u – Fast Ethernet)
CAN	CAN-HS channel with CAN FD support (ISO 11898-1:2015; CAN2.0A/B; ISO CAN FD)
USB	USB 2.0 CDC

ELECTRICAL

Power	USB External 7 – 30 V DC (polarity and surge protection) over 2-pin or 6-pin terminal block
Consumption	1000 Mbit: 150 mA @ 12 V 100 Mbit: 100 mA @ 12 V
LEDs	4 Dual-colour LEDs 2 LEDs (RJ-45 connector) 1 Power LED
Transceivers	1000BASE-T1: 88Q2110 A2 1000BASE-T: KSZ9131

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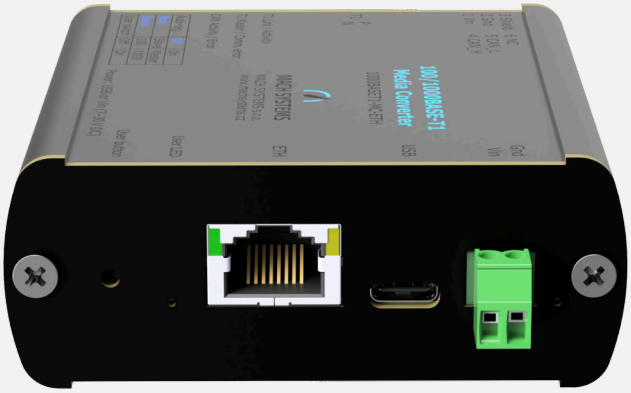
MECHANICAL

Connectors	1000BASE-T1: Rosenberger H-MTD 1000BASE-T: RJ-45 CAN bus and power: 6-pin terminal block (Molex Micro-Fit) Power: 2-pin terminal block (TE) USB 2.0: USB Type-C
Switches	4 DIP switches 1 Push button
Dimensions (L x W x H)	84 x 82 x 33 mm
Weight	142 g
Operating temperature	-20 to 70 °C
Enclosure	Aluminium profile
Protection	IP20
Placement	Table (adhesive pads included) DIN-rail mount (clip sold separately)

ORDERING INFORMATION

PRODUCT NUMBER	DESCRIPTION
1000BASET1-MC-HMTD	100/1000BASE-T1 Media Converter H-MTD
HARNESS-HMTD-HMTD-0M5	Rosenberger H-MTD female to H-MTD female STP cable; length 0.5 m
HARNESS-HMTD-HMTD-2M	Rosenberger H-MTD female to H-MTD female STP cable; length 2 m
ADAPTER-MATENET-HMTD-M	TE MATEnet male to Rosenberger H-MTD male PCB adapter
ADAPTER-HMTD-TERMINAL-M	Rosenberger H-MTD male adapter to terminal block PCB adapter
HARNESS-MOLEX6-OPEN-1M	6-pin Molex Micro-Fit to open end; length 1 m
HARNESS-MOLEX6-OPEN-5M	6-pin Molex Micro-Fit to open end; length 5 m
1000BASET1-NET-SDK	.NET SDK API (DLL) to access the device over USB (VCP) or CAN/FD. The API allows to read the status and configure the device, run cable test, and to use the device as a USB-CAN(FD) interface.
DIN-BRACKET-UNI	Universal holder for mounting any enclosure on a DIN rail



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