

100/1000BASE-T1 MEDIACONVERTER hMTD

USER MANUAL

October 2020

Manual-Version: 1.3

Firmware: 1.0.0

Hardware: v1.0 and higher

CONTENT

1	GENERAL INFORMATION.....	4
1.1	Functionality and Features of the 100/1000BASE-T1 MediaConverter hMTD 4	
1.1.1	Features.....	4
1.1.2	General Information	4
1.1.3	LINKS	5
1.1.4	General operating and safety strategy of Technica Engineering’s Products 5	
1.1.5	General design rules for the power supply of Technica Engineering’s products.....	5
1.2	Warranty and Safety Information.....	6
1.3	RoHS Certificate of Compliance.....	8
1.4	Scope of delivery.....	8
1.5	ChangeLog Hardware	8
2	HARDWARE INTERFACES	9
2.1	Connectors.....	9
2.1.1	RJ-45 Connector (1)	9
2.1.2	hMTD Connector (2)	9
2.1.3	Power MQS Connector (3).....	10
2.1.4	Micro HDMI Debug Connector (4).....	11
2.2	DIP Switches (5).....	11
2.3	Status LEDs (6)	11
2.3.1	Resetting Error LED:.....	11
3	CONFIGURATION OF THE DEVICE.....	12
3.1	DIP switches.....	12
3.2	Configuration through Power MQS Connector	12
3.2.1	Link Status Output (LS) (PIN 2)	13
3.2.2	Force Link Down (LD) (PIN 3).....	13
3.2.3	Force Slave mode (FS) (PIN 4).....	13
3.3	Frame Generator.....	13
4	STANDARD USE CASE.....	15
5	USED 100/1000BASE-T1 FILTER.....	16
6	ADDITIONAL INFORMATION.....	17
7	LIST OF FIGURES.....	18

8	CHANGELOG	19
9	CONTACT	20
10	DECLARATION OF CONFORMITY	21

1 GENERAL INFORMATION

1.1 Functionality and Features of the 100/1000BASE-T1 MediaConverter hMTD



Figure 1-1: 100/1000BASE-T1 MediaConverter hMTD

The **Technica Engineering 100/1000BASE-T1 MediaConverter hMTD** transmits data frames directly from the physical layer 100/1000BASE-T1 to the physical layer 100 BASE-TX or 1000BASE-T with deterministic and constant delay of about 2 μ s.

1.1.1 Features

- 1 Port 100/1000Base-T1 Ethernet with Marvell 88Q2112 A2 Transceiver, 100/1000 MBit/s Full duplex on a single unshielded twisted pair with hMTD Connector
- 1 Port 100BASE-TX / 1000BASE-T1 Ethernet with RJ-45 connector
- Robust steel case
- 4 DIP Switches for easy configuration
- Support of 1000BASE-T1 IEEE and Marvell Legacy Mode

1.1.2 General Information

Voltage requirement:	6 to 30 Volt DC (nominal 12/24 Volt DC)
Power consumption:	2 Watt
Size WxLxH:	89 x 72 x 28 mm
Weight:	0,22 kg
International Protection:	IP 2 0
Operating temperature:	-40° to +80 °Celsius

Latency: ($\pm 0.1 \mu\text{s}$) tolerance

Direction	Mode	Latency [μs]
BASE-T1 to Fast Ethernet	100Mbps	1.6
Fast Ethernet to BASE-T1	100Mbps	1.2
BASE-T1 to Ethernet	1Gbps and legacy/IEEE mode	2.5
Ethernet to BASE-T1	1Gbps and legacy/IEEE mode	2.7

Table 1-1: Latency tolerance

1.1.3 LINKS

The user can download the latest firmware and documentation for the 100/1000BASE-T1 MediaConverter here:

<https://technica-engineering.de/en/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

1.1.4 General operating and safety strategy of Technica Engineering's Products

Technica Engineering's products are designed for operation in automotive systems and for supply voltages of nominal 12 V or 24 V. The applicable limit, values adhere to the standard norms for 12 V or 24 V automotive onboard power systems correspondingly and can be found in the mentioned norms.

Should Technica Engineering's products be operated in voltage ranges beyond those specified in the norms, which represents a breach of the conditions of operation, then this will void the product warranty and Technica Engineering will assume no liability whatsoever of the results and/or consequences thereof.

This is especially valid whenever the voltage level reaches or exceeds the limits of the low-voltage directive. In this case, damage to the devices cannot be excluded. Due to the manufacturing characteristics of the devices, there is no imminent fire hazard from the device itself, if the devices are being operated in an environment according to the conditions of use. A secondary fire hazard cannot be excluded, should those conditions not be met. A protection against overvoltage cannot be provided in such a breach of the conditions of use.

1.1.5 General design rules for the power supply of Technica Engineering's products




The power supply circuit of Technica Engineering's products are equipped with self-protection components. This automatic function protects the devices against excessive






temperature and too high supply-voltage by switching the device off. This automatic switch-off function is independent of any software function.

The root-cause of excessive temperature in the power supply circuit can eventually be due to a too high environment temperature or due to an internal failure of the device. In both cases, the automatic switch-off function will switch-off the power supply from the device to avoid further damage.

The protection against too high supply-voltage protects the device even in case of an internal failure of the Technica Engineering device.

1.2 Warranty and Safety Information

	<p>Before operating the device, read this manual thoroughly and retain it for your reference.</p> <p>The latest documentation for the 100/1000BASE-T1 Media Converter hMTD can be downloaded here: https://technica-engineering.de/en/produkt/100-1000base-t1-mediaconverter-hmtd-connector/</p>
	<p>Use the device only as described in this manual.</p> <p>Use only in dry conditions.</p> <p>Do not insert any foreign object in the slots/openings of the housing.</p> <p>Do not apply power to a damaged device.</p> <p>The device may only be used by specialists.</p>
	<p>Do not open the device. Otherwise, the warranty will be lost.</p>

	<p>This product is intended for use in automobiles or automotive-like environments. An automotive-like environment includes test setups or test benches in the office, laboratory and workshop areas. In the test setups the same environmental conditions apply as in vehicle electrical systems. Technica Engineering products are not intended to be used as standard IT equipment. The test systems and products from Technica Engineering are designed as customer and application-specific test modules that are only used by specialists for development and test facilities.</p> <p>When integrating the modules in a vehicle or test set-up, the user must ensure appropriate ventilation or air convection. Technica Engineering products must not be considered as a safety element out of context when using safety-critical systems and must be included in the safety assessment when used. The development class in a safety system must be taken into account with standard QM referred to ISO26262.</p>
	<p> The device can get hot.</p> <p>Do not cover the device due to fire danger. Do not place the device near to highly flammable materials due to fire danger. Do not use the device above the specified operating temperature. The operating temperature is the ambient temperature of the installation space.</p>
	<p>This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal. Technica Engineering GmbH is registered as manufacturer of the brand "Technica Engineering" and the device type "Small devices of Information- and Telecommunications- technology for exclusive use in non-private Households". WEEE reg. No. DE 20776859</p>
	<p>Please refer to CHAPTER 10 for the EU Declaration of Conformity in accordance with Directive 2014/30/EU.</p>

1.3 RoHS Certificate of Compliance

Technica Engineering's 100/1000BASE-T1 MediaConverter hMTD complies with RoHS (Restriction of Hazardous Substances Directive), see Certificate of Compliance on [CHAPTER 10](#).

1.4 Scope of delivery

The delivery includes:

- 1x 100/1000BASE-T1 MediaConverter hMTD

Cable-set can be ordered separately:

- 1x Cable set
 - 1m Ethernet Cable
 - Connectors and crimp contacts,
 - LCA-101-2000-Z-Rosenberger Cable Assembly
 - 4mm banana plugs

1.5 ChangeLog Hardware

Version	Change	Date
1.0	First release	Aug 2020

2 HARDWARE INTERFACES

2.1 Connectors

Here you can see an overview of all HW interfaces of the 100/1000BASE-T1 MediaConverter on the front side and backside.

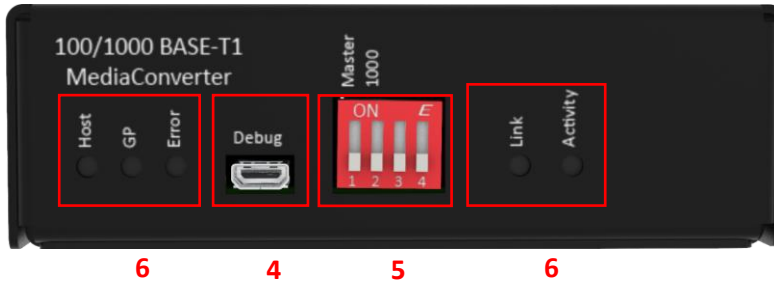


Figure 2-1: Front side of MediaConverter

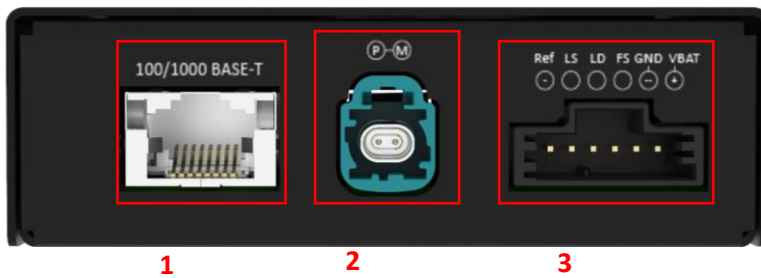


Figure 2-2: Back side of MediaConverter

2.1.1 RJ-45 Connector (1)

This is a standard RJ-45 connector to be used with CAT5e STP cable for 100BASE-TX or 1000BASE-T connections.

2.1.2 hMTD Connector (2)


Name	Picture	Part Number
Rosenberger hMTD Stecker		E6K10A-1CAZ5-Z

Table 2-1: Parts of Tyco hMTD Connector

Pinning:



Pin	Function
1	Data Line Plus (Positive)
2	Data Line Minus (Negative)

Figure 2-3: hMTD Connector Table 2-2: hMTD Connector

This is a shielded connector. The shield in the device is connected to the ground with 10 Ohm and 10 nF.

2.1.3 Power MQS Connector (3)




Name	Picture	Part Number
TE connectivity 6pos MQS .63 header 90deg THR		1-1418888-5
TE connectivity MQS BU-GEH 6P		1-969508-2 Distributor: mouser.de
TE connectivity MQS crimp contact		928999-1 Distributors: Mouser.de; Digikey.de

Table 2-3: Parts of Tyco MQS Connector

Pinning:


Pin	Function
1	Reference GND only
2	Link Status Output (3V3, Active High) (LS)
3	Force LinkDown Input (Active Low) (LD)
4	ForceSlave Mode (Active Low) (FS)
5	Power GND
6	VBAT (6 to 30 Volt DC)

Table 2-4: MQS Connector

For more information about PINs 2, 3, and 4 connected to PIN 1, please see [CHAPTER 3.2.](#)

2.1.4 Micro HDMI Debug Connector (4)

The micro HDMI debug connector is not to be used by the user. It is for development only. The required debug cable and extension board are not part of delivery and cannot be ordered.

 This is not a video interface.

2.2 DIP Switches (5)

These DIP Switches are for configuration. You can find more information about configuration in [CHAPTER 3.1](#)

2.3 Status LEDs (6)

The 100/1000BASE-T1 MediaConverter has 5 LEDs on the front side of the case.

LED	Description
Host LED	Will blink slowly (once a second), during normal operation of the device.
GP LED	General Purpose LED. Will be lit when the microcontroller detects an active 100/1000BASE-T1 link.
Error LED (red)	Will be lit when at least one CRC error is detected. This may happen when the hMTD connector is plugged during operation.
Link LED	100 or 1000Base-T1 Link active.
Activity LED	100 or 1000Base-T1 Ethernet data transmission.

Table 2-5 LEDs Description

The 100/1000BASE-T1 MediaConverter has LEDs integrated in the RJ-45 connector.

For RJ45 connection:

Left side: Green = 100 BASE-TX link Orange = 1000 BASE-T link	Right side: Orange = ACTIVITY
---	----------------------------------

2.3.1 Resetting Error LED:

If the Error LED is lit red, a disconnection of the link can clear the LED. This can be done by changing the DIP switch position to break the link and changing it back to form a link again.

3 CONFIGURATION OF THE DEVICE

3.1 DIP switches

The 100/1000BASE-T1 MediaConverter is configured by four DIP switches on the front side of the device.





DIP Switch	Status	Description
1	ON (up) OFF (down)	BASE-T1 Port is set to Master BASE-T1 Port is set to Slave
2	ON (up) OFF (down)	1000 BASE-T1 to 1000 BASE-T conversion 100 BASE-T1 to 100 BASE-TX conversion
3	ON (up) OFF (down)	1000BASE-T1 Marvell Legacy mode (A0) 1000BASE-T1 IEEE compliant mode  This DIP switch has no function when DIP2 is OFF
4	ON (up) OFF (down)	Frame Generator active on 100/1000BASE-T1. (see CHAPTER 3.3)  Converting is not working properly during frame generation. Normal operation

Table 3-1: Configuration of DIP Switches

-  For establishing a BASE-T1 link one device must be set as Master, the other must be set as Slave.
-  It is not possible to mix two speeds of the ports. If the MediaConverter is configured for 100BASE-T1, the RJ-45 connector is always 100BASE-TX. If the MediaConverter is configured for 1000BASE-T1 the RJ-45 connector is always 1000BASE-T.

3.2 Configuration through Power MQS Connector


The PINs 2, 3, and 4 of the Power MQS connector ([CHAPTER 2.1.3](#)) can be used for configuration and link status output.

3.2.1 Link Status Output (LS) (PIN 2)

The Link Status PIN 2 outputs a weak 3.3 Volts status signal. There is an integrated 5K Ohm pull up resistor to 3.3 Volts. This PIN is active high. The pull-down transistor can drain up to 100mA.

3.2.2 Force Link Down (LD) (PIN 3)


If you connect PIN 3 and PIN 1 by a shortcut wire link down is forced. These pins are active low. There is an integrated 5K Ohm Pullup to 3.3 Volts. For normal operation please disconnect the PINs.

 While removing the shortcut of PIN 3 and PIN 1, a full reset of the device will be done.

3.2.3 Force Slave mode (FS) (PIN 4)



If you connect PIN 4 and PIN 1 by a shortcut wire Force Slave mode is activated. These pins are active low. There is an integrated 5K Ohm Pullup to 3.3 Volts. For normal operation please disconnect the PINs.

 Activated Force Slave mode overrides the DIP switch configuration.

 Force Slave mode must be applied before powering up. Otherwise, a power reset is needed.

3.3 Frame Generator

The 100/1000BASE-T1 MediaConverter in frame generator mode is working only on the BASE-T1 port as a frame generator. The generated frame is in total 1514 bytes long and is sent with

-  Roundabout 12 Mbps in 100BASE-T1 mode
-  Roundabout 120 Mbps in 1000BASE-T1 mode

The frame contains no specific MAC source or destination. All bytes have the same pattern: 0xA5 and 0x5A in alternation.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	a5:5a:a5:5a:a5:5a	a5:5a:a5:5a:a5:5a	0xa55a	1514	Ethernet II
2	0.000001	a5:5a:a5:5a:a5:5a	a5:5a:a5:5a:a5:5a	0xa55a	1514	Ethernet II
3	0.000001	a5:5a:a5:5a:a5:5a	a5:5a:a5:5a:a5:5a	0xa55a	1514	Ethernet II
4	0.000001	a5:5a:a5:5a:a5:5a	a5:5a:a5:5a:a5:5a	0xa55a	1514	Ethernet II
5	0.000002	a5:5a:a5:5a:a5:5a	a5:5a:a5:5a:a5:5a	0xa55a	1514	Ethernet II
6	0.000002	a5:5a:a5:5a:a5:5a	a5:5a:a5:5a:a5:5a	0xa55a	1514	Ethernet II

> Frame 1: 1514 bytes on wire (12112 bits), 1514 bytes captured (12112 bits)						
v Ethernet II, Src: a5:5a:a5:5a:a5:5a (a5:5a:a5:5a:a5:5a), Dst: a5:5a:a5:5a:a5:5a (a5:5a:a5:5a:a5:5a)						
> Destination: a5:5a:a5:5a:a5:5a (a5:5a:a5:5a:a5:5a)						
> Source: a5:5a:a5:5a:a5:5a (a5:5a:a5:5a:a5:5a)						
Type: Unknown (0xa55a)						
v Data (1500 bytes)						
Data: a55aa55aa55aa55aa55aa55aa55aa55aa55aa55aa55aa55aa55aa55aa55aa...						
[Length: 1500]						

0000	a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a	·Z·Z·Z·Z ·Z·Z·Z·Z
0010	a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a	·Z·Z·Z·Z ·Z·Z·Z·Z
0020	a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a	·Z·Z·Z·Z ·Z·Z·Z·Z
0030	a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a	·Z·Z·Z·Z ·Z·Z·Z·Z
0040	a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a	·Z·Z·Z·Z ·Z·Z·Z·Z
0050	a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a	·Z·Z·Z·Z ·Z·Z·Z·Z
0060	a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a a5 5a	·Z·Z·Z·Z ·Z·Z·Z·Z

Figure 3-1: Frame by Frame Generator

4 STANDARD USE CASE

Here you can see a standard use case of the 100/1000BASE-T1 MediaConverter:

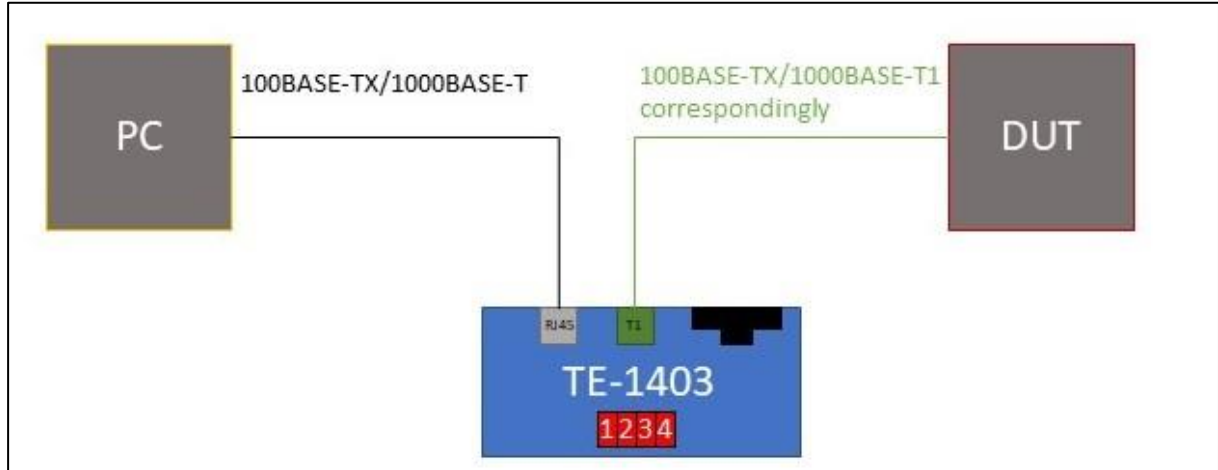


Figure 4-1: Example of a use case

MC	Media Converter
DUT	Device Under Test

- DIP Switch 1: **Master/Slave** setting, is dependent on the DUT. If DUT is Master, MC must be configured as Slave, DIP Switch 1 must be OFF [down], and vice versa
- DIP Switch 2: **100/1000 speed** setting is dependent on the speed of the DUT. If it is a 100BASE-T1 connection DIP Switch 2 must be OFF [down] and vice versa
- DIP Switch 3: **Legacy/IEEE mode** setting: If the PHY of the DUT is a Marvell PHY A0 (Only 1000BASE-T1) then the DIP Switch 3 must be OFF [down]. If it is any other IEEE 1000BASE-T1 conform PHY the DIP Switch must be ON [up]
- DIP Switch 4: **Frame Generator** function, always must be OFF [down]. Only in Frame Generator-Mode, the DIP Switch must be ON [up], in this case, the device no longer works as a converter

5 USED 100/1000BASE-T1 FILTER

The following 1000BASE-T1 Filter is used in the 100/1000BASE-T1 MediaConverter:

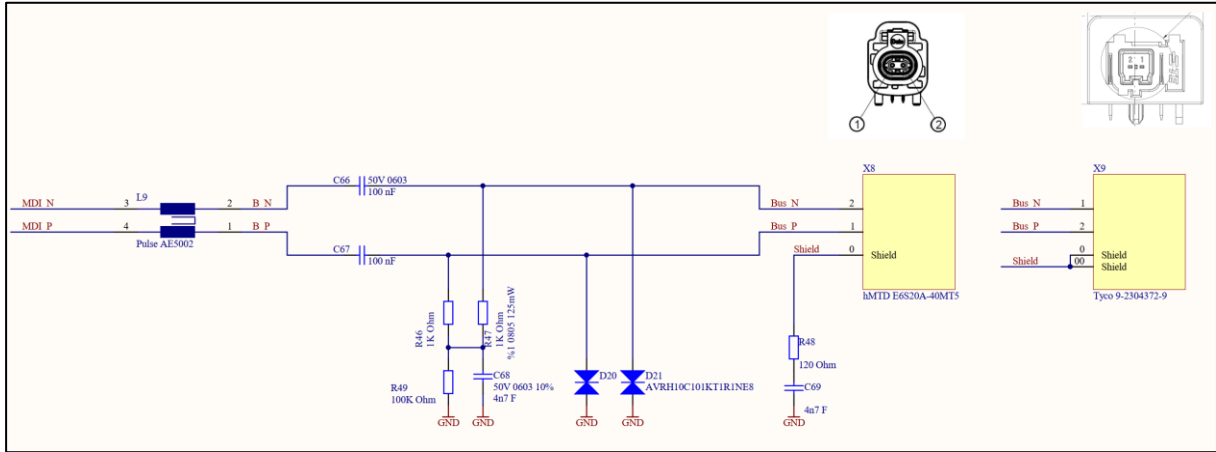


Figure 5-1: Used Filter in 100/1000BASE-T1 MediaConverter

6 ADDITIONAL INFORMATION

- The 100/1000BASE-T1 MediaConverter is optimized for automotive use. The maximum cable length for 100/1000BASE-T1 segments is limited to 15 meters
- It is not possible to mix up different speeds from RJ-45 to BASE-T1-Port
- Don't use it as Frame Generator while converting. Data loss may occur

7 LIST OF FIGURES

Figure 1-1: 100/1000BASE-T1 MediaConverter hMTD	4
Figure 2-1: Front side of MediaConverter	9
Figure 2-2: Back side of MediaConverter	9
Figure 2-3: hMTD Connector	10
Figure 3-1: Frame by Frame Generator	14
Figure 4-1: Example of a use case	15
Figure 5-1: Used Filter in 100/1000BASE-T1 MediaConverter	16

8 CHANGELOG

Version	Chapter	Description	Date
1.0	All	First release	May, 2020
1.1	10	Declaration of Conformity added	July, 2020
1.2	All	Updates	Sept, 2020
1.3	2.1	Images updated	Oct, 2020
	2.3.1	Resetting Error LED	
	10	Declaration of conformity updated	

9 CONTACT

If you have any questions regarding this product, please feel free to contact us:

Technica Engineering GmbH
Leopoldstr. 236
80807 München
Germany

Technical support:
support@technica-engineering.de

General information:
Info@technica-engineering.de

Most current user manuals and product information:
<https://technica-engineering.de/en/>

10 DECLARATION OF CONFORMITY

Български

С настоящото Technica Engineering GmbH декларира, че продуктът Модул за улавяне 100/1000BASE-T1 MediaConverter hMTD (TE-1403), е в съответствие с Директива 2014/30/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Čeština

Tímto Technica Engineering GmbH prohlašuje, že produkt 100/1000BASE-T1 MediaConverter hMTD (TE-1403), je v souladu se směrnicí 2014/30/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Dansk

Hermed erklærer Technica Engineering GmbH, at produktet 100/1000BASE-T1 MediaConverter hMTD (TE-1403), er i overensstemmelse med Direktiv 2014/30/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Deutsch

Hiermit erklärt Technica Engineering GmbH, dass das Produkt 100/1000BASE-T1 MediaConverter hMTD (TE-1403) die Richtlinie 2014/30/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Eesti

Käesolevaga deklareerib Technica Engineering GmbH, et toode hõivamismoodul 100/1000BASE-T1 MediaConverter hMTD (TE-1403), vastab direktiivi 2014/30/EL nõuetele. Eli vastavusdeklaratsiooni tielik tekst on kttesaadav järgmisel internetiaadressil:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

English

Hereby, Technica Engineering GmbH declares that the product 100/1000BASE-T1 MediaConverter hMTD (TE-1403), complies with Directive 2014/30/EU. The full text of the

EU declaration of conformity is available at the following internet address:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Español

Por la presente, Technica Engineering GmbH declara que el producto 100/1000BASE-T1 MediaConverter hMTD (TE-1403), es conforme con la Directiva 2014/30/UE. El texto completo de la declaración UE de conformidad está disponible en la página web siguiente:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Ελληνικά

Με την παρούσα ο/η Technica Engineering GmbH, ότι το προϊόν 100/1000BASE-T1 MediaConverter hMTD (TE-1403), πληροί την οδηγία 2014/30/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Français

Le soussigné, Technica Engineering GmbH, déclare que le produit 100/1000BASE-T1 MediaConverter hMTD (TE-1403), est conforme la directive 2014/30/UE. Le texte complet de la déclaration UE de conformité est disponible l'adresse internet suivante:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Hrvatski

Technica Engineering GmbH ovime izjavljuje da je proizvod 100/1000BASE-T1 MediaConverter hMTD (TE-1403) u skladu s Direktivom 2014/30/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Italiano

Il fabbricante, Technica Engineering GmbH, dichiara che il prodotto 100/1000BASE-T1 MediaConverter hMTD (TE-1403), conforme alla direttiva 2014/30/UE. Il testo completo della dichiarazione di conformità UE disponibile al seguente indirizzo Internet:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Latviešu

Ar šo Technica Engineering GmbH deklarē, ka produkts 100/1000BASE-T1 MediaConverter hMTD (TE-1403), atbilst Direktīvai

2014/30/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Lietuvių

Aš, Technica Engineering GmbH, patvirtinu, kad produktas sugavimo modulis 100/1000BASE-T1 MediaConverter hMTD (TE-1403), atitinka Direktyvą 2014/30/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo internet adresu:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Magyar

Technica Engineering GmbH igazolja, hogy a termék 100/1000BASE-T1 MediaConverter hMTD (TE-1403) a 2014/30/EU irányelvnek. Az EUMegfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Malti

B'dan, Technica Engineering GmbH, niddikjara li l-prodott 100/1000BASE-T1 MediaConverter hMTD (TE-1403), huwa konformi madDirettiva 2014/30/UE. It-test kollu tad-dikjarazzjoni ta' konformit tal-UE huwa disponibbli f'dan l-indirizz talInternet li ġej:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Nederlands

Hierbij verklaar ik, Technica Engineering GmbH, dat het 100/1000BASE-T1 MediaConverter hMTD (TE-1403) product voldoet aan richtlijn 2014/30/EU. De volledige tekst van de EUconformiteitsverklaring kan worden geraadpleegd op het volgende internetadres:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Polski

Technica Engineering GmbH niniejszym oświadcza, że produkt 100/1000BASE-T1 MediaConverter hMTD (TE-1403), jest zgodny z dyrektywą 2014/30/UE. Pełny tekst deklaracji zgodności z UE jest dostępny pod następującym adresem internetowym:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Português

O(a) abaixo assinado(a) Technica Engineering GmbH declara que o produto 100/1000BASE-T1 MediaConverter hMTD (TE-1403), está em conformidade com a Diretiva 2014/30/UE. O texto integral da

declaração de conformidade está disponível no seguinte endereço de Internet:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Română

Prin prezenta Technica Engineering GmbH declară ca produsul 100/1000BASE-T1 MediaConverter hMTD (TE-1403), este în conformitate cu Directiva 2014/30/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Slovensko

Technica Engineering GmbH potrjuje, da je izdelek 100/1000BASE-T1 MediaConverter hMTD (TE-1403), skladen z irektivno 2014/30/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>

Slovensky

Technica Engineering GmbH týmto vyhlasuje, že produkt 100/1000BASE-T1 MediaConverter hMTD (TE-1403), je v slade so smernicou 2014/30/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese:

<https://technica-engineering.de/produkt/100-1000base-t1-mediaconverter-hmtd-connector/>