1000BASE-T1-TX

Menu

1. General Description:

1. Establishes a direct point-to-point conversion between automotive ECU's using 1000BASE-T1/BroadR-Reach(1000 Mbit/s Fullduplex,) and any standard Fast Ethernet (1000 Mbit/s, 1000BASE-TX) device
with an standard ethernet RJ45 connector

2. Comes with 1x Unshielded Twisted Pair (UTP) cable and 1x 12V power adapter.

3. By using the Broadcom BroadR-Reach PHY BCM89881B1BFBG, ensure a trustworthy and effective tool to customers that are looking for a cost-efficient, quick and manageable solution for testing requirements, with no latency and no packet loss.

4. Features with 1000BASE-T1 Master / Slave configuration and link LED.

5. Plug and Play, No need to install the drivers. 100M and 1000M modes can be switched manually.

2. Features

The device features bi-directional conversion between Standard Ethernet (1000BASE-TX) and Automotive Ethernet (1000BASE-T1).

A massive stainless-steel housing, coupled with switches for ease of configuration enables the user to interact with the converter, effortlessly.

No customized driver is needed to interact with our 1000BASE-T1 Media Converter. The device communicates with standard Ethernet through an RJ-45 connector.

It comes with a TE MATEnet connector and a standard Ethernet RJ-45 connector.

Its design makes it portable and easy to install in test racks. The galvanized sheet steel with black powder coating housing makes it robust.

The device is capable to function in a variating temperature range from 0 Celsius to +70 Celsius. With the in-built link LEDs, the operation of the device is transparent and aids the tester to detect Link up and data transmission visually.

No extra hardware or software is needed to connect the device with a PC or a Laptop. The device can be coupled with any hardware or software tool that runs on standard Ethernet with an RJ-45 connector.
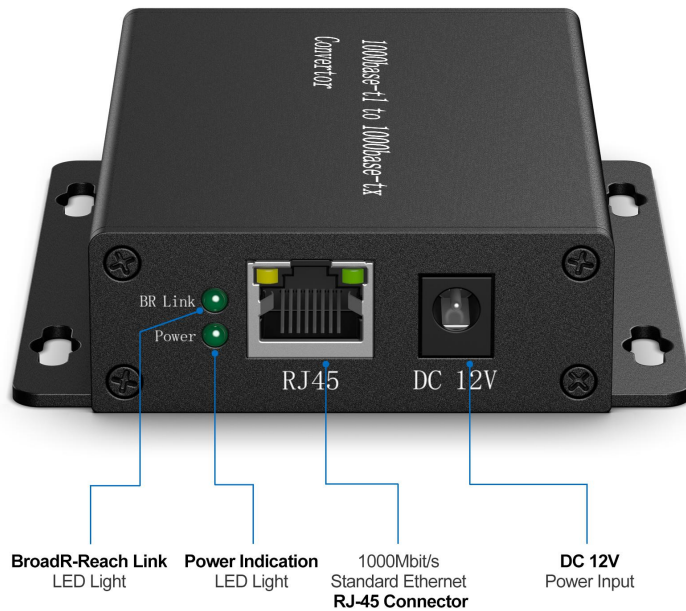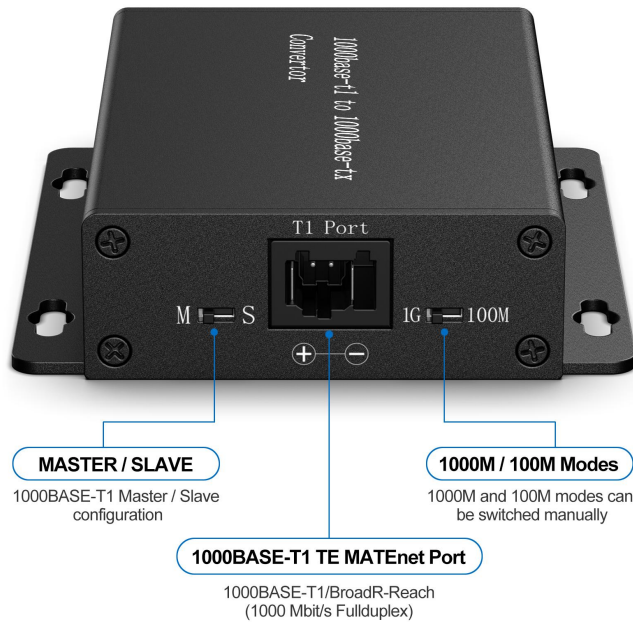
Thus, the 1000BASE-T1 to 1000BASE-TX Media Converter is the ideal solution for working quickly and efficiently with the new 1000BASE-T1 technology without the hustle of extra- wiring, customized connectors, and vendor-specific tools.

3. Hardware Description

3.1 General Information

Items	Description
Power Input Requirement	6~36V/2A(nominal 12/24 Volt DC)
Power Consumption	＜1W
Size W* L * H	97mm x 69mm x 26mm
Weight	0.16kg
Operating Temperature	0-70 Celsius
PHY Chip	BCM89881B1BFBG

3.2 Interface

MASTER / SLAVE

1000BASE-T1 Master / Slave configuration

1000M / 100M Modes

1000M and 100M modes can be switched manually

1000BASE-T1 TE MATEnet Port

1000BASE-T1/BroadR-Reach
(1000 Mbit/s Fullduplex)

BroadR-Reach Link
LED Light

Power Indication
LED Light

1000Mbit/s
Standard Ethernet
RJ-45 Connector

DC 12V
Power Input

(1)　1000BASE-T1 TE MATEnet Port

Manufactory: TE Connectivity
Part Number: 2304372-1

Pin (from left to right)	Description
1	Data Line Plus (Positive)
2	Data Line Minus (Negative)

(2)　Master / Slave configuration Key

In a 1000BASE-T1 Link one device has to be set as Master, the other has to be set as Slave. If you don't know the mode of DUT, you could switch the mode of 1000BASE-T1-TX for testing. The BR Link led will be lit when the 1000BASE-T1-TX is paired with the DUT.

(3)　100M / 1000M configuration Key

Support 100M and 1000M manual setting. 1000M mode can't compatible with the 100M mode.

(4)　Power Input

6~36V/2A(nominal 12/24 Volt DC)

(5)　RJ-45 Ethernet Port

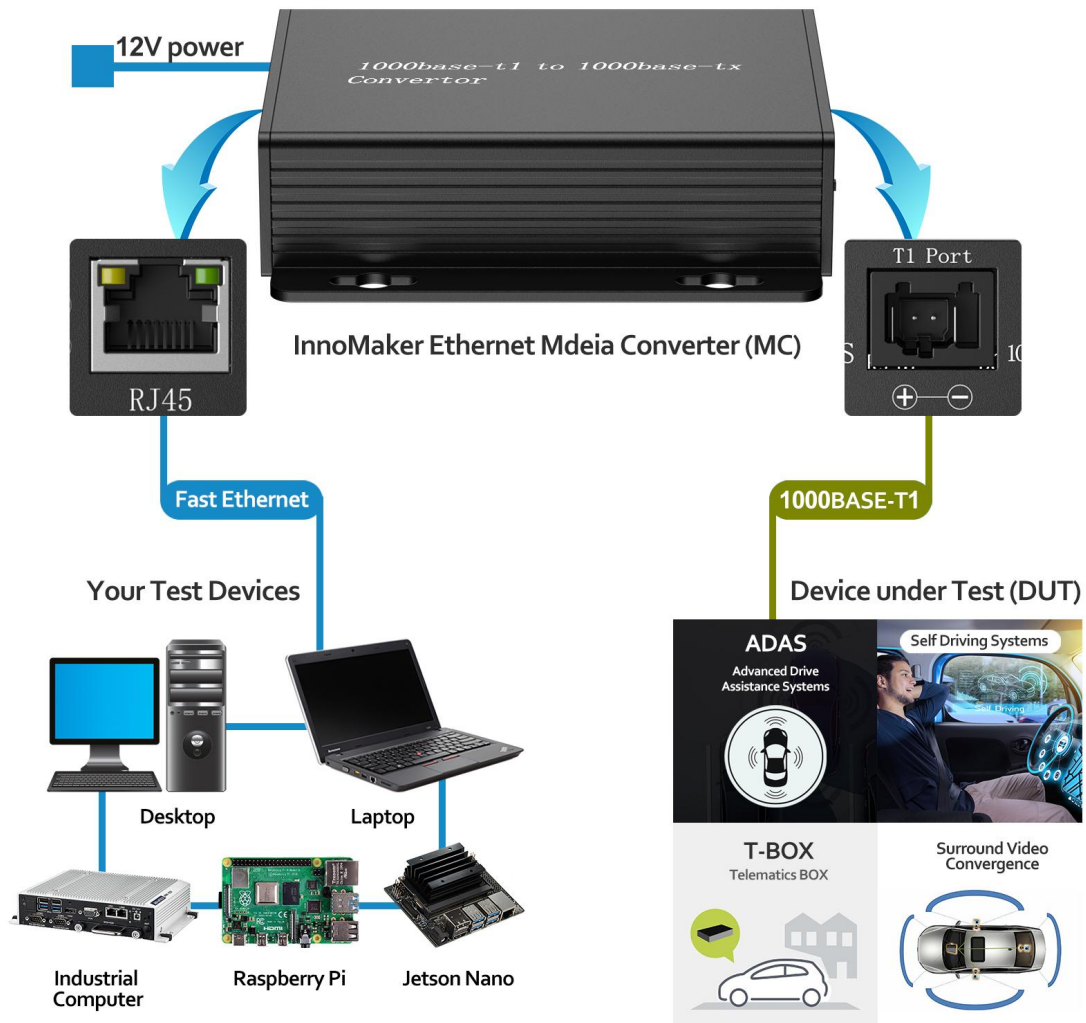There is one RJ45 Standard Ethernet connector for Fast Ethernet

(6)　BR Link

The BR Link led will be lit when the 1000BASE-T1-TX is paired with the DUT successfully, And it's flashing when the data has been send or received.

(7) Power Link

A green power LED that lights up when power is supplied to the board.

4.Usecase

4.1 Standard Usecase

1000BASE-T1-TX device is used to connect a PC/SBC to a T1 peripheral.

The mode of device is dependent on the DUT. If DUT is Master, MC must be configured as Slave (DIP-switch : S) and vice versa. If you don't know the mode of DUT, you could switch the mode of 1000BASE-T1-TX for testing. The BR Link led will be lit when the 1000BASE-T1-TX is paired with the DUT.

4.2 Evaluating T1 between two 1000BASE-TX devices

You could use two 1000BASE-T1-TX and two standard PCs/SBC with RJ45 connectors together over a 2-wire T1 network. The converters communicate with each other via T1 2-Wire.
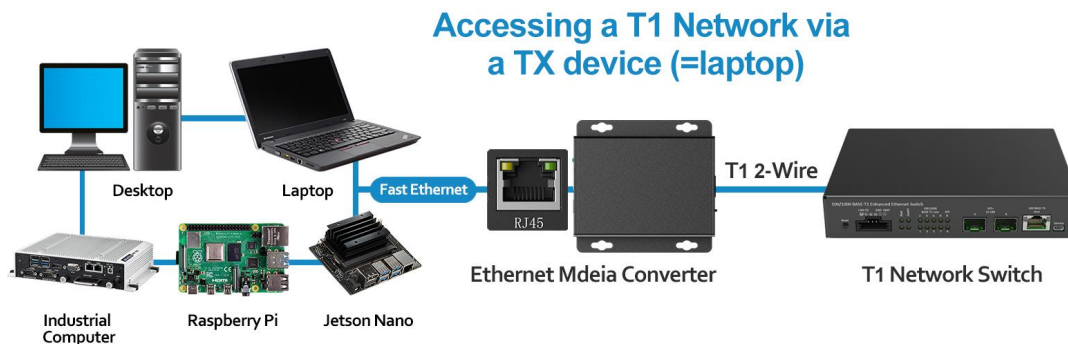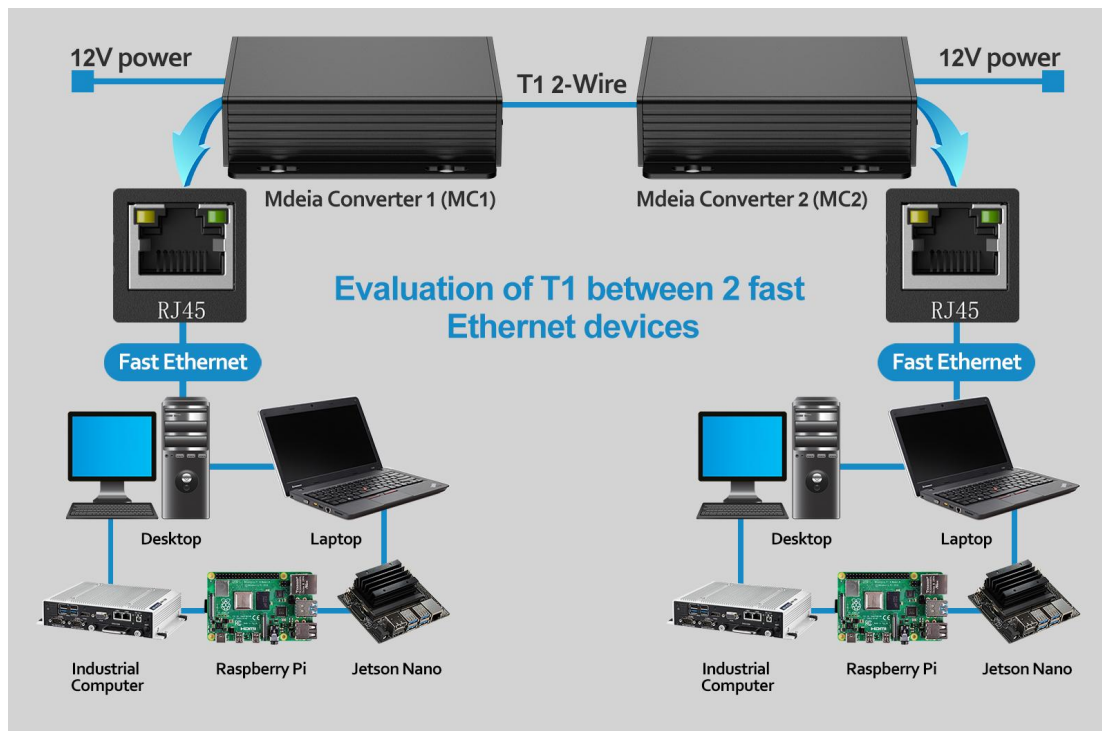
5.User Manual Version Descriptions

Version	Description	Date	E-mail
V1.0		2023.01.06	support@inno-maker.com sales@inno-maker.com calvin@inno-maker.com

If you have any suggestions, ideas, codes and tools please feel free to email to me. Look forward to your letter and kindly share.