



100BASE-T1 USB Interface

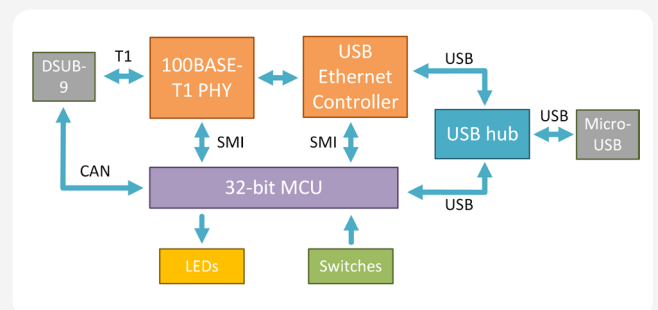
The 100BASE-T1 USB Interface (Media Converter) connects a 100BASE-T1 network to any computer with an USB port. The converter acts as an Ethernet network interface card when plugged into an USB port.

The interface easily converts automotive devices with OPEN Alliance BroadR-Reach (OABR) port, such as cameras or ECUs, directly to any PC without a need of an on-board network card.



FEATURES

- 100BASE-T1 to USB-LAN interface
- Acts as USB 2.0 Ethernet Adapter
- Master / Slave configuration by on-board dip switches or programmably
- Automatic polarity detection for Slave
- 4 Status LEDs
- USB powered
- 100BASE-T1 cable test
- PHY SMI registers accessible via CAN bus or USB virtual serial port
- Drivers for Windows, Linux, Mac
- Free-of-charge Windows utility to check the device status
- Table or DIN-rail mount





The interface establishes a point-to-point link between an unshielded twisted-pair OABR port and USB-LAN port, and works as a Network Interface Card allowing the user to configure the network adapter's parameters, such as IP address and mask. The converter features a DSUB9 (BroadR-Reach, CAN bus) and Micro-USB connector. The OABR channel's Master/Slave configuration is selected by a switch button or programmatically.

The converter offers a possibility to access SMI registers of the 100BASE-T1 transceiver (PHY) via a CAN bus or a USB's virtual serial port. This enables the user to evaluate signal strength, detect polarity of the T1 port, carry out a BroadR-Reach media test to diagnose cable errors, fine-tune the PHYs parameters, and generally to read and write the registers.



TECHNICAL SPECIFICATION

Electrical

Ports	1x 100BASE-T1 (BroadR-Reach / OABR), 1x USB Ethernet Network Card (NIC), 1x Virtual COM Port (USB CDC) 1x CAN 2.0B (HS)
Power	USB-powered via Micro-USB connector (5 V DC)
Consumption	150 mA @ 5 V (350 mA peak)
LEDs	3x Status Indicator, 1x Power
Button and Switches	2x DIP switch (Master/Slave, User), 1x Tactile switch (Reset factory defaults)
100BASE-T1 Master/Slave	Configurable by on-board dip switch or programmably over USB
Supported Operating Systems	Windows, Linux, Mac
Transceivers	100BASE-T1: NXP TJA1102, USB 2.0 LAN: Microchip LAN9500A
Firmware	Upgradable via USB
Microcontroller	32-bit

Mechanical

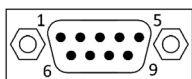
Connectors	1x D-SUB9M, 1x Micro-USB
Dimensions (L x W x H)	108 x 54 x 30 mm
Weight	83 g
Operating Temperature	0 to 70 °C
Protection	IP20
Placement	Table (adhesive pads included), DIN-rail mount (clip sold separately)



Pin Assignment

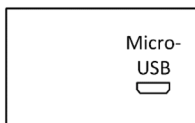
100BASE-T1 & CAN

PIN	NAME
1	
2	CAN_L
3	GND
4	T1-BP (OABR)
5	T1-BM (OABR)
6	
7	CAN_H
8	



D-SUB9M
Front view

USB-LAN



Micro-USB connector uses a standard pinout.

Ordering Information

Product Number	Description
100BASE-T1-USB-IF	100BASE-T1 USB Interface
DIN-CLIP	Clip for mounting on a DIN rail

MACH SYSTEMS s.r.o.
www.machsystems.cz
info@machsystems.cz
 Czech Republic

