DATASHEET

NETWORK INTERFACER 10BASE-T1S

General description

The Technica Engineering´s Network Interfacer 10BASE-T1S is a solution built on the 10BASE-T1S Ethernet standard, enabling efficient multi-drop communication over a single pair of cables. This technology simplifies automotive networking by reducing cabling complexity while ensuring reliable data transmission. The Interfacer bridges the gap between traditional point-to-point and Bus topologies, offering integration across different network infrastructures.

Application Areas

The Network Interfacer is ideal for automotive testing and simulation environments where seamless data communication is critical. It can be used in automotive electronics for in-depth analysis, performance monitoring, and troubleshooting. The device is also well-suited for research and development projects focused on next-generation automotive networking. Additionally, it can be applied in system integration for building expansive, scalable automotive networks.

License options

The Network Interfacer is available in two flexible licensing options. The Core License is included with the device purchase, providing everything needed to get started. For added features like Multi-node Injector and Switch functionalities, the device can be upgraded to the Advanced License, available separately.

With both basic and advanced configuration options, the 10BASE-T1S Network Interfacer adapts to a wide range of applications, providing flexibility and control in every scenario.

Configuration

The 10BASE-T1S Network Interfacer is a versatile and user-friendly solution, designed to support both basic and advanced network configurations. Right out of the box, it operates with a plug-and-play approach, integrating smoothly into existing systems without requiring extensive setup. For simple applications where a single 10BASE-T1S port is sufficient, DIP switches provide a straightforward way to configure essential PLCA settings.

For more complex setups, users can access a comprehensive set of features through the device's web-based GUI. This interface allows configuration of advanced parameters, such as Node ID roles (coordinator or follower), node count, transmit opportunity, burst mode, and bus termination for optimized network performance. Additionally, traffic monitoring, port mirroring, and Multi-node Injector and Switch modes further enhance its capabilities for analysis and troubleshooting in complex networks.
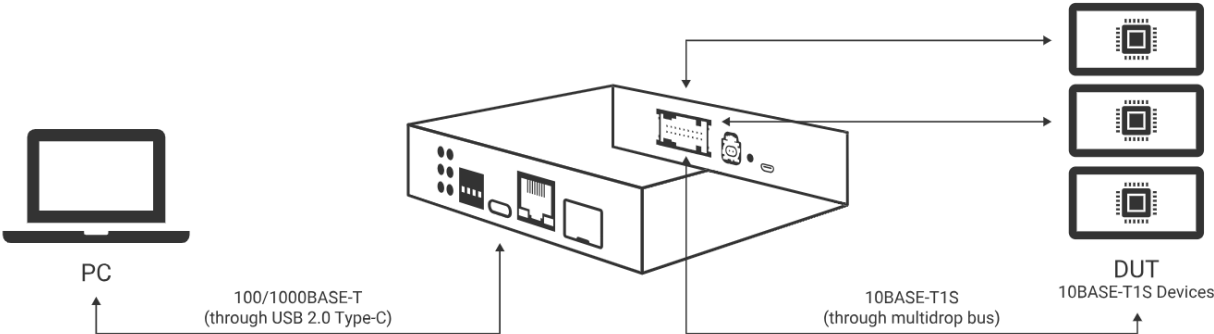
Network Interfacer 10BASE-T1S

Technical Data

Operating Temperature	-40 °C to +85 °C
Supply Voltage	6 V to 30 V DC (typ. 12 V)
System connector	MQS 16 pin connector for power and 10BASE-T1S bus
Power consumption	5 – 10 W
IP Protection Class	IP20
Housing Dimensions	99.5 mm (W) × 93 mm (L) × 32 mm (H)
Weight	0,3 kg (approx.)
Interfaces	USB-C ethernet port (1x 10/100BASE-T)
	RJ-45 connector (1x 100BASE-T)
	H-MTD connector (1x 100/1000BASE-T1)
	SFP port (1x 100/1000BASE-T)
	Micro-HDMI (only for internal usage)

Features of Network Interfacer 10BASE-T1S

Device Features	Configuration via DIP Switches		
	Configuration Webpage		
	Status LEDs		
	Port Statistic Dashboard		
	Import-/Export of Configurations		
Core Feature Package	Single 10BASE-T1S port		
	PLCA configuration		
	10BASE-T1S Routing		
	10BASE-T1S Egress mirroring		
	Diagnostics		
	10BASE-T1S IEEE Test Modes		
	Custom 10BASE-T1S frames generator		
	Remote API		
Advanced Feature Package*	3x 10BASE-T1S Ports		
	Multi-node Injector		
	Switch functionalities:	Port segmentation	
		Single / Double VLAN tagging Mode	
		Adress resolution table	

* Needs to be ordered separately

Use case

PC

100/1000BASE-T
(through USB 2.0 Type-C)

10BASE-T1S
(through multidrop bus)

DUT
10BASE-T1S Devices

Order Information

Article name	Article Number	Cable set number*
Network Interfacer 10BASE-T1S (incl. core license)	PT-1200	KS-1200
Advanced license	TE-1200-AF	-

*Cable set needs to be ordered separately