

netTAP 151

Data Converter for Real-Time Ethernet Networks

- Bridging between any two Real-Time Ethernet networks
- Flexible choice of operating modes Slave/Master or Slave/Slave
- Effortless integration as standard IO device
- Secure network segregation via internal data buffer
- Fast conversion time less than 10 milliseconds



EtherCAT®

EtherNet/IP™

PROFINET®

ETHERNET
POWERLINK

sercos
the automation bus

The gateway netTAP 151 transmits IO data bidirectionally between any two industrial Real-Time Ethernet networks. It is the ideal solution for installations with heterogenous networks or such of the same kind to exchange data across given network boundaries. With more than 25 different combinations of the protocols PROFINET, EtherCAT, EtherNet/IP, POWERLINK and Sercos, the device series provides a solution for any conversion.

The integration as simple IO device into the primary network makes the converter compatible with any common PLC. On the secondary side it works either as IO device too or controls a subordinate network as a bus master. The length of the IO data can be scaled to any application and the data in between can be mapped on byte level arbitrarily.

Secure network separation is provided by two Ethernet controllers, each connected to a Dual Ethernet port with integrated switch. That allows realizing star, ring and inline network topologies without further peripherals. Both controllers handle the protocols independent from each other and exchange only the IO data across a data buffer. An overall data processing time lower than 10 milliseconds is achieved.

The devices can be ordered preloaded with firmware and license or unloaded. Unloaded devices minimize the storage costs. Subsequent loading of a firmware configures these devices for any conversion most flexible. All devices are commissioned and diagnosed network independent over USB.


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Protocol matrix

Network A

Network B

NT 151-RE-RE		EtherCAT	EtherNet/IP	POWERLINK	PROFINET	Sercos
		Slave	Slave	Slave	Slave	Slave
EtherCAT	Slave	/ECS/ECS	/EIS/ECS	/PLS/ECS	/ECS/PNS	/S3S/ECS
	Master	/ECS/ECM	/EIS/ECM	/PLS/ECM	/PNS/ECM	/S3S/ECM
EtherNet/IP	Slave	/EIS/ECS	/EIS/EIS	/PLS/EIS	/EIS/PNS	/EIS/S3S
	Master	/ECS/EIM	/EIS/EIM	/PLS/EIM	/PNS/EIM	/S3S/EIM
POWERLINK	Slave	/PLS/ECS	/PLS/EIS	/PLS/PLS	/PLS/PNS	/PLS/S3S
	Master	-	-	-	-	-
PROFINET	Slave	/ECS/PNS	/EIS/PNS	/PLS/PNS	/PNS/PNS	/S3S/PNS
	Master	/ECS/PNM	/EIS/PNM	/PLS/PNM	/PNS/PNM	/S3S/PNM
Sercos	Slave	/S3S/ECS	/EIS/S3S	/PLS/S3S	/S3S/PNS	/S3S/S3S
	Master	/ECS/S3M	/EIS/S3M	/PLS/S3M	/PNS/S3M	/S3S/S3M

Technical Data

Parameter	Value
Service Interface	Mini USB
Displays	LED SYS, APL, protocol specific
Configuration	SYCON.net, Windows® 7
Power Supply	18 ... 30 V / 190 mA @ 24V
Connector	Mini-COMBICON 5-pin
Operating temperature	-20 °C .. +60 °C
Dimensions (L x W x H)	99 x 22,5 x 114,5 mm (without connector)
Mounting	DIN-Rail, DIN EN 60715
Weight	121 g
CE Sign	yes
Emission	EN55011 / CISPR 11; Class A
Noise Immunity	EN 61000-6-2
Card Slot	SD Card

Protocol	Maximum Cyclic Process Data		
	Master	Slave	
EtherCAT	9200	512	Bytes IO data
EtherNet/IP	11472	1008	Bytes IO data
PROFINET	11472	2048	Bytes IO data
Sercos	11472	240	Bytes IO data

The maximum convertible number of IO data of a protocol combination is determined by the protocol with the lower amount of IO data.

Overview

Article Description	Article Number	Article
NT 151-RE-RE	1722.122	Loadable device for any Slave/Slave protocol combination
NT 151-RE-RE/+ML	1722.122/+ML	Loadable device for any Slave/Master or Slave/Slave protocol combination
NT 151-RE-RE/XX/YY	1722.122/XX/YY	Preloaded devices to be ordered in accordance with protocol matrix above Ordering example: PROFINET Slave to EtherCAT Master = NT 151-RE-RE/PNS/ECM or 1722.122/PNS/ECM
SD Card	1719.003	SD Card

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