TB20-C, bus coupler CANopen Slave

CANopen Slave

- Modules can be replaced during operation (hot-swapping)
- 24 V DC power supply
- Integrated power supply unit for powering peripheral modules (2.5 A)
- Supplies the system's I/O voltage (24 VDC)
- USB device port for online diagnostics, configuring parameters, setup, and firmware updates with "TB20 ToolBox"
- TB20 ToolBox simulation for commissioning the I/O system without a higher-level controller in order to test the functionality (I/O check)
- Concealed "factory reset" switch for restoring the module to its factory settings
- CANopen protocol as defined in DSP301 and DS401
- Transfer rates of 50 kbps to 1 Mbps
- 24 TPDOs / 24 RPDOs
- 1 SDO server
- Heartbeat producer
- Two heartbeat consumers
- Node guarding
- SYNC object
- Storable parameter configuration
- Up to 64 peripheral modules

The CANopen bus coupler is designed to connect a CAN bus to TB20 peripheral modules. It supports the CANopen protocol as defined in DS301 and uses the DSP-401 profile for digital and analog I/O modules. Up to 64 modules of any kind can be connected in series with the bus coupler. This coupler makes it possible to use SDOs to freely access all I/O values, parameters, and diagnostics, and can manage up to 192 bytes of I/O data with the PDO protocol.

A functioning TB20 configuration will always require a bus coupler and at least one peripheral module. The bus coupler supports hot-swapping for replacing modules during operation.

Technical specifications

General information	
Order number	600-160-1AA11
Article name	TB20-C, CANopen slave bus coupler
Scope of delivery	Bus coupler CANopen Slave, 24 V power supply connector, bus cover element, base module
Dimensions (DxWxH)	110 x 35 x 73 mm
Weight	Approx. 115 g
CAN interface	
Number	1
Type	ISO/DIN 11898-2 , CAN high-speed, physical layer
Transmission rate	50, 100, 125, 250, 500, 800, 1000 kbps
Protocol	CANopen Slave as defined in DSP301 V4.2 and DS401 V3.0
Connection	Connector, SUB-D, 9-pin
TPDOs	24
RPDOs	24

Features	Node guarding, heartbeat, SYNC, saving of the configuration
USB interface	
Number	1
Protocol	Full-speed USB 1.1 device
Connection	Mini-USB
Isolation voltage	1.5 kV
Electrical isolation	Yes
Number of modules that can be connected in series	64
Voltage supply	24 VDC, 18–28 VDC
Current draw	
Current draw without modules (internal)	75 mA
Power supply for modules	5 V DC, max 2.5 A
Power dissipation	Max. 8 W
Installation position	Any
Ambient conditions	
Ambient temperature	0 °C … +60 °C
Transport and storage temperature	-20 °C … +80 °C
Relative air humidity	95 % r H without condensation
Protection rating	IP 20
Certifications	CE, UL
UL	
Surrounding Air Temperature	0 °C … +50 °C
Pollution degree	2
CE	
Noise immunity	DIN EN 61000-6-2 “EMC Immunity"
Interference emission	DIN EN 61000-6-4 “EMC Emission”
Vibration and shock resistance	DIN EN 60068-2-8:2008 “Vibration”, DIN EN 60068-27:2010 “Shock“