# TB20-C, Bus coupler Modbus/TCP

Modbus/TCP

- 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• Connection watchdog for connection monitoring
- Simultaneous access to up to 10 stations (TCP connections)
- Integrated two-port switch
- Up to 64 peripheral modules
- 2 x RJ45 connections
- 2048 bytes of input, 2048 bytes of output data
- 126 bytes of parameter data per module
- The coupler's behavior can be configured using control registers
- The coupler's status can be read out using status registers
- 7 LEDs, one of them bi-color

The Modbus/TCP bus coupler makes it possible to access data from peripheral modules using the Modbus/TCP protocol, but can accommodate up to 64 modules of any kind connected in series with the bus coupler. The Modbus/TCP bus coupler features an integrated two-port switch that allows for star and line topology configurations. A large I/O image table size of 2 kbytes makes it possible to implement comprehensive and complex systems. The control and status registers can be used to configure and monitor the coupler's behavior with Modbus/TCP. TB20 ToolBox can be used to easily configure the system structure and the various module parameters, and transfer the corresponding settings to the coupler.

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 | 600-170-1AA11 |
| Article name | TB20-C, Modbus/TCP bus coupler |
| Scope of delivery | Bus coupler ModbusTCP, 24 V power supply connector, bus cover element, base module |
| Dimensions (DxWxH) | 110 x 35 x 73 mm |
| Weight | Approx. 115 g |
| **Modbus interface** | |
| Number | 2 |
| Protocol | ModbusTCP |
| Transmission rate | 10/100 Mbps, automatic detection |
| I/O image size | 2048/2048 bytes |
| Parameters per module | 126 bytes |
| Connection | RJ45 |

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Änderungen und Irrtümer vorbehalten. 02-2019

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|---|---|
| integrated switch | Yes |
| Supports Modbus function codes | 1, 2, 3, 4, 5, 6, 15, 16, 22, 23 |
| TCP connection | 10 stations |
| **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" |
| RoHS | Yes |
| REACH | Yes |