

*It's different!* **TB20.**  
The new and modern distributed I/O System

## TB20, distributed fieldbus I/O system

Systeme Helmholz' new distributed I/O fieldbus system is characterized by a multitude of everyday practical details, developed upon direct market feedback. Efficiency, functionality and optimum handling were the focus of development. Thus the innovative system allows for implementation of typical advantages of decentralized concepts in many, often even new applications.

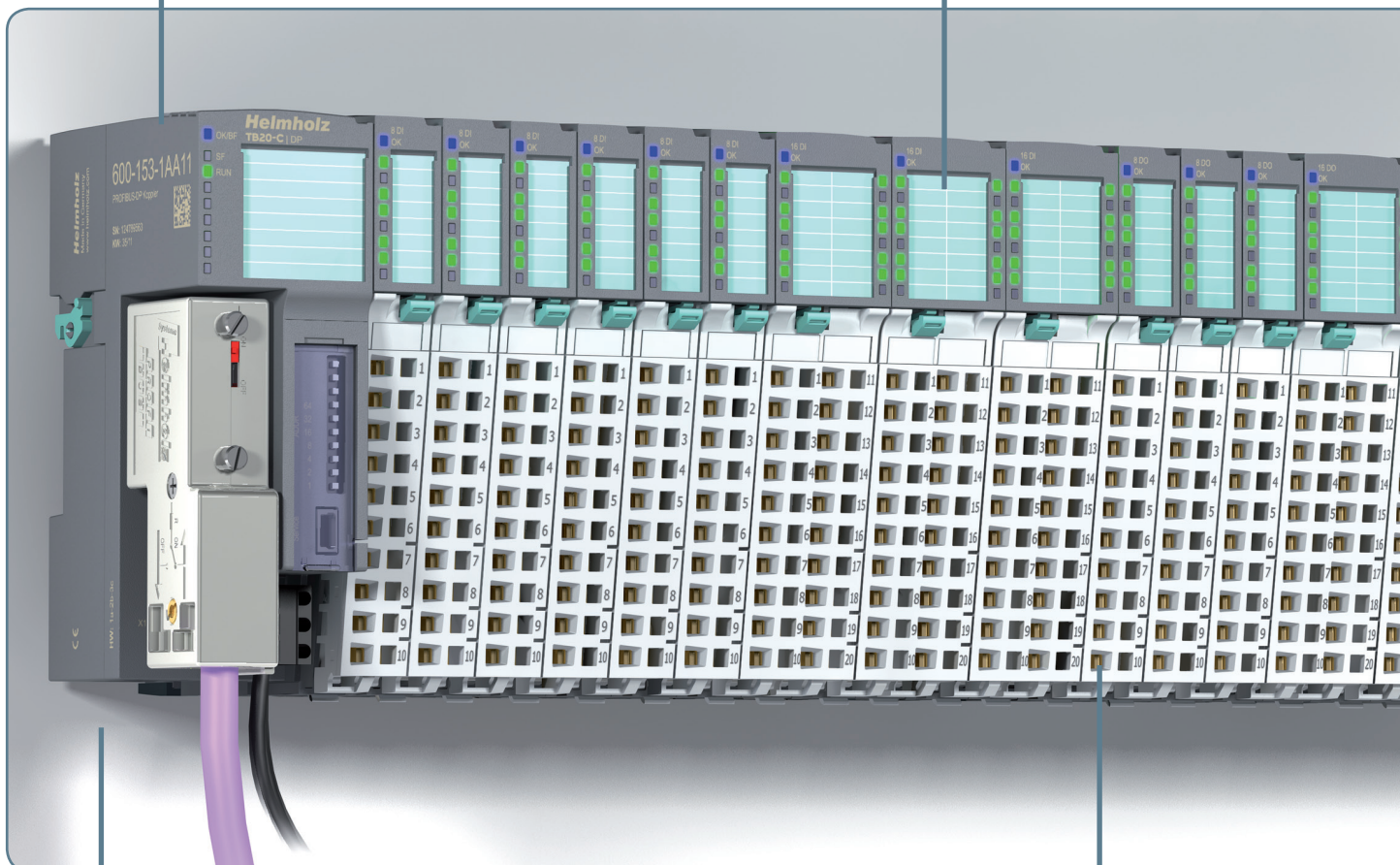
With TB20, technically uniform solutions are now available from Helmholz for distributed applications too. The basic product range consists of PROFIBUS and CANopen® bus couplers with analogue and digital inputs and outputs. As an open architecture system the portfolio will be enhanced step by step with all conventional fieldbuses, such as PROFINET, DeviceNet and EtherCat.

### Bus coupler

The basic range contains field bus couplers for PROFIBUS and CANopen® that allow connection of up to 64 modules. As an open architecture system the portfolio will be enhanced step by step with couplers for many usual fieldbuses, such as PROFINET, DeviceNet, Modbus etc.

### Clear identification

The product design ensures an unequivocal and clear channel identification which is easily readable also during operation and allows for an unambiguous attribution of each clamp to its LED. The pin assignment is permanently printed onto the electronics module.



### TB20 diagnosis tool

TB20 diagnosis tool allows easy read-in of configuration, visualization of the I/O-image and failure messages as well as real-time-diagnosis and firmware updates.

### Freely usable auxiliary contact

This additional contact clamp can be used flexibly for additional voltage, mass or screen, according to the technical requirements.



**3-part module construction**

Separate base-modules, electronics-modules and front connectors are locked in securely with a latch mechanism and can be unmounted easily for maintenance or system enhancement purposes.



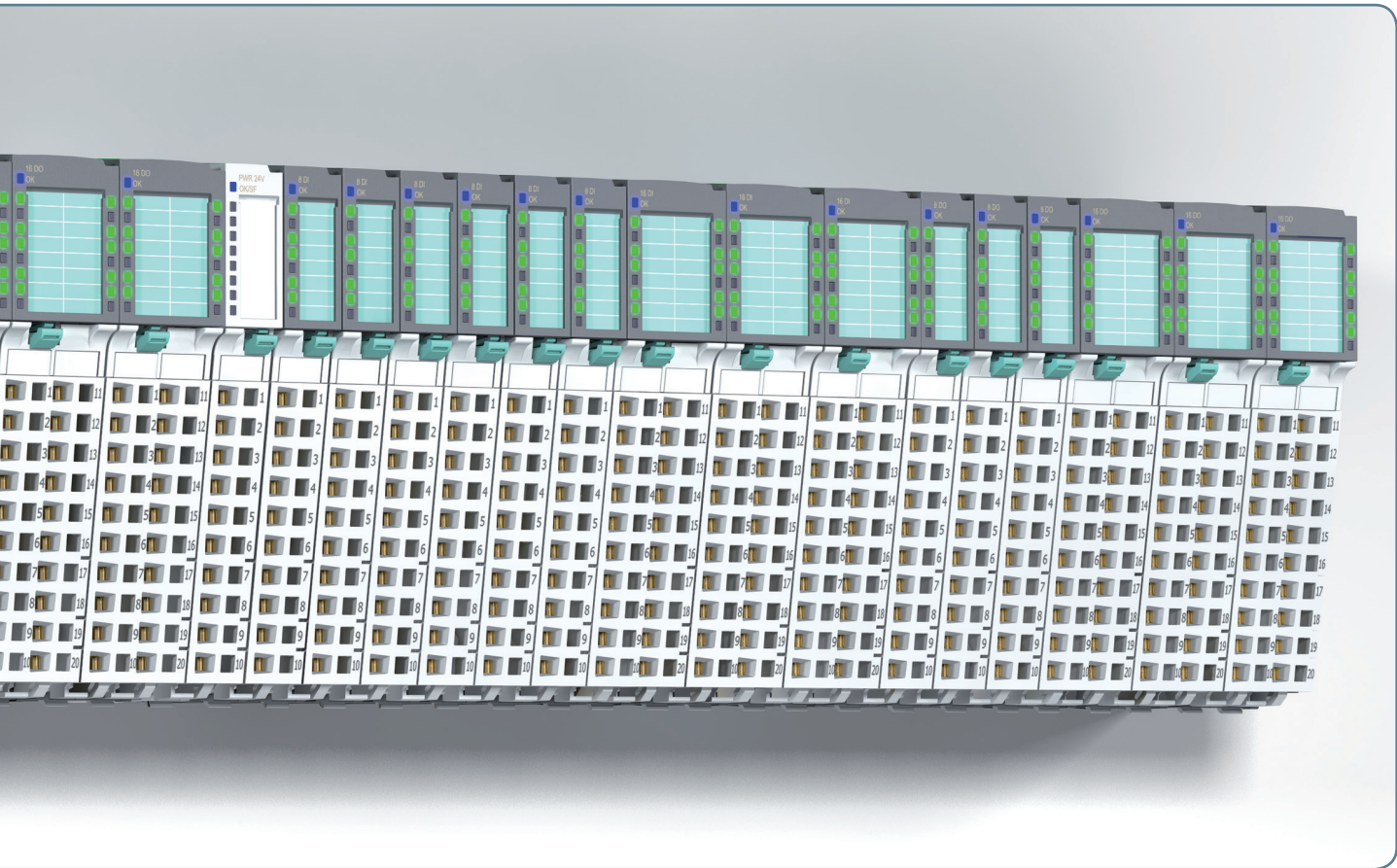
**Bus coupler**

Power modules come integrated into the bus couplers or available separately.



**Optimum module granularity**

TB20 system offers two, four, eight and also 16 channel modules.



**Hot-plug capacity**

Separate modules can be disconnected and plugged back in while the remaining system keeps operational. Downtime can thus be minimized.

**Optimum handling**

Ergonomic design facilitates handling the system. With space-saving compact dimensions all system components are rugged industry-standard and mechanically solid.

## TB20 Module Overview

### BUS COUPLER

- PROFIBUS-DP
- CANopen®

### DIGITAL

- Digital Input Modules  
2 | 4 | 8 | 16
- Digital Output Modules  
2 | 4 | 8 | 16 – 500 mA  
2 | 4 – 2 A
- Digital Mix  
2 DI/2 DO – 500 mA  
4 DI/4 DO – 500 mA

### ANALOG

- Analog Input Modules  
Current | Voltage | Resistance | Thermo coupler  
2 | 4
- Analog Output Modules  
Current | Voltage  
2 | 4

### COUNTER

- Counter  
24 V | 5 V

### POWER AND ISOLATION MODULES

- Power Module
- Power and Isolation Module
- Potential Distributor

Ordering Date	Order No.
<b>Bus coupler</b> PROFIBUS-DP Coupler CANopen® Coupler	600-153-1AA11 600-160-1AA11
<b>Digital In</b> DI 2 x DC 24 V DI 4 x DC 24 V DI 8 x DC 24 V DI 16 x DC 24 V	600-210-0AB01 600-210-0AD01 600-210-0AH01 600-210-0AP21
<b>Digital Out</b> DO 2 x DC 24 V, 500 mA DO 4 x DC 24 V, 500 mA DO 8 x DC 24 V, 500 mA DO 16 x DC 24 V, 500 mA DO 2 x DC 24 V, 2 A DO 4 x DC 24 V, 2 A	600-220-0AB01 600-220-0AD01 600-220-0AH01 600-220-0AP21 600-220-0BB01 600-220-0BD01
<b>Digital Mix</b> DIO 2 x In/2 x Out, DC 24 V, 500 mA DIO 4 x In/4 x Out, DC 24 V, 500 mA	600-230-0AD01 600-230-0AH01
<b>Analog In</b> AI 2 x I, 0/4 ... 20 mA, +-20 mA, 12 Bit AI 4 x I, 0/4 ... 20 mA, +-20 mA, 12 Bit AI 2 x U, +-10 V, 0-10 V, 1-5 V, 12 Bit AI 4 x U, +-10V, 0-10 V, 1-5 V, 12 Bit AI 1/2 x R, RTD, 16 Bit, 2/3/4 wire AI 2/4 x R, RTD, 16 Bit, 2/3/4 wire AI 2 x TC, 16 Bit AI 4 x TC, 16 Bit	600-250-4AB01 600-250-4AD01 600-252-4AB01 600-252-4AD01 600-253-4AB01 600-253-4AD01 600-254-4AB01 600-254-4AD01
<b>Analog Out</b> AO 2 x I, 0/4 ... 20 mA, 12 Bit AO 4 x I, 0/4 ... 20 mA, 12 Bit AO 2 x U, +-10V, 0-10 V, 1-5 V, 12 Bit AO 4 x U, +-10V, 0-10 V, 1-5 V, 12 Bit	600-260-4AB01 600-260-4AD01 600-261-4AB01 600-261-4AD01
<b>Counter</b> 1 x Counter 24 V, 500 KHz, 32 Bit 1 x Counter 5 V, 2 MHz, 32 Bit	600-300-7AA01 600-310-7AA01
<b>Power and Isolation Modules</b> Power module DC 24 V Power and isolation module DC 24 V, 8 A Potential distributor 24 VDC Potential distributor GND Potential distributor AUX Potential distributor free	600-700-0AA01 600-710-0AA01 600-720-0AH01 600-720-0BH01 600-720-0CH01 600-720-0XH01