



## BC7300 | Modbus Bus Terminal Controller

### Modbus

The Bus Terminal Controller BC7300 is a Bus Coupler with integrated PLC functionality and has a fieldbus interface for Modbus. The BC7300 is an intelligent slave and can be used as a non-central intelligence in the Modbus system. One unit consists of the Bus Terminal Controller, any number of terminals between 1 and 64, and a bus end terminal. Because of the low baud rate used by the Modbus protocol, use of the BC7300 may be of value to reduce the bus communication. Time-critical connections can also be programmed directly at the Bus Terminal Controller.

The Bus Terminal Controller is programmed using the TwinCAT programming system according to IEC 61131-3. The configuration/programming interface on the BC7300 is used to load the PLC program.

The inputs and outputs of the connected Bus Terminals are assigned in the PLC's default setting. Each Bus Terminal can be configured in such a way that it exchanges data directly through the fieldbus with the higher-level automation device. Similarly, pre-processed data can be exchanged between the Bus Terminal Controller and the higher-level controller via the fieldbus. Configuration is performed using the KS2000 configuration software.

### Controller for distributed signal processing

The programming system TwinCAT for the BC7300 operates, independently of the manufacturer, in accordance with IEC 61131-3. The PLC programs can be written in five different programming languages (IL, FBD, LD, SFC, ST). In addition, TwinCAT offers extensive debug functionalities (breakpoint, single step, monitoring, ...), which facilitate commissioning. It is also possible to perform adjustment and measurement of the cycle time.

| PLC data              | Modbus   BC7300  |
|-----------------------|--|
| Programming           | TwinCAT (via programming interface or fieldbus)                |
| Program memory        | 32/96 kbytes   |
| Data memory           | 32/64 kbytes   |
| Remanent data         | 512 bytes  |
| Runtime system        | 1 PLC task   |
| PLC cycle time        | approx. 3 ms for 1,000 instructions (without I/O cycle, K-bus) |
| Programming languages | IEC 61131-3 (IL, LD, FBD, SFC, ST)                             |
| Online change         | –  |

| Technical data                   | BC7300  |
|----------------------------------|---|
| Number of Bus Terminals          | 64  |
| Max. number of bytes fieldbus    | 512 byte input and 512 byte output  |
| Digital peripheral signals       | 256 inputs/outputs  |
| Analog peripheral signals        | 128 inputs/outputs  |
| Protocol                         | RTU/ASCII (default: RTU)  |
| Configuration possibility        | by rotary switch or KS2000  |
| Data transfer rates              | 150, 300, 600, 1200, 2400, 4800, 9600, 19,200, 38,400 baud (default: 9600 baud) |
| Bus interface                    | D-sub 9-pin, RS485  |
| Power supply                     | 24 V DC (-15 %/+20 %)   |
| Input current                    | 70 mA + (total K-bus current)/4, 500 mA max.                                    |
| Starting current                 | 2.5 x continuous current  |
| Recommended fuse                 | ≤ 10 A  |
| Current supply K-bus             | 1750 mA   |
| Power contacts                   | 24 V DC max./10 A max.  |
| Electrical isolation             | 500 V (power contact/supply voltage/fieldbus)                                   |
| Weight                           | approx. 170 g   |
| Operating/storage temperature    | 0...+55 °C/-25...+85 °C   |
| Relative humidity                | 95 %, no condensation   |
| Vibration/shock resistance       | conforms to EN 60068-2-6/EN 60068-2-27  |
| EMC immunity/emission            | conforms to EN 61000-6-2/EN 61000-6-4   |
| Protect. class/installation pos. | IP 20/variable  |
| Approvals                        | CE, UL, Ex, GL  |

| Accessories |  |
|-------------|--|
| KS2000      | configuration software for extended parameterisation |
| TX1200      | programming system conforms to IEC 61131-3           |
| Cordsets    | cordsets and connectors                              |

| Related products |  |
|------------------|--|
| BK7300           | Modbus Bus Coupler for up to 64 Bus Terminals                                      |
| BK7350           | Modbus "Compact" Bus Coupler for up to 64 Bus Terminals (255 with K-bus extension) |

| System |  |
|--------|--|
| Modbus | For further Modbus products please see the <a href="#">system overview</a> |