



BC8050 | RS485 Bus Terminal Controller



The BC8050 "Compact" Bus Terminal Controller with serial RS485 interface extends the Beckhoff small controller series by a cost-optimised version in a compact housing. An open serial protocol – like in the BK8x00 Bus Couplers – and the Modbus RTU/ASCII protocol are implemented. The address and the protocol are selected via the two rotary selection switches.

Controller for stand-alone applications

The Bus Terminal Controller is programmed using the TwinCAT programming system conforms to 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. The inputs and outputs of the connected Bus Terminals are assigned in the PLC.

Data is exchanged with the interface on the Bus Terminal Controller with the aid of a control and status byte, through which a handshake must be executed. A serial communication function block for TwinCAT is available for this purpose.

PLC data	RS485 BC8050
Programming	TwinCAT (via programming interface or fieldbus)
Program memory	48 kbytes
Data memory	32 kbytes
Remanent data	2 kbytes
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	yes

Technical data	BC8050
Number of Bus Terminals	64 (255 with K-bus extension)
Max. number of bytes fieldbus	512 byte input and 512 byte output
Max. number of bytes process image	512 byte input and 512 byte output
Digital peripheral signals	1,020 inputs/outputs
Analog peripheral signals	128 inputs/outputs
Protocol	KS8000 protocol (open, serial protocol) – Modbus RTU/Modbus ASCII can be selected via address switch.
Data transfer rates	1.2 kbaud...38.4 kbaud
Bus interface	RS485 D-sub
Power supply	24 V DC (-15 %/+20 %)
Input current	320 mA max.
Starting current	2.5 x continuous current
Current supply K-bus	1750 mA
Power contacts	max. 24 V DC/max. 10 A
Electrical isolation	500 V (power contact/supply voltage)
Weight	approx. 100 g
Operating/storage temperature	-25...+60 °C/-40...+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

Accessories	
KS2000	configuration software for extended parameterisation
TX1200	programming system conforms to IEC 61131-3
TS6340	IEC 61131-3 software library for TwinCAT PLC for communication via serial devices
KL6001	Bus Terminals, serial interface RS232
KL6021	Bus Terminals, serial interface RS422/RS485
Cordsets	cordsets and connectors

Related products	
BC8150	RS232 "Compact" Bus Terminal Controller for up to 64 Bus Terminals (255 with K-bus extension)
BX8000	RS232/RS485 Bus Terminal Controller for up to 64 Bus Terminals (255 with K-bus extension)
BK8000	RS485 Bus Coupler for up to 64 Bus Terminals
BK8100	RS232 Bus Coupler for up to 64 Bus Terminals
IPxxxx-, IL230x-B/C810	RS232 PLC Box with IP-Link extension interface, IP 67

System	
RS485	For further RS485 products please see the system overview