Fieldbus connection

Address selector

Address selector

Configuration and
programming interface

Power LEDs

K-bus

Bus Coupler
supply

Input for
power contacts

Power contacts

BC3100 | PROFIBUS Bus Terminal Controller

The BC3100 Bus Terminal Controller is a Bus Coupler with integrated PLC functionality and has a fieldbus interface for PROFIBUS. It is an intelligent slave and can be used as distributed intelligence in the PROFIBUS system. In the BC3100, one unit consists of the controller, between 1 and 64 terminals, and a bus end terminal.

The PROFIBUS controller offers automatic baud rate detection up to 12 Mbaud and two address selection switches for address assignment.

The Bus Terminal Controller is programmed using the TwinCAT programming system according to IEC 61131-3. The configuration/programming interface of the BC3100 is used to load the PLC program. If the software PLC TwinCAT is in use, the PLC program can also be loaded via the fieldbus. The inputs and outputs of the connected Bus Terminals are assigned in the default setting of the PLC. 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.

Controller for distributed signal processing

The programming system TwinCAT for the BC3100 and BC3150 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	PROFIBUS	BC3100
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	BC3100
Number of Bus Terminals	64
Max. number of bytes fieldbus	128 byte input and 128 byte output
Max. number of bytes process image	512 byte input and 512 byte output
Digital peripheral signals	512 inputs/outputs
Analog peripheral signals	128 inputs/outputs
Configuration possibility	via KS2000 or fieldbus
Data transfer rates	automatic detection up to 12 Mbaud
Bus interface	1 x D-sub socket, 9-pin
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
Current supply K-bus	1750 mA
Power contacts	24 V DC max./10 A max.
Electrical isolation	500 V (power contact/supply voltage)
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
FC310x	PC Fieldbus Cards with PCI interface

Related products	
BC3150	PROFIBUS "Compact" Bus Terminal Controller for up to 64 Bus Terminals (255 with K-bus extension), 12 Mbaud
BX3100	PROFIBUS Bus Terminal Controller for up to 64 Bus Terminals (255 with K-bus extension), 12 Mbaud
BK3010	PROFIBUS Bus Coupler for up to 64 digital Bus Terminals, 1.5 Mbaud
BK3100	PROFIBUS DP/FMS Bus Coupler for up to 64 Bus Terminals, 12 Mbaud
BK3110	PROFIBUS Bus Coupler for up to 64 digital Bus Terminals, 12 Mbaud
CX8031	PROFIBUS Embedded PC, slave

System	
PROFIBUS	For further PROFIBUS products please see the system overview

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We reserve the right to make technical changes.