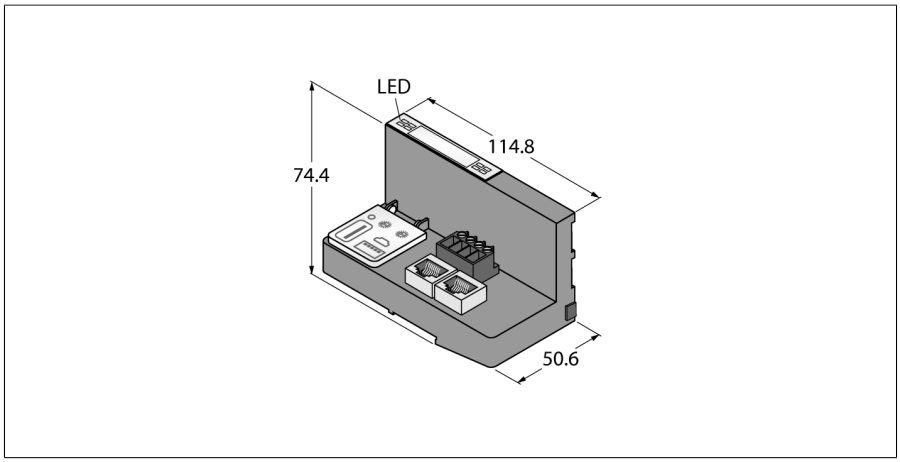
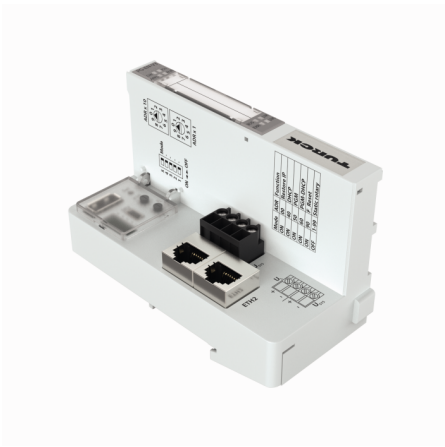
CODESYS 3 Programmable Gateway for the BL20 I/O System Multiprotocol Ethernet Gateway for PROFINET, EtherNet/IP and Modbus TCP with WebVisu License
BL20-PG-EN-V3-WV





Type	BL20-PG-EN-V3-WV
ID	6827398
Supply voltage	24 VDC
System power supply	24 VDC/5 VDC
Field supply	24 VDC
Admissible range	18…30 VDC
Nominal current from module bus	≤ 200 mA
Max. field supply current	8 A
Max. system supply current	1.3 A
Voltage supply connection	Screw terminals
Fieldbus addressing	Rotary switch, PGM, DHCP
Fieldbus connection technology	RJ45 port
PLC data	
Programming	CODESYS V3
Released for CODESYS version	V 3.5.12.10
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	5
Programming interface	Ethernet, USB
Processor	ARM, 32 Bit
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Real time clock	yes
Program memory	20000 kByte
Data memory	60000 kByte
Input data	4 kByte
Output data	4 kByte
Non-volatile memory	16 kByte
Transmission rate	10/100 Mbps; full/half duplex; auto negotiation; auto crossing
Web server	192.168.1.254 (Default)
Service interface	Ethernet, mini USB

- CODESYS V3 PLC Runtime
- CODESYS WebVisu license
- CODESYS OPC UA server/client
- IIoT gateway for Turck Cloud
- PROFINET device
- EtherNet/IP device
- Modbus TCP master/slave
- Protection class IP20
- LEDs for display of PLC status, supply voltage, group and bus faults
- 2 × RJ45 Ethernet ports
- Switched or dual MAC mode
- 10 Mbps/100 Mbps

Functional principle

The programmable BL20 gateways can be used as an autonomous PLC or as a decentral PLC in a network interconnection for fast signal preprocessing.

BL20 gateways are the head component of a BL20 station. The BL20 extension modules communicate over the internal module bus with the gateway and can be configured independently of the fieldbus protocol.

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Modbus TCP	
Addressing	Static IP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC5, FC6, FC15, FC16, FC23
Input Data Size	max. 1024 register
Input register start address	0 (0x0000 hex)
Output Data Size	max. 1024 register
Output register start address	0 (0x0000 hex)

Ethernet/IP	
Addressing	acc. to EtherNet/IP specification
Device Level Ring (DLR)	not supported
Input Data Size	248 INT
Output Data Size	248 INT

PROFINET	
Addressing	DCP
Conformance class	B (RT)
MinCycleTime	1 ms
Diagnostics	acc. to PROFINET alarm handling
Topology detection	supported
Automatic addressing	supported
Media Redundancy Protocol (MRP)	not supported
Input Data Size	max. 512 BYTE
Output Data Size	max. 512 BYTE

Dimensions (W x L x H)	50.6 x 114.8 x 74.4 mm
Approvals	CE
Ambient temperature	-20…+60 °C
Storage temperature	-25…+70 °C
Relative humidity	15…95 % (internal), level RH-2, no condensation (when stored at 45 °C)
Vibration test	Acc. to EN 61131
Shock test	Acc. to IEC 60068-2-27
Drop and topple	Acc. to IEC 60068-2-31
Electromagnetic compatibility	Acc. to EN 61131-2
Protection class	IP20
MTTF	147 years acc. to SN 29500 (Ed. 99) 20 °C

Included in delivery	2 x end brackets BL20-WEW-35/2-SW, 1 x end plate BL20-ABPL

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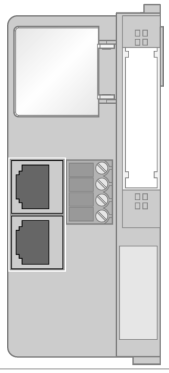
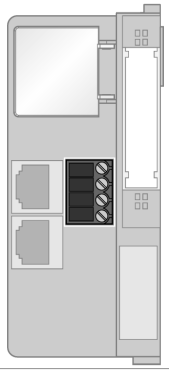
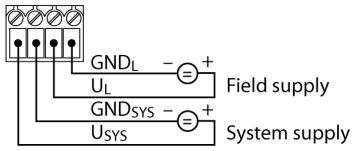
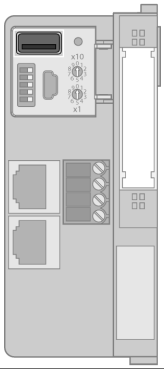
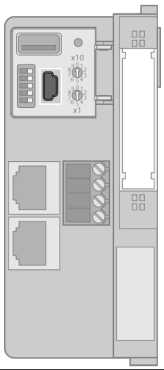
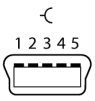
	**Ethernet Ports** The RJ45 Ethernet ports are used as interfaces for programming, configuration and fieldbus communication. The gateway can be operated as a slave at PLCs or PC based systems with PROFINET, EtherNet/IP™ or Modbus TCP master as well as with a driver software. **Ethernet Cable** (Example): RJ45 - RJ45: RJ45S-RJ45S-441-2M (ID number 6932517) RJ45 – Receptacle: RJ45-FKSDD-441-0,5M/S2174 (ID number 6914221)	Pin Assignment 1 = TX + 2 = TX – 3 = RX + 4 = n.c. 5 = n.c. 6 = RX – 7 = n.c. 8 = n.c.
	**Power Supply** The BL20 system is supplied with power via a dual-circuit System supply$_{SYS}$ U_{SYS} is used for the internal system supply at the backplane bus ($V_{MB(5V)}$) Load voltage U_L U_L is for the field supply and should not exceed 8 A.	Pin Assignment 
	**USB Host Port** Storage media can be connected to the USB host port, please observe the instructions in the user manual.	Pin Assignment 1 = 5 VDC 2 = D – 3 = D + 4 = GND
	**USB Device Port** The USB device port can be used as a programming and service interface.	Pin Assignment  1 = 5 VDC 2 = D – 3 = D + 4 = n.c. 5 = GND

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