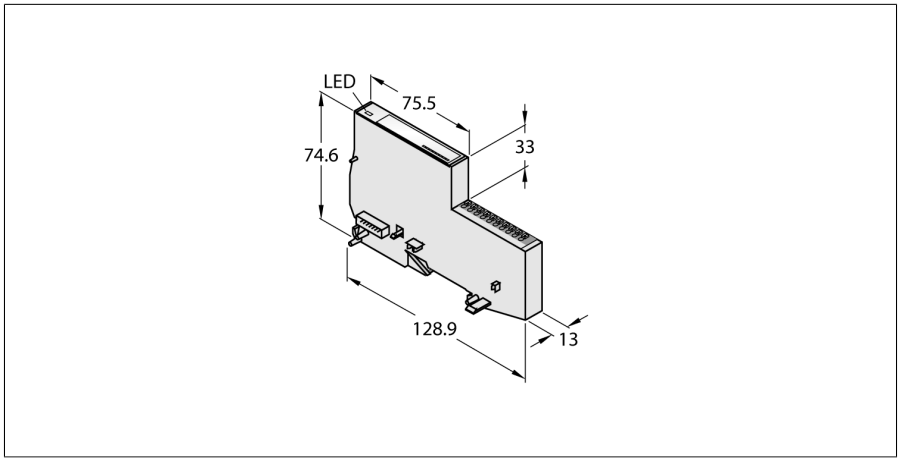
BL20 Efficiency Line Module
4 IO-Link Master Channels, 32 Bytes of I/O Data
4 Configurable Digital Channels, PNP, Channel Diagnostics, 0.5 A
BL20-EL-4IOL-10



Type	BL20-EL-4IOL-10
ID	100052134
Number of channels	4/4
Rated voltage from the supply terminal	24 VDC
Nominal voltage V_o	24 VDC
Admissible range	18…30 VDC
Nominal current from field supply	≤ 80 mA
Nominal current from module bus	≤ 40 mA
Max. field supply current	10 A
Power dissipation, typical	≤ 2 W
Input type	PNP
Low-level signal voltage	< 5 V
High level signal voltage	> 11 V
Low level signal current	< 1.5 mA DI/< 5 mA SIO
High level signal current	2.1…3.7 mA DI/5…11 mA SIO
Electrical isolation	electronics to the field level
Output connectivity	Push-in
Output type	PNP
Output voltage	24 VDC
Output delay	3 ms
Load type	Resistive, inductive
Load resistance, resistive	> 48 Ω
Load resistance, inductive	< 1.2 H
Switching frequency, resistive	< 200 Hz
Switching frequency, inductive	< 2 Hz
Electrical isolation	electronics to the field level
Input connectivity	Push-in

- Fieldbus-independent
- Electronics and connection technology in one housing
- Connectivity: Push-in terminals
- Protection class IP20
- LEDs indicate status and diagnostic
- Electronics galvanically separated from the field level via optocouplers
- 4-channel IO-Link master acc. to specification V1.1
- 4 universal digital channels, PNP, channel diagnostics, 0.5 A

Functional principle

Electronics and connection technology are integrated in the housing. A base module is not needed. Economy modules and modules with separate electronics and connection technology can be fitted into a station, provided the base modules feature tension spring connections.

The use of gateways makes economy modules completely independent from the higher level fieldbus.

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IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Frame type	supports all specified framet types
Supported devices	max. 30 byte input / 30 byte output
Transmission rate	4.8 kbps (COM 1) / 38.4 kbps (COM 2) / 230 kbps (COM 3)

Number of diagnostics bytes	8
Number of parameter bytes	32
Number of input bytes	32
Number of output bytes	32

Dimensions (W x L x H)	13 x 128.9 x 74.6 mm
Approvals	CE
Ambient temperature	0…+55 °C
Storage temperature	-40…+85 °C
Relative humidity	15…95 %, no condensation allowed
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	388 years acc. to SN 29500 (Ed. 99) 20 °C

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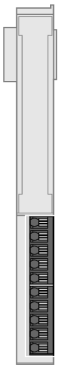
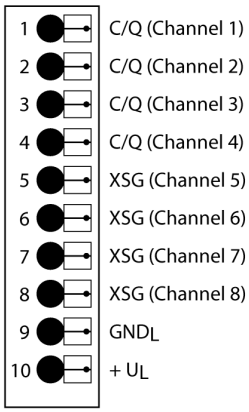
Connection overview



I/O Channels

Channels 1 to 4 are IO-Link master channels. Channels 5 to 8 are XSG channels (optionally usable as digital inputs or outputs). Terminals 9 and 10 are used for sensor supply.

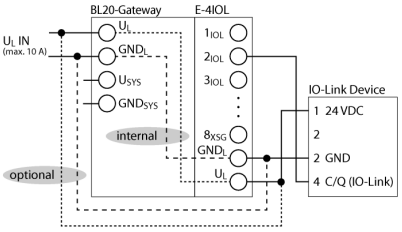
Pin assignment



Attention:

The IO-Link devices must be supplied with the same potential as U_L of the gateway or the BR/PF module (if used).

Wiring diagram



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LED display

LED	Color	Status	Meaning
D		OFF	No error message or diagnostics active.
	RED	ON	Failure of module bus communication. Check if more than 2 adjacent electronic modules are pulled. Relevant modules are located between gateway and this module.
	RED	FLASHING (0.5 Hz)	Upcoming module diagnostics
IO-Link channels 1…4 IO-Link mode		OFF	Status channel x = 0 (OFF)
	GREEN	FLASHING	IO-Link communication active valid process data
	RED	ON	No IO-Link communication and/or module error, invalid process data
	RED	FLASHING	IO-Link communication active and/or module error, invalid process data
IO-Link channels 1…4 SIO mode		OFF	Status channel x = 0 (OFF)
	GREEN	ON	Status channel x = 1 (ON)
XSG channels 5…8		OFF	Status channel x = 0 (OFF)
	GREEN	ON	Status channel x = 1 (ON)
	RED	FLASHING (0.5 Hz)	Short-circuit output channel x

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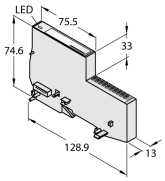
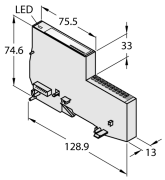
Accessories

Type code	Ident no.		Dimension drawing
BL20-E-10UL	100001335	BL20 ECO module with 10 connection terminals for wiring 24 VDC potential from the UL field supply	
BL20-E-10GNDL	100001336	BL20 ECO module with 10 connection terminals for wiring GND potential from the UL field supply	

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