

BL67 electronic module

4 Digital Inputs, PNP

BL67-4DI-P



- Independent of the type of fieldbus and connection technology used
- Protection class IP67
- LEDs indicate status and diagnostic
- Electronics galvanically separated from the field level via optocouplers
- 4 digital inputs, 24 VDC
- PNP switching
- From version VN 01-03 and higher, the module supports accelerated start-up for applications with Fast Start-Up (FSU) and QuickConnect (QC).

Type designation	BL67-4DI-P
Ident no.	6827171
Number of channels	4
Supply voltage	24 VDC
Nominal voltage V_N	24 VDC
Nominal current from field supply	≤ 40 mA
Nominal current from module bus	≤ 30 mA
Max. sensor supply I_{sens}	4 A electronically limited current supply via gateway or power feed
Power dissipation, typical	≤ 0.25 W
Input type	pnnp
Type of input diagnostics	group diagnostics
Low level signal voltage	< 4.5 V
High level signal voltage	7...30 V
Low level signal current	< 1.5 mA
High level signal current	2.1...3.7 mA
Input delay	0.25 ms
Electrical isolation	electronics for the field level
Output connectivity	M8, M12, M23
Dimensions (W x L x H)	32 x 91 x 59mm
Approvals	CE
Operating temperature	-40...+70 °C
Temperature derating	
< 0 °C Ambient temperature	switching on threshold drop, $1\text{mA} < I_e < 2.5\text{mA}$
Storage temperature	-40...+85 °C
Relative humidity	5 to 95 % (internal), Level RH-2, no condensation (at 45 °C storage)
Vibration test	acc. to EN 61131
Extended vibration resistance	
- up to 5 g (at 10 to 150 Hz)	for mounting on DIN rail no drilling according to EN 60715, with end bracket
- up to 20 g (at 10 up to 150 Hz)	for mounting on base plate or machinery Therefore every second module has to be mounted with two screws each.
Shock test	acc. to IEC 68-2-27
Drop and topple	acc. to IEC 68-2-31 and free fall to IEC 68-2-32
Electromagnetic compatibility	acc. to EN 61131-2
Protection class	IP67
Tightening torque fixing screw	0.9...1.2 Nm

Functional principle

BL67 electronic modules are plugged on the purely passive base modules which in turn are connected to the field devices. The separation of connection level and electronics simplifies maintenance considerably. Flexibility is enhanced because the user can choose between base modules with different connection technologies.

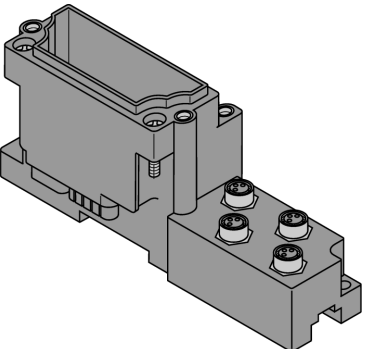
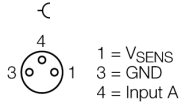
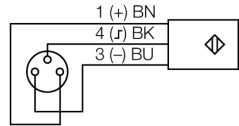
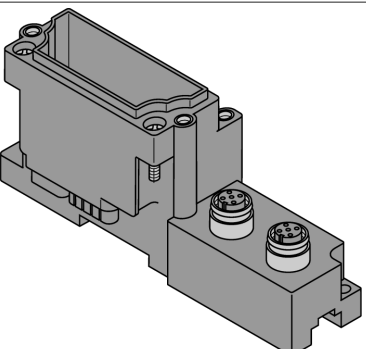
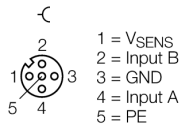
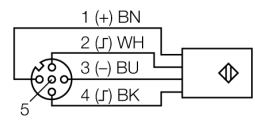
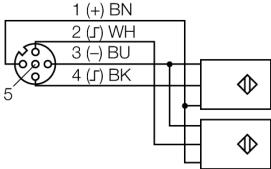
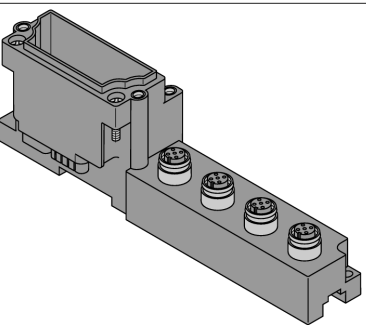
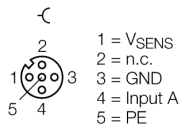
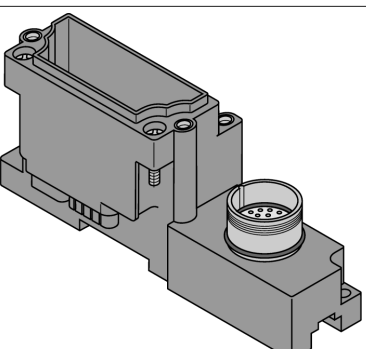
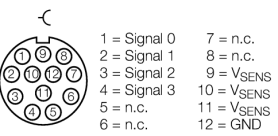
The electronic modules are completely independent of the higher level fieldbus through the use of gateways.

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Compatible base modules

Dimension drawing	Type	Pin configuration
	BL67-B-4M8 6827189 4 x M8, 3-pole, female Comments Matching connection cable (for example): PKG3M-2-PSW3M/TXL Ident-No. 6625668	Pin Assignment  Wiring Diagram 
	BL67-B-2M12 6827186 2 x M12, 5-pole, female, A-coded Comments Matching connection cable (for example): RKC4.4T-2-RSC4.4T/TXL Ident-No. 6625608 BL67-B-2M12-P 6827194 2 x M12, 5-pole, female, A-coded, paired Comments Matching connection cable (for example): RKC4.4T-2-RSC4.4T/TXL Ident-No. 6625608	Pin Assignment  Wiring Diagram  Wiring diagram 
	BL67-B-4M12 6827187 4 x M12, 5-pole, female, A-coded Comments Matching connection cable (for example): RKC4.4T-2-RSC4.4T/TXL Ident-No. 6625608	Pin Assignment  Wiring Diagram 
	BL67-B-1M23 6827213 1 x M23, 12-pole, female Comments field-wireable connector (for example): FW-M23ST12Q-G-LT-ME-XX-10 Ident-No. 6604070	Pin Assignment 

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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
DI channels		OFF	Input status x = 0 (OFF)
0...3	GREEN	ON	Input status x = 1 (ON)

Note:

The numbering of the LEDs corresponds to the numbering of the channels.

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Data mapping

DATA	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Input	n	-	-	-	-	DI 3	DI 2	DI 1	DI 0

n = Offset of input data; depending on extension of station and the corresponding fieldbus.

m = Offset of output data; depending on extension of station and the corresponding fieldbus.

With PROFIBUS, PROFINET and CANopen, the I/O data of this module is localized within the process data of the whole station via the hardware configuration tool of the fieldbus master.

With DeviceNet™, EtherNet/IP™ and Modbus TCP a detailed mapping table can be created with the TURCK configuration tool I/O-ASSISTANT.

Pin assignment at corresponding base module:

DATA	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
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BL67-B-4M8									
Input	n	-	-	-	-	C3 P4	C2 P4	C1 P4	C0 P4
BL67-B-2M12									
Input	n	-	-	-	-	C1 P2	C0 P2	C1 P4	C0 P4
BL67-B-2M12-P									
Input	n	-	-	-	-	C1 P2	C1 P4	C0 P2	C0 P4
BL67-B-4M12									
Input	n	-	-	-	-	C3 P4	C2 P4	C1 P4	C0 P4
BL67-B-1M23(-VI)									
Input	n	-	-	-	-	C0 P4	C0 P3	C0 P2	C0 P1

C... = slot no., P... = pin no.