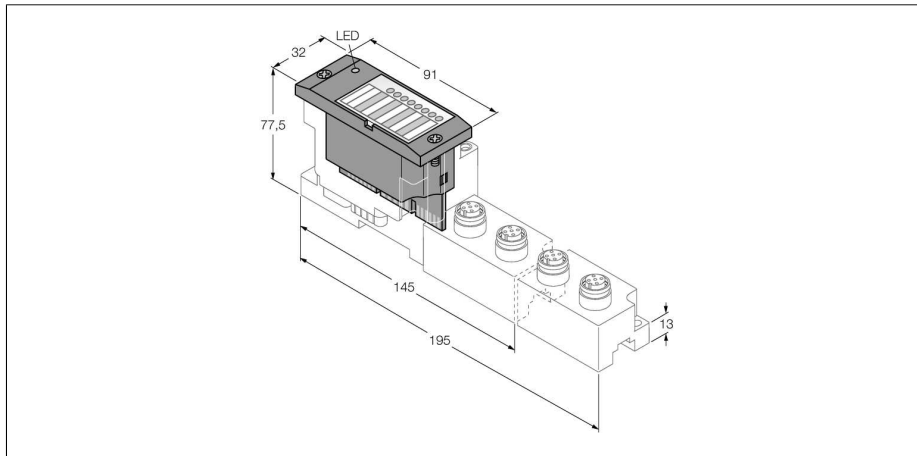


## BL67 electronic modules

### 8 configurable digital channels, PNP, channel diagnostics, 0.5 A

#### BL67-8XSG-PD



- 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
- 8 configurable digital channels
- 24 VDC, PNP
- Max. 0.5 A
- Channel diagnostics
- Adjustable filter times
- Invertible inputs

<b>Type</b>	BL67-8XSG-PD
Ident-No.	6827208
<b>Number of channels</b>	8
Supply voltage	24 VDC
Nominal voltage $V_n$	24 VDC
Rated current from field supply	$\leq 100$ mA
Rated current from module bus	$\leq 30$ mA
max. sensor supply $I_{sens}$	100 mA For 2 channels ( $\Rightarrow$ e.g. per M12 slot), electronically limited current supply
Max. load current $I_L$	10 A via gateway or power feed
Power loss, typical	$\leq 1.5$ W
<b>Input type</b>	pnp
Type of input diagnostics	channel 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	$< 2.5$ ms
Electrical isolation	electronics for the field level
Connection technology	M8, M12, M23
<b>Output type</b>	pnp
Output voltage	24 VDC
Output current per channel	0.5 A
Output delay	3 ms
Load type	resistive, inductive, lamp load
Load resistance, resistive	$> 48 \Omega$
Load resistance, inductive	$< 1.2$ H
Lamp load	$< 3$ W
Switching frequency, resistive	$< 200$ Hz
Switching frequency, inductive	$< 2$ Hz
Switching frequency, lamp load	$< 20$ Hz
Simultaneity factor	1
Electrical isolation	electronics for the field level
<b>Number of diagnostic bits</b>	12
Number of parameter bytes	8

#### Functional principle

BL67 electronic modules are plugged into the purely passive base modules which are needed for connection of 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.

#### Note

The inputs and outputs of the digital combi-module are supplied via a common GND. Therefore, we recommend **not** to use this module for safety or emergency stop applications.

Otherwise, it must be ensured that  $V_L$  and  $V_O$  at the gateway or power feeding module are all-pole disabled.

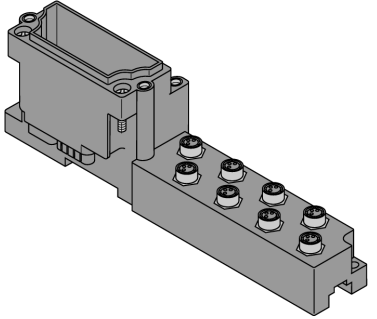
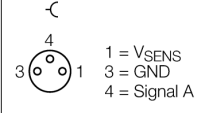
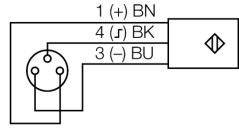
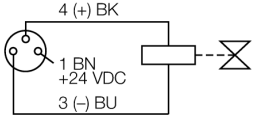
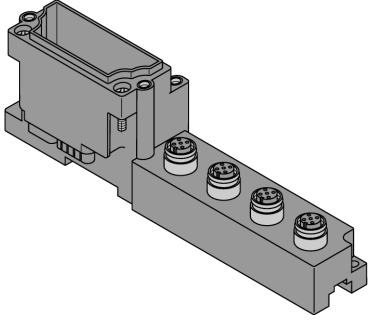
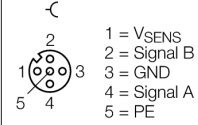
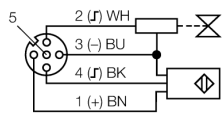
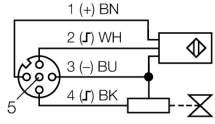
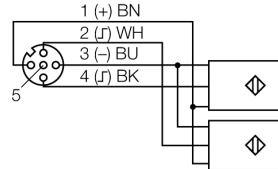
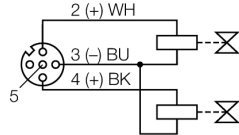
**BL67 electronic modules**  
**8 configurable digital channels, PNP, channel diagnostics, 0.5 A**  
**BL67-8XSG-PD**

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Dimensions (W x L x H)	32x91x59mm
Approvals	CE, cULus
Operating temperature	-40...+70 °C
Temperature derating	
< 0 °C Ambient temperature	Support for version VN 01-03 and higher, no limitation
> 55 °C Circulating air (Ventilation)	no limitation
> 55 °C Steady ambient air	Simultaneity factor 0.5
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 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
Electro-magnetic compatibility	acc. to EN 61131-2
Protection class	IP67
Tightening torque fixing screw	0.9...1.2 Nm

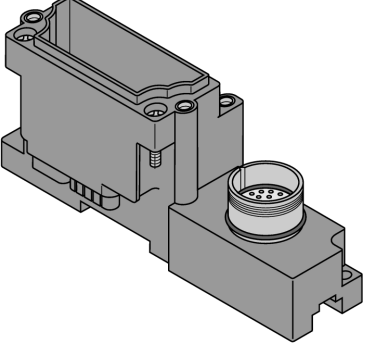

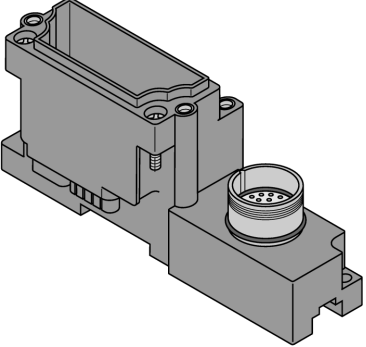

**BL67 electronic modules**  
**8 configurable digital channels, PNP, channel diagnostics, 0.5 A**  
**BL67-8XSG-PD**

**Compatible base modules**

Dimension drawing	Type	Pin configuration
	<p><b>BL67-B-8M8</b>                      6827188                      8 x M8, 3-pole, female</p> <p><b>Comments</b>                      Matching connection cable (for example):                      SKP32-SSP3/S90                      Ident-No. 8008685</p>	<p><b>Pin assignment</b></p>  <p><b>Wiring diagram</b></p>  <p><b>Wiring diagram</b></p> 
	<p><b>BL67-B-4M12</b>                      6827187                      4 x M12, 5-pole, female</p> <p><b>Comments</b>                      Matching connection cable (for example):                      WAK4-2-WAS4/S90                      Ident-No. 8006739</p> <p><b>BL67-B-4M12-P</b>                      6827195                      4 x M12, 5-pole, female, paired</p> <p><b>Comments</b>                      Matching connection cable (for example):                      WAK4-2-WAS4/S90                      Ident-No. 8006739</p>	<p><b>Pin assignment</b></p>  <p><b>Wiring diagram</b></p>  <p><b>Wiring diagram</b></p>  <p><b>Wiring diagram</b></p>  <p><b>Wiring diagram</b></p> 

**BL67 electronic modules**  
**8 configurable digital channels, PNP, channel diagnostics, 0.5 A**  
**BL67-8XSG-PD**

**Compatible base modules**

Dimension drawing	Type	Pin configuration												
	<p><b>BL67-B-1M23-VI</b>                      6827290                      1 x M23, 12-pole, female</p> <p><b>Comments</b>                      field-wireable connector (for example):                      FW-M23ST12Q-G-LT-ME-XX-10                      Ident-No. 6604070</p> <p><b>Note</b>                      Channel related diagnostics is not possible with this base module. 4A current limited power supply to the sensor via gateway or power feeding module.</p>	<p><b>Pin assignment</b></p>  <table border="0"> <tr> <td>1 = Signal 0</td> <td>7 = Signal 6</td> </tr> <tr> <td>2 = Signal 1</td> <td>8 = Signal 7</td> </tr> <tr> <td>3 = Signal 2</td> <td>9 = V<sub>SENS</sub></td> </tr> <tr> <td>4 = Signal 3</td> <td>10 = V<sub>SENS</sub></td> </tr> <tr> <td>5 = Signal 4</td> <td>11 = V<sub>SENS</sub></td> </tr> <tr> <td>6 = Signal 5</td> <td>12 = GND</td> </tr> </table>	1 = Signal 0	7 = Signal 6	2 = Signal 1	8 = Signal 7	3 = Signal 2	9 = V <sub>SENS</sub>	4 = Signal 3	10 = V <sub>SENS</sub>	5 = Signal 4	11 = V <sub>SENS</sub>	6 = Signal 5	12 = GND
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5 = Signal 4	11 = V <sub>SENS</sub>													
6 = Signal 5	12 = GND													
	<p><b>BL67-B-1M23</b>                      6827213                      1 x M23, 12-pole, female</p> <p><b>Comments</b>                      field-wireable connector (for example):                      FW-M23ST12Q-G-LT-ME-XX-10                      Ident-No. 6604070</p> <p><b>Note</b>                      Channel related diagnostics is restricted with this base module. The sensor supply is electronically current limited to 3 * 100mA (pin 9, 10, 11).</p>	<p><b>Pin assignment</b></p>  <table border="0"> <tr> <td>1 = Signal 0</td> <td>7 = Signal 6</td> </tr> <tr> <td>2 = Signal 1</td> <td>8 = Signal 7</td> </tr> <tr> <td>3 = Signal 2</td> <td>9 = V<sub>SENS</sub></td> </tr> <tr> <td>4 = Signal 3</td> <td>10 = V<sub>SENS</sub></td> </tr> <tr> <td>5 = Signal 4</td> <td>11 = V<sub>SENS</sub></td> </tr> <tr> <td>6 = Signal 5</td> <td>12 = GND</td> </tr> </table>	1 = Signal 0	7 = Signal 6	2 = Signal 1	8 = Signal 7	3 = Signal 2	9 = V <sub>SENS</sub>	4 = Signal 3	10 = V <sub>SENS</sub>	5 = Signal 4	11 = V <sub>SENS</sub>	6 = Signal 5	12 = GND
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**BL67 electronic modules****8 configurable digital channels, PNP, channel diagnostics, 0.5 A****BL67-8XSG-PD****LED display**

<b>LED</b>	<b>color</b>	<b>status</b>	<b>description</b>
D		OFF	Error report or diagnostics active.
	RED	ON	Failure of MODBUS 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
XSG channels 0...7		OFF	Channel status x = 0 (OFF), diagnostics disabled
	GREEN	ON	Channel status x = 1 (ON)
	RED	ON	Short-circuit at output
	RED	FLASHING (2 Hz)	Short-circuit sensor supply

## BL67 electronic modules

### 8 configurable digital channels, PNP, channel diagnostics, 0.5 A

#### BL67-8XSG-PD

#### Data mapping

DATA	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Input	n	XSG 7	XSG 6	XSG 5	XSG 4	XSG 3	XSG 2	XSG 1	XSG 0
Output	m	XSG 7	XSG 6	XSG 5	XSG 4	XSG 3	XSG 2	XSG 1	XSG 0

#### Note:

Simultaneous feedback of status at the input and the digital output.

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
<b>BL67-B-8M8</b>									
Input	n	C7 P4	C6 P4	C5 P4	C4 P4	C3 P4	C2 P4	C1 P4	C0 P4
Output	m	C7 P4	C6 P4	C5 P4	C4 P4	C3 P4	C2 P4	C1 P4	C0 P4
<b>BL67-B-4M12</b>									
Input	n	C3 P2	C2 P2	C1 P2	C0 P2	C3 P4	C2 P4	C1 P4	C0 P4
Output	m	C3 P2	C2 P2	C1 P2	C0 P2	C3 P4	C2 P4	C1 P4	C0 P4
<b>BL67-B-4M12-P</b>									
Input	n	C3 P2	C3 P4	C2 P2	C2 P4	C1 P2	C1 P4	C0 P2	C0 P4
Output	m	C3 P2	C3 P4	C2 P2	C2 P4	C1 P2	C1 P4	C0 P2	C0 P4
<b>BL67-B-2M12-8</b>									
Input	n	C1 P4	C1 P3	C0 P4	C0 P3	C1 P2	C1 P1	C0 P2	C0 P1
Output	m	C1 P4	C1 P3	C0 P4	C0 P3	C1 P2	C1 P1	C0 P2	C0 P1
<b>BL67-B-1M23(-VI)</b>									
Input	n	C0 P8	C0 P7	C0 P6	C0 P5	C0 P4	C0 P3	C0 P2	C0 P1
Output	m	C0 P8	C0 P7	C0 P6	C0 P5	C0 P4	C0 P3	C0 P2	C0 P1

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