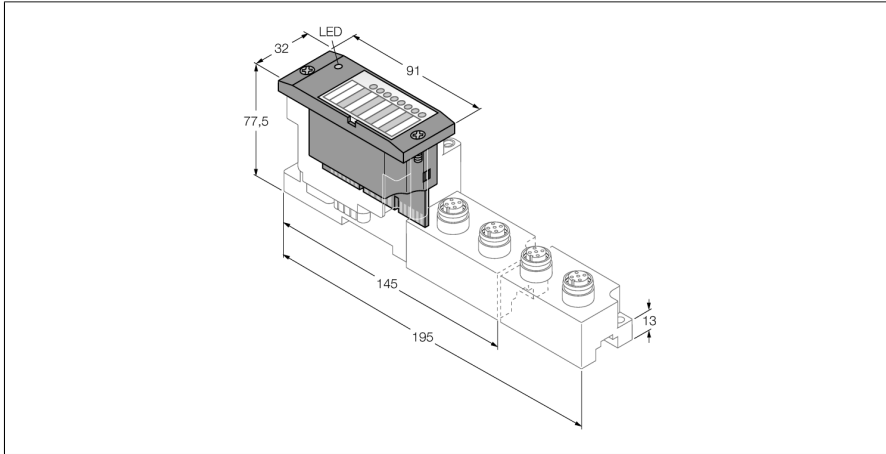


BL67 electronic module

4 Digital Outputs, PNP, 4.0 A

BL67-4DO-4A-P



- Independent of the fieldbus and connection technology used
- Protection class IP67
- LEDs indicate status and diagnostic
- Electronics galvanically separated from the field level via optocouplers
- 4 digital outputs, 24 VDC
- Max. 4 A
- PNP switching

Functional principle

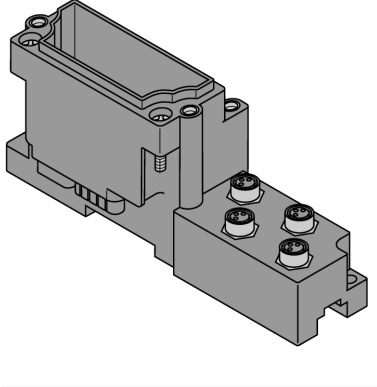
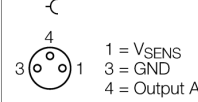
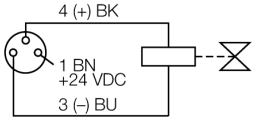
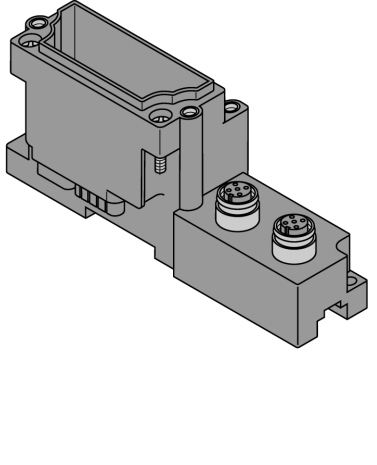
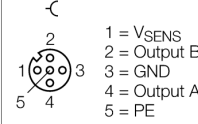
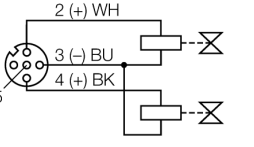
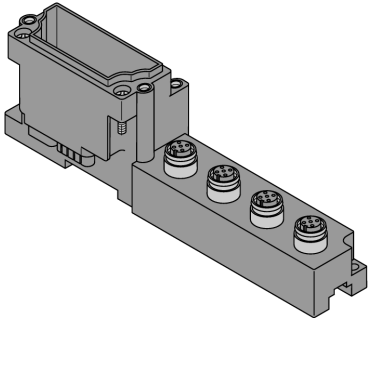
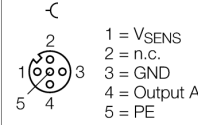
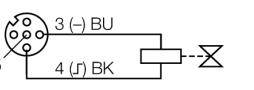
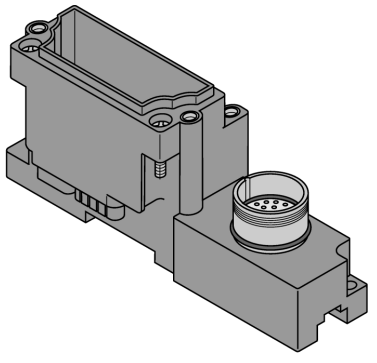
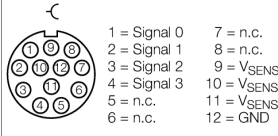
BL67 electronic modules are plugged on the purely passive base modules which in turn are connected to the field devices. The separation of connection level and electronics simplifies maintenance considerably. Flexibility is enhanced because the user can choose between base modules with different connection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

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

| | |
|-----------------------------------|---------------------------------------------------------------------|
| Type | BL67-4DO-4A-P |
| ID | 6827308 |
| Number of channels | 4 |
| Supply voltage | 24 VDC |
| Nominal voltage V_o | 24 VDC |
| Nominal current from field supply | ≤ 100 mA |
| Nominal current from module bus | ≤ 30 mA |
| Max. sensor supply I_{sens} | 4 A electronically limited current supply via gateway or power feed |
| max. load current I_o | 10 A via gateway or power feed |
| Power dissipation, typical | ≤ 1.5 W |
| Output connectivity | M8, M12, M23 |
| Output type | PNP |
| Output voltage | 24 VDC |
| Output current per channel | 4.0 A |
| Output delay | 3 ms |
| Load type | resistive, inductive, lamp load |
| Load resistance, resistive | $> 12 \Omega$ |
| Load resistance, inductive | < 1.2 H |
| Lamp load | < 10 W |
| Switching frequency, resistive | < 200 Hz |
| Switching frequency, inductive | < 2 Hz |
| Switching frequency, lamp load | < 20 Hz |
| Short-circuit protection | yes |
| Simultaneity factor | 0.25 with 4A, 0.5 with 3A or 1.0 with 2A |
| Electrical isolation | electronics for the field level |
| Number of diagnostic bits | 4 |

| | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Dimensions (W x L x H) | 32 x 91 x 59 mm |
| Approvals | CE, cULus |
| Ambient temperature | -40...+70 °C |
| Temperature derating | |
| > 55 °C Steady ambient air | Simultaneity factor: 0.25 with 3A or 0.5 with 2A |
| Storage temperature | -40...+85 °C |
| Relative humidity | 5...95 % (internal), level RH-2, no condensation (when stored at 45 °C) |
| Vibration test | Acc. to EN 61131 |
| - 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 60068-2-27 |
| 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 |

Compatible base modules

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

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 |
| DO channels 0...3 | | OFF | Status output x = 0 (OFF), no active diagnostics |
| | GREEN | ON | Output status x = 1 (ON) |
| | RED | ON | Short-circuit/overload at output x |

Data mapping

| DATA | BYTE | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Output | m | - | - | - | - | DO 3 | DO 2 | DO 1 | DO 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 |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|

| | | | | | | | | | |
|-------------------------|---|---|---|---|---|-------|-------|-------|-------|
| BL67-B-4M8 | | | | | | | | | |
| Output | m | - | - | - | - | C3 P4 | C2 P4 | C1 P4 | C0 P4 |
| BL67-B-2M12 | | | | | | | | | |
| Output | m | - | - | - | - | C1 P2 | C0 P2 | C1 P4 | C0 P4 |
| BL67-B-2M12-P | | | | | | | | | |
| Output | m | - | - | - | - | C1 P2 | C1 P4 | C0 P2 | C0 P4 |
| BL67-B-4M12 | | | | | | | | | |
| Output | m | - | - | - | - | C3 P4 | C2 P4 | C1 P4 | C0 P4 |
| BL67-B-1M23(-VI) | | | | | | | | | |
| Output | m | - | - | - | - | C0 P4 | C0 P3 | C0 P2 | C0 P1 |

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