


2 x connectors for profile cable

Periphery connection via
4 x round cable/connecting wires




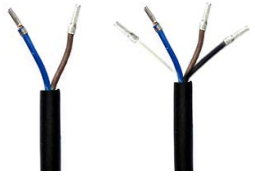



(Figure similar)



| Figure | Type | Inputs digital | Outputs digital | Input voltage (sensor supply) ⁽¹⁾ | Output voltage (actuator supply) ⁽²⁾ | ASi connection ⁽³⁾ | Connection ⁽⁴⁾ | ASi address ⁽⁵⁾ | Special function | Art. no. |
|---|-------------------|----------------|-----------------|--|---|-------------------------------|----------------------------------|----------------------------|------------------|----------|
|  | IP67, depth 35 mm | 4 | 4 x electronic | out of ASi | out of AUX | ASi profile cable | 4 x round cable/connecting wires | 1 AB address | – | BWU4172 |

- (1) **Input voltage (sensor supply):** inputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, inputs shall not be connected to earth or to external potential.
- (2) **Output voltage (actuator supply):** outputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, outputs shall not be connected to earth or to external potential
- (3) **ASi connection:** the connection to ASi as well to AUX (auxiliary 24 V power) is made via yellow resp. black ASi profile cable with piercing technology or via M12 socket (in IP20 via clamps).
- (4) **Connection:** further connection options are available on request.

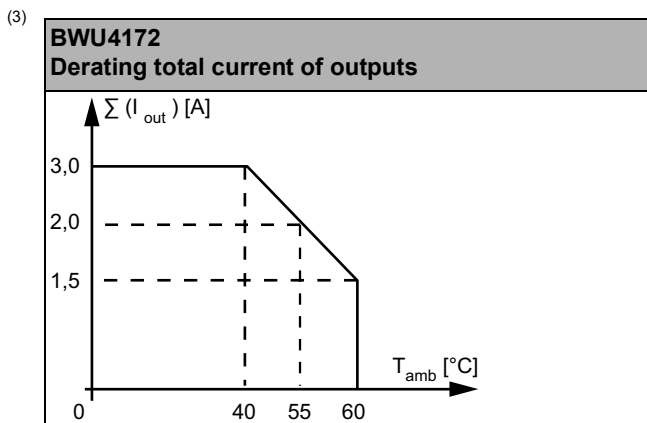
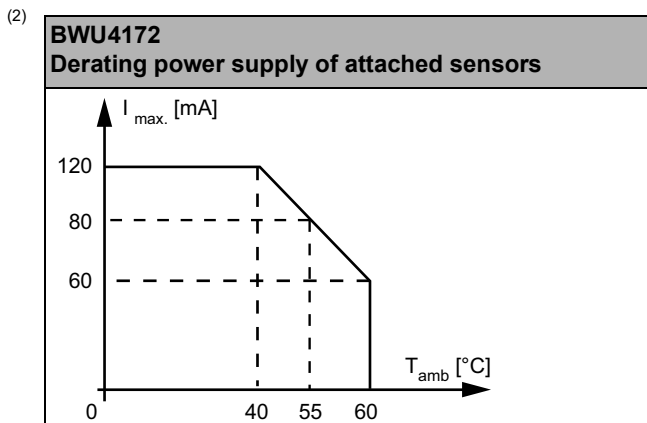
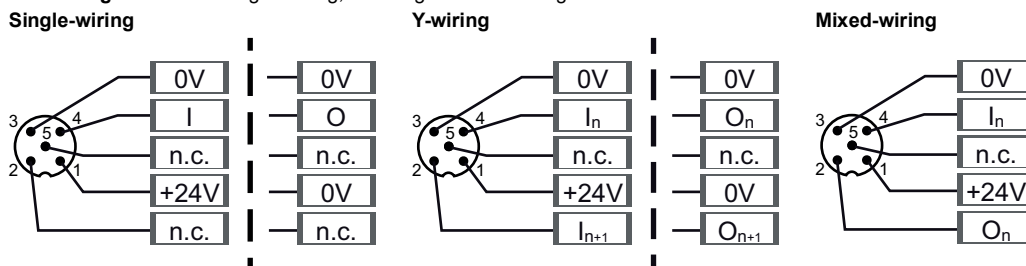
| M12 cable socket, angled | M12 cable socket, straight | M8 cable socket, straight | round cable / connecting wires | Push in terminals |
|---|---|---|--|---|
| PUR line: oil resistant | | | | |
|  |  |  |  |  |

- (5) **ASi address:** 1 AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), single addresses (max. 31 single addresses/ASi network), mixed use allowed.
For modules with two ASi nodes the second ASi node is turned off as long as the first ASi node is addressed to address "0".
Upon request, ASi nodes are available with specific ASi communication profiles.

| | | |
|--|---|--|
| Article No. | | BWU4172 |
| General data | | |
| Device type | input/output | |
| Connection | | |
| ASI/AUX connection | profile cable and piercing | |
| Periphery connection | 4 x round cable/connecting wires | |
| M12 wiring ⁽¹⁾ | - | |
| Round cable | 1 m | |
| | max. allowed tensile strain 10 N | |
| ASI | | |
| Profile | S-7.A.7 (ID1=7 fixed) | |
| Address | 1 AB address | |
| Required Master profile | ≥M4 | |
| As of ASI specification | 3 | |
| Operating voltage | 30 V (18 ... 31.6 V) | |
| Max. current consumption | 165 mA | |
| Max. current consumption without sensor/ actuator supply | 45 mA | |
| AUX | | |
| Operating voltage | 24 V (18 ... 30 V _{DC}) | |
| Max. current consumption | 3 A | |
| Input | | |
| Number | 4 | |
| Power supply | out of ASI | |
| Power supply of attached sensors | up to +40 °C | 120 mA ⁽²⁾ |
| | at +55 °C | 80 mA ⁽²⁾ |
| | at +60 °C | 60 mA ⁽²⁾ |
| Switching threshold | U < 5 V (low) U > 15 V (high) | |
| Output | | |
| Number | 4 | |
| Power supply | out of AUX | |
| Max. output current | up to +40 °C | 1 A per output, $\sum (\text{Out}) \leq 3 \text{ A}^{(3)}$ |
| | at +55 °C | 1 A per output, $\sum (\text{Out}) \leq 2 \text{ A}^{(3)}$ |
| | at +60 °C | 1 A per output, $\sum (\text{Out}) \leq 1,5 \text{ A}^{(3)}$ |
| Display | | |
| LED ASI/FLT (red/green) | green: ASI voltage on, online green/red: ASI voltage on, but offline green flashing/red: address 0 alternating green flashing/red flashing: peripheral fault ⁽⁴⁾ off: no ASI voltage | |
| LED AUX (green) | on: 24 V _{DC} AUX off: no 24 V _{DC} AUX | |
| LEDs I1 ... In (yellow) | state of inputs I1 ... I4 | |
| LED O1 ... On (yellow) | state of outputs O1 ... O4 | |

| | |
|--|--|
| Article No. | BWU4172 |
| Environment | |
| Applied standards | EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529 |
| Can be used in passively safe paths up to SIL3/PLe | yes ⁽⁵⁾ |
| Operating altitude | max. 2000 m |
| Ambient temperature | -30 °C ... +60 °C ^{(2) (3) (6)} |
| Storage temperature | -25 °C ... +85 °C |
| Housing | plastic, for screw mounting, suitable for cable ducts (≥35 mm installation depth) |
| Pollution degree | 2 |
| Protection category | IP67 ⁽⁷⁾ |
| Maximum tolerable shock and vibration stress | ≤15g, T≤11 ms 10 ... 55 Hz, 0,5 mm amplitude |
| Insulation voltage | ≥500 V |
| Weight | 100 g |
| Dimensions (W / H / D) in mm | 60 / 45 / 35 |

(1) **M12 wiring:** either as a single-wiring, Y-wiring or mixed-wiring.



- (4) see table "Peripheral fault indication"
- (5) The module is suitable for use in passively safe paths because an exclusion of errors can be assumed for the connection of the two potentials, ASi and AUX.
- (6) Down to -25 °C with flexibly mounted cable, -30 °C only with fixed mounted cable.
- (7) Protection category IP67 can only be achieved, if also the cable connector fulfills IP67

| Article no. | Peripheral fault indication | | |
|-------------|-----------------------------|------------------------|---------------------|
| | Overload sensor supply | Output short circuited | AUX voltage missing |
| BWU4172 | • | - | • |

| Programming | ASi bit assignment | | | |
|-------------|--------------------|----|----|----|
| | D3 | D2 | D1 | D0 |
| | input | | | |
| BWU4172 | I4 | I3 | I2 | I1 |
| | output | | | |
| BWU4172 | O4 | O3 | O2 | O1 |

| Programming | ASi bit assignment | | | |
|-------------|--------------------|--|---|------------------------------|
| | parameter bit | | | |
| | P3 | P2 | P1 | P0 |
| BWU4172 | not used | 0= on / 1= off (synchronous I/O mode) | 0= off / 1= on (peripheral fault, if AUX missing) | 0= off / 1= on (Watchdog) |

Pin assignment

| Signal name | Explanation |
|---------------------------|---|
| Ix | digital input x |
| Ox | digital output x |
| 24V _{ext out} | power supply, out of external voltage, positive pole (AUX, actuator supply) |
| 0V _{ext out} | power supply, out of external voltage, negative pole (AUX, actuator supply) |
| 24V _{out of ASi} | power supply, out of ASi, positive pole (sensor supply) |
| 0V _{out of ASi} | power supply, out of ASi, negative pole (sensor supply) |
| ASi +, ASi - | connection to ASi bus |
| n.c. (not connected) | not connected |

Connections: round cable/connecting wires

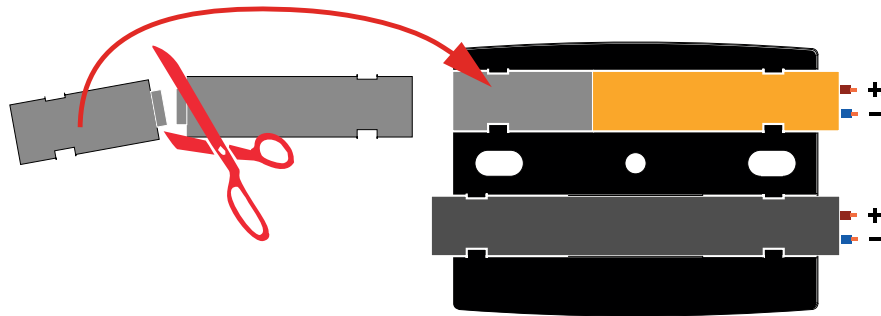
| Article no. | connec. | BN | WH | BU | BK | PK | GY | RD | GN | YE | OG |
|-------------|---------|----------------------|----|------------------|----|----|----|----|----|----|----|
| BWU4172 | X1 | 24V out of ASi | I4 | 0V out of ASi | I3 | | | | | | |
| | X2 | n.c. | O4 | 0 V ext out | O3 | | | | | | |
| | X3 | 24V out of ASi | I2 | 0V out of ASi | I1 | | | | | | |
| | X4 | n.c. | O2 | 0 V ext out | O1 | | | | | | |



Line termination with sealing profile



max. IP54



Accessories:

- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4708)