# Digital Modules ASi, IP67, M12

**2 x 2 connectors for profile cable**

**2 color LEDs per output,
state (yellow), overload (red) (optional)**

(Figure similar)

| Figure | Inputs digital | Outputs digital | M12 connection (1) | Input voltage (sensor supply) (2) | Output voltage (actuator supply) (3) | ASi connection (4) | ASi address (5) | Max. output current | Art. no. |
|---|---|---|---|---|---|---|---|---|---|
| | 2 | 2 x electronic | Y | out of ASi | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU3456** |
| | 2 | 2 x electronic, special ASi bit assignment | Y | out of ASi | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU3539** |
| | 2 | 2 x electronic, special ASi bit assignment | Y | out of ASi | out of AUX | ASi profile cable | 1 single address | 1 A per output | **BWU3775** |
| | 2 | 2 x electronic | single | out of ASi | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU3141** |
| | 2 | 2 x electronic | single | out of ASi | out of AUX | ASi via M12 | 1 AB address | 1 A per output | **BWU3517** |
| | 4 | – | Y | out of ASi | – | ASi profile cable | 1 AB address | – | **BWU2552** |
| | 4 | – | Y | out of ASi | – | ASi via M12 | 1 AB address | – | **BWU3077** |
| | 4 | – | single | out of ASi | – | ASi profile cable | 1 AB address | – | **BWU2620** |
| | 4 | – | single | out of ASi | – | ASi profile cable | 1 AB address S-0.A.7.0 | – | **BWU3556** |
| | 4 | – | single | out of ASi | – | ASi via M12 | 1 AB address | – | **BWU3457** |
| | 4 | – | single | out of AUX | – | ASi profile cable | 1 AB address | – | **BWU2725** |
| | 4 | 2 x electronic | mixed | out of AUX | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU2767** |
| | 4 | 4 x electronic | mixed | out of ASi | out of ASi | ASi profile cable | 1 AB address | 120 mA per output | **BWU3240** |
| | 4 | 4 x electronic | mixed | out of AUX | out of AUX | ASi profile cable | 1 AB address | 500 mA per output | **BWU2547** |
| | 4 | 4 x electronic | mixed (inputs/outputs swapped) | out of AUX | out of AUX | ASi profile cable | 1 AB address | 500 mA per output | **BWU3887** |
| | 4 | 4 x electronic | Y | out of ASi | out of AUX | ASi profile cable | 1 AB address | 500 mA per output | **BWU2487** |
| | 4 | 4 x electronic | Y | out of AUX | out of AUX | ASi profile cable | 1 AB address | 500 mA per output | **BWU3032** |
| | 4 | 3 x electronic | Y | out of ASi | out of AUX | ASi profile cable | 1 AB address | 500 mA per output | **BWU3375** |
| | – | 4 x electronic | Y | – | out of AUX | ASi profile cable | 1 single address | 1 A per output | **BWU2713** |
| | – | 4 x electronic | Y | – | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU2594** |
| | – | 4 x electronic | Y | – | out of AUX, 2A per output | ASi profile cable | 1 AB address | 2 A per output | **BWU2728** |

| Figure | Inputs digital | Outputs digital | M12 connection (1) | Input voltage (sensor supply) (2) | Output voltage (actuator supply) (3) | ASi connection (4) | ASi address (5) | Max. output current | Art. no. |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 4 x electronic | Y | out of ASi | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU2626** |
| | 4 | 4 x electronic | Y | out of ASi | out of AUX | ASi profile cable | 1 AB address | 2 A per output | **BWU3426** |
| | 4 | 4 x electronic | single | out of ASi | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU2617** |
| | 4 | 4 x electronic | single | out of ASi | out of AUX | ASi profile cable | 1 single address | 1 A per output | **BWU2684** |
| | 4 | 4 x electronic | single | out of AUX | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU2810** |
| | 4 | 4 x electronic | Y | out of AUX | out of AUX | ASi profile cable | 1 AB address | 1 A per output | **BWU3510** |
| | 4 | 4 x electronic | single | out of AUX | out of AUX | ASi using M12 | 1 AB address | 1 A per output | **BWU2645** |
| | 4 | 4 x electronic | single | out of ASi | out of AUX, 2A per output | ASi profile cable | 1 single address | 2 A per output | **BWU3540** |
| | 4 | 3 x electronic | single | out of ASi | out of AUX, 2A per output | ASi profile cable | 1 AB address | 2 A per output | **BWU3496** |
| | 8 | – | Y | out of AUX | – | ASi profile cable | 2 AB addresses | – | **BWU2770** |
| | 8 | – | Y | out of ASi | – | ASi profile cable | 2 AB addresses | – | **BWU2651** |
| | 8 | – | single | out of ASi | – | ASi profile cable | 2 AB addresses | – | **BWU2983** |
| | 8 | 8 x electronic | Y | out of ASi | out of AUX | ASi profile cable | 2 AB addresses | 1 A per output | **BWU2619** |
| | 8 | 8 x electronic | Y | out of AUX | out of AUX | ASi profile cable | 2 AB addresses | 1 A per output | **BWU3892** |
| | – | 8 x electronic | Y | – | out of AUX | ASi profile cable | 2 AB addresses | 1 A per output | **BWU2652** |

**Replacement, ASi Version 2:** single addresses (digital) are also working with the first generation ASi masters.

(1) **M12 wiring:**
**Single wiring:** 1 input or output per connection.
**Y wiring:** 2 inputs or outputs per connection.
**Mixed wiring:** 1 input and 1 output per connection.

(2) I**nput 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.

(3) **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

(4) **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).

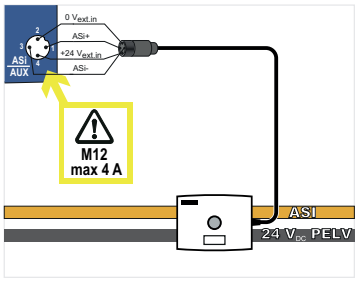
(5) **ASi address:** AB addresses (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), Single addresses (max. 31 Single addresses/ASi network), mixed use allowed. For modules with two ASi nodes the 2nd ASi node is turned off as long as the 1st ASi node is addressed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

| Article No. | BWU3077 | BWU2552 | BWU2620 | BWU3556 | BWU3457 | BWU2725 |
|---|---|---|---|---|---|---|
| **General data** | | | | | | |
| Device type | input | | | | | |
| **Connection** | | | | | | |
| ASi/AUX connection | M12 (1) | profile cable and piercing technology | | | M12 (1) | profile cable and piercing technology |
| Periphery connection | M12, Y-wiring | | M12,single-wiring | | | |
| Length of connector cable | unlimited (2) | | | | | |
| **ASi** | | | | | | |
| Profile | S-0.A.E (ID1=7 default) | | | S-0.A.0 (ID1=7 default) | S-0.A.E (ID1=7 default) | S-0.A.E (ID1=7 default) |
| Address | 1 AB address | | | | | |
| Required Master profile | ≥M3 | | | | | |
| As of ASi specification | 2.1 | | | | | |
| Operating voltage | 30 V (18 … 31.6 V) | | | | | |
| Max. current consumption | 165 mA | | | | | 45 mA |
| Max. current consumption without sensor/ actuator supply | 45 mA | | | | | |
| **AUX** | | | | | | |
| Operating voltage | – | | | | | 24 V (18 … 30 V) |
| Max. current consumption | – | | | | | 1 A |
| **Input** | | | | | | |
| Number | 4 | | | | | |
| Power supply | out of ASi | | | | | out of AUX |
| Sensor supply | short-circuit and overload protected according to EN 61131-2 | | | | | |
| Power supply of attached sensors, up to +40 °C | 120 mA (3) | | | | | max. 1 A |
| Power supply of attached sensors, at +55 °C | 100 mA (3) | | | | | |
| Power supply of attached sensors, at +70 °C | 80 mA (3) | | | | | |
| Switching threshold | U<5 V (low)<br>U>15 V (high) | | | | | |
| **Display** | | | | | | |
| LED ASI (green) | on: ASi voltage on<br>flashing: ASi voltage on, but peripheral fault (4) or address 0<br>off: no ASi voltage | | | | | |
| LED FLT/FAULT (red) | on: address 0 or offline<br>flashing: peripheral fault (4)<br>off: online | | | | | |
| LED AUX (green) | – | | | | | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX |
| LEDs I1 ... In (yellow) | state of inputs<br>I1 ... I4 | | | | | |

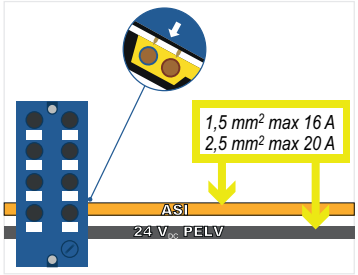
| Article No. | BWU3077 | BWU2552 | BWU2620 | BWU3556 | BWU3457 | BWU2725 |
|---|---|---|---|---|---|---|
| **Environment** | | | | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | | | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (5) | | | | | yes (9) |
| Operating altitude | max. 2000 m | | | | | |
| Ambient temperature | -30 °C … +55 °C<br>(up to max. +70 °C) (3) (6) | | | | | |
| Storage temperature | -25 °C … +85 °C | | | | | |
| Housing | plastic, for screw mounting | plastic, for DIN rail mounting or for screw mounting (8) | | | plastic, for screw mounting | plastic, for DIN rail mounting or for screw mounting (8) |
| Pollution degree | 2 | | | | | |
| Protection category | IP67 (7) | | | | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | | | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | | | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | | | | |
| Insulation voltage | ≥500 V | | | | | |
| Weight | 100 g | | | | | |
| Dimensions (W / H / D) in mm | 45 / 116,5 / 47,5 | 45 / 80 / 42 | | | 45 / 116,5 / 47,5 | 45 / 80 / 42 |

(1) **Line protection:**
If the module is supplied via a M12 connection with A or B coding, it may only be used with a current load of max. 4 A per pin in acc. with IEC 61076-2-101 and IEC 61076-2-109. A fused tap is recommended. There is no such limitation for modules supplied via piercing contacts.

**Connection to ASi and AUX via M12**



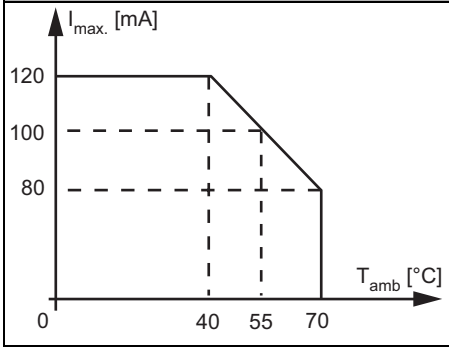

**via piercing contacts**




(2) Loop resistance ≤150 Ω

(3)

**BWU2552, BWU2620, BWU3077, BWU3457, BWU3556**
**Derating power supply of attached sensors**




(4) **See table "Peripheral fault indication"**

(5) The module is suitable for use in passively safe paths as it has no connection to an AUX potential.

(6) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(7) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(8) Depending on substructure module (see accessories). The substructure module is not included in the scope of delivery.

(9) BWU2725 from Ident. No. 18225; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

| Article No. | BWU2770 | BWU2651 | BWU2983 |
|---|---|---|---|
| **General data** | | | |
| Device type | input | | |
| **Connection** | | | |
| ASi/AUX connection | profile cable and piercing technology | | |
| Periphery connection | M12, Y-wiring | | M12, single-wiring |
| Length of connector cable | unlimited (1) | | |
| **ASi** | | | |
| Profile | ASi node 1: S-0.A.E (ID1=7 default),<br>ASi node 2: S-0.A.E (ID1=6 default) | | |
| Address | 2 AB addresses | | |
| Required Master profile | ≥M3 | | |
| As of ASi specification | 2.1 | | |
| Operating voltage | 30 V (18 … 31.6 V) | | |
| Max. current consumption | 60 mA | 270 mA | |
| Max. current consumption without sensor/ actuator supply | 60 mA | 70 mA | |
| **AUX** | | | |
| Operating voltage | 24 V (18 … 30 V) | – | |
| Max. current consumption | 3 A | – | |
| **Input** | | | |
| Number | 8 | | |
| Power supply | out of AUX | out of ASi | |
| Sensor supply | short-circuit and overload protected according to EN 61131-2 | | |
| Power supply of attached sensors, up to +40 °C | max. 1 A | 200 mA (6) | |
| Power supply of attached sensors, at +55 °C | max. 1 A | 150 mA (3) | |
| Power supply of attached sensors, at +70 °C | max. 1 A | 100 mA (3) | |
| Switching threshold | U<5 V (low)<br>U>15 V (high) | | |
| **Display** | | | |
| LED ASI/FLT 1 (red/green) | green: online<br>red: offline<br>yellow/red flashing: address 0 | | |
| LED ASI/FLT 2 (red/green) | green: online<br>red: offline<br>yellow/red flashing: address 0<br>red/green flashing: peripheral fault (2)<br>red flashing: ASi node 2 is switched off, because ASi node 1 is offline | | |
| LED AUX (green) | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | – | |
| LEDs I1 ... In (yellow) | state of inputs I1 ... I8 | | |

| Article No. | BWU2770 | BWU2651 | BWU2983 |
|---|---|---|---|
| **Environment** | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (3) | yes (7) | |
| Operating altitude | max. 2000 m | | |
| Ambient temperature | -30 °C … +55 °C<br>(up to max. +70 °C) (4) (6) | | |
| Storage temperature | -25 °C … +85 °C | | |
| Housing | plastic, for screw mounting | | |
| Pollution degree | 2 | | |
| Protection category | IP67 (5) | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | |
| Insulation voltage | ≥500 V | | |
| Weight | 200 g | | |
| Dimensions (W / H / D) in mm | 60 / 151 / 31 | | |

(1) Loop resistance ≤150 Ω

(2) **See table "Peripheral fault indication"**

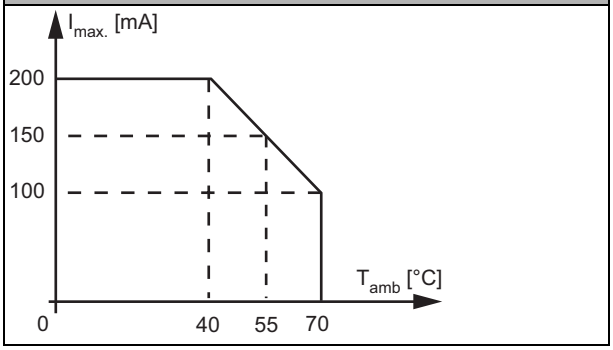
(3) BWU2770 from Ident. No. ≥18654; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(4) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(5) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(6)

**BWU2651, BWU2983**
**Derating power supply of attached sensors**




(7) The module is suitable for use in passively safe paths as it has no connection to an AUX potential.

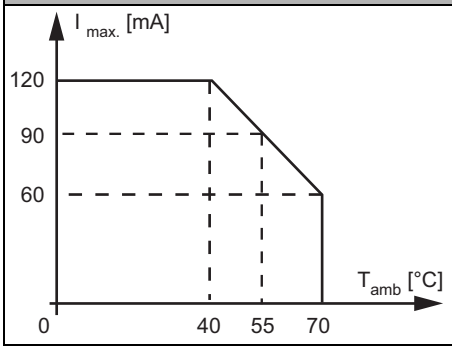
| Article No. | | BWU3775 | BWU3539 | BWU3456 | BWU3141 |
|---|---|---|---|---|---|
| **General data** | | | | | |
| Device type | | input / output | | | |
| **Connection** | | | | | |
| ASi/AUX Connection | | profile cable and piercing technology | | | |
| Periphery connection | | M12, Y-wiring | | | M12, single-wiring |
| Length of connector cable | | unlimited (1) | | | |
| **ASi** | | | | | |
| Profile | | S-7.0.E (ID1=F default) | S-7.A.7 (ID1=7 fixed) | | |
| Address | | 1 single address | 1 AB address | | |
| Required Master profile | | ≥M0 | ≥M4 | | |
| As of ASi specification | | 2.0 | 3.0 | | |
| 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) | | | |
| Max. current consumption | | 2 A | | | |
| **Input** | | | | | |
| Number | | 2 | | | |
| Power supply | | out of ASi | | | |
| Sensor supply | | short-circuit and overload protected according to EN 61131-2 | | | |
| Power supply of attached sensors | up to +40 °C | 120 mA (2) | | | |
| | at +55 °C | 90 mA (2) | | | |
| | at +70 °C | 60 mA (2) | | | |
| Switching threshold | | U<5 V (low)<br>U>15 V (high) | | | |
| **Output** | | | | | |
| Number | | 2 | | | |
| Power supply | | out of AUX | | | |
| Output | | short-circuit and overload protected according to EN 61131-2 | | | |
| Max. output current | up to +40 °C | 1 A per output, ∑(Out) 2 A (3) | | | |
| | at +55 °C | 1 A per output, ∑(Out) 1,5 A (3) | | | |
| | at +70 °C | 1 A per output, ∑(Out) 1 A (3) | | | |
| **Display** | | | | | |
| LED ASI (green) | | on: ASi voltage on<br>flashing: ASi voltage on, but peripheral fault (4) or address 0<br>off: no ASi voltage | | | |
| LED FLT/FAULT (red) | | on: address 0 or offline<br>flashing: peripheral fault (4)<br>off: online | | | |
| LED AUX (green) | | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | | | |
| LEDs I1, I2 (yellow) | | state of inputs I1, I2 | | | |
| LEDs O1 / O2 ... (yellow /red) | | – | | yellow: state of outputs O1, O2<br>red: overload | |
| LEDs O3 / O4 ... (yellow /red) | | yellow: state of outputs O3, O4<br>red: overload | | – | |

| Article No. | BWU3775 | BWU3539 | BWU3456 | BWU3141 |
|---|---|---|---|---|
| **Environment** | | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | no (5) | | yes (9) | |
| Operating altitude | max. 2000 m | | | |
| Ambient temperature | -30 °C … +55 °C (2) (3) (6)<br>(up to max. +70 °C) | | | |
| Storage temperature | -25 °C … +85 °C | | | |
| Housing | plastic, for DIN rail mounting or<br>for screw mounting (7) | | | |
| Pollution degree | 2 | | | |
| Protection category | IP67 (8) | | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | | |
| Insulation voltage | ≥500 V | | | |
| Weight | 100 g | | | |
| Dimensions (W / H / D) in mm | 45 / 80 / 42 | | | |

(1) Loop resistance ≤150 Ω

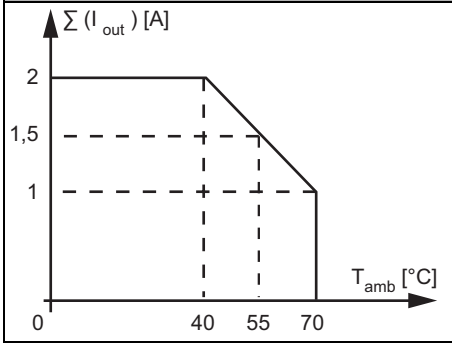
(2)

**BWU3141, BWU3456, BWU3539, BWU3775**
**Derating of power supply of attached sensors**




(3)

**BWU3141, BWU3456, BWU3539, BWU3775**
**Derating total current of outputs**




(4) **See table "Peripheral fault indication"**

(5) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

(6) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(7) Depending on substructure module (see accessories). The substructure module is not included in the scope of delivery.

(8) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(9) BWU3456 from Ident.No. 18209; BWU3141 from Ident. No. 18180; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

| Article No. | | BWU2767 | BWU2547 | BWU3887 | BWU3240 |
|---|---|---|---|---|---|
| **General data** | | | | | |
| Device type | | input / output | | | |
| **Connection** | | | | | |
| ASi/AUX Connection | | profile cable and piercing technology | | | |
| Periphery connection | | M12, mixed- wiring | | M12, mixed- wiring (inputs/outputs swapped) | M12, mixed- wiring |
| Length of connector cable | | unlimited (1) | | | |
| **ASi** | | | | | |
| Profile | | S-7.A.E (ID1=7 default) | S-7.A.7 (ID1=7 fixed) | | |
| Address | | 1 AB address | | | |
| Required Master profile | | ≥M3 | ≥M4 | | |
| As of ASi specification | | 3.0 | | | |
| Operating voltage | | 30 V (18 … 31.6 V) | | | |
| Max. current consumption | | 35 mA | | | 165 mA |
| Max. current consumption without sensor/ actuator supply | | 35 mA | | | 45 mA |
| **AUX** | | | | | |
| Operating voltage | | 24 V (18 … 30 V) | | | – |
| Max. current consumption | | 3 A | | | – |
| **Input** | | | | | |
| Number | | 4 | | | |
| Power supply | | out of AUX | | | out of ASi |
| Sensor supply | | short-circuit and overload protected according to EN 61131-2 | | | |
| Power supply of attached sensors | up to +40 °C | max. 1 A | | | ∑ (In/Out) max.120 mA (12) |
| | at +55 °C | | | | ∑ (In/Out) 90 mA (12) |
| | at +70 °C | | | | ∑ (In/Out) 60 mA (12) |
| Switching threshold | | U<5 V (low)<br>U>15 V (high) | | | |
| **Output** | | | | | |
| Number | | 2 | 4 | | |
| Power supply | | out of AUX | | | out of ASi |
| Output | | short-circuit and overload protected according to EN 61131-2 | | | |
| Max. output current | up to +40 °C | 1 A per output<br>∑(Out) 2 A | 500 mA per output<br>∑(Out) 2 A (9) | | ∑ (In/Out) 120 mA (12) |
| | at +55 °C | | 500 mA per output<br>∑(Out) 1,5 A (9) | | ∑ (In/Out) 90 mA (12) |
| | at +70 °C | | 500 mA per output<br>∑(Out) 1 A (9) | | ∑ (In/Out) 60 mA (12) |
| **Display** | | | | | |
| LED ASI (green) | | on: ASi voltage on<br>flashing: ASi voltage on, but peripheral fault (2) or address 0<br>off: no ASi voltage | | | |
| LED FLT/FAULT (red) | | on: address 0 or offline<br>flashing: peripheral fault (2)<br>off: online | | | |
| LED AUX (green) | | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | | | – |
| LEDs I1 / O1 ... In / On (yellow) | | state of inputs/outputs I1 / O1 ...I4 / O4<br>input **or** output is on (3) | | | |

| Article No. | BWU2767 | BWU2547 | BWU3887 | BWU3240 |
|---|---|---|---|---|
| **Environment** | | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (4) | yes (10) | yes (11) | yes (13) |
| Operating altitude | max. 2000 m | | | |
| Ambient temperature | -30 °C … +55 °C (5) (6) (9) (12)<br>(up to max. +70 °C) | | | |
| Storage temperature | -25 °C … +85 °C | | | |
| Housing | plastic, for DIN rail mounting or<br>for screw mounting (7) | | | |
| Pollution degree | 2 | | | |
| Protection category | IP67 (8) | | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | | |
| Insulation voltage | ≥500 V | | | |
| Weight | 100 g | | | |
| Dimensions (W / H / D) in mm | 45 / 80 / 42 | | | |

(1) Loop resistance ≤150 Ω

(2) **See table "Peripheral fault indication"**

(3) **BWU2767:** LEDs I3/O3 and I4/O4 are indicating only the state of inputs I3 and I4 in accordance with the factual input/output assignment.

(4) BWU2767 from ID no. 18851; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(5) Temperature range up to -30°C from Ident.No. ≥16388 (BWU2767).

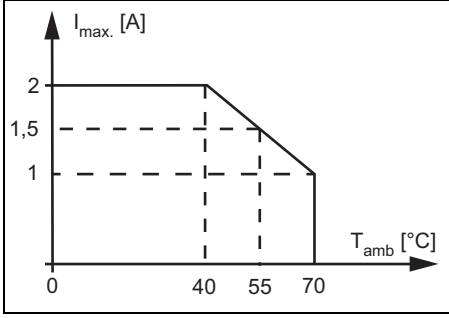
(6) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(7) Depending on substructure module (see accessories). The substructure module is not included in the scope of delivery.

(8) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(9)

**BWU2547, BWU3887**
**Derating of output current at sensor supply >120 mA**

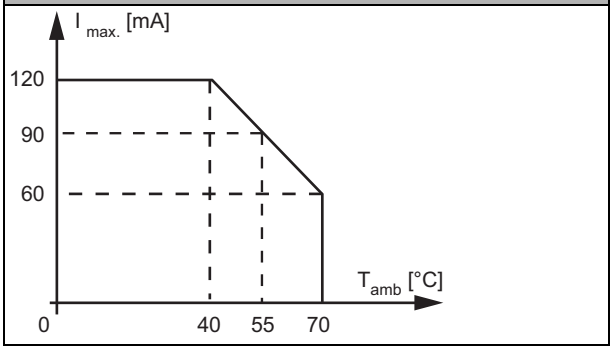



(10) BWU2547 from Ident. No. 18173; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(11) BWU3887 from Ident. No. 18303; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(12)

**BWU3240**
**Derating of power supply of attached sensors**




(13) The module is suitable for use in passively safe paths as it has no connection to an AUX potential.

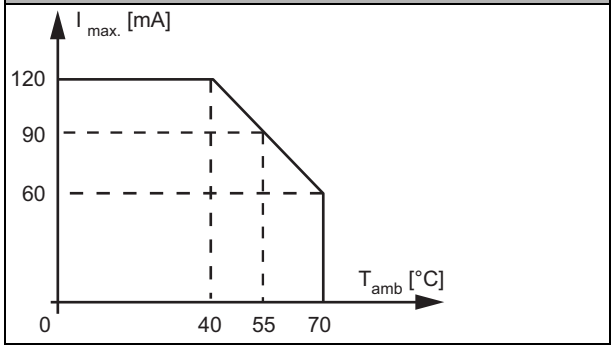
| Article No. | | BWU2487 | BWU3032 | BWU3375 | BWU3517 |
|---|---|---|---|---|---|
| **General data** | | | | | |
| Device type | | input / output | | | |
| **Connection** | | | | | |
| ASi/AUX Connection | | profile cable and piercing technology | | | M12 (9) |
| Periphery connection | | M12, Y-wiring | | | M12, single wiring |
| Length of connector cable | | unlimited (1) | | | |
| **ASi** | | | | | |
| Profile | | S-7.A.7 (ID1=7 fixed) | | S-7.A.0 (ID1=7 default) | S-7.A.7 (ID1=7 fixed) |
| Address | | 1 AB address | | | |
| Required Master profile | | ≥M4 | | ≥M3 | ≥M4 |
| As of ASi specification | | 3.0 | | 2.1 | 3.0 |
| Operating voltage | | 30 V (18 … 31.6 V) | | | |
| Max. current consumption | | 165 mA | 45 mA | 165 mA | |
| Max. current consumption without sensor/ actuator supply | | 45 mA | | | |
| **AUX** | | | | | |
| Operating voltage | | 24 V (18 … 30 V) | | | |
| Max. current consumption | | 2 A | | | |
| **Input** | | | | | |
| Number | | 4 | | | 2 |
| Power supply | | out of ASi | out of AUX | out of ASi | |
| Sensor supply | | short-circuit and overload protected according to EN 61131-2 | | | |
| Power supply of attached sensors | up to +40 °C | 120 mA (2) | 1 A | 120 mA (2) | 120 mA (10) |
| | at +55 °C | 90 mA (2) | | 90 mA (2) | 90 mA (10) |
| | at +70 °C | 60 mA (2) | | 60 mA (2) | 60 mA (10) |
| Switching threshold | | U<5 V (low)<br>U>15 V (high) | | | |
| **Output** | | | | | |
| Number | | 4 | | 3 | 2 |
| Power supply | | out of AUX | | | |
| Output | | short-circuit and overload protected according to EN 61131-2 | | | |
| Max. output current | up to +40 °C | 500 mA per output | | | 1 A per output, ∑(Out) 2 A (11) |
| | at +55 °C | | | | 1 A per output, ∑(Out) 1,5 A (11) |
| | at +70 °C | | | | 1 A per output, ∑(Out)1 A (11) |

| Article No. | BWU2487 | BWU3032 | BWU3375 | BWU3517 |
|---|---|---|---|---|
| **Display** | | | | |
| LED ASI (green) | on: ASi voltage on<br>flashing: ASi voltage on, but peripheral fault (3) or address 0<br>off: no ASi voltage | | | |
| LED FLT/FAULT (red) | on: address 0 or offline<br>flashing: peripheral fault (4)<br>off: online | | | |
| LED AUX (green) | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | | | |
| LEDs I1 / I2 ... In/In+1 (yellow) | state of inputs I1 / I2 ... I3 / I4:<br>at least 1 input of input pair is on | | | state of inputs I1 / I2 |
| LEDs O1/O2 ... On / On+1 (yellow) | state of outputs O1 / O2 ... O3 / O4:<br>at least 1 output of output pair is on | | state of outputs O1 / O2 ... O3:<br>at least 1 output of output pair is on | – |
| LEDs O1, O2 (yellow / red) | – | | | yellow: state of outputs O1 / O2<br>red: overload |
| **Environment** | | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (4) | | | no (12) |
| Operating altitude | max. 2000 m | | | |
| Ambient temperature | -30 °C … +55 °C (2) (5) (6)<br>(up to max. +70 °C) | | | -30 °C … +55 °C (up to max. +70 °C) (10) (11) (6) |
| Storage temperature | -25 °C … +85 °C | | | |
| Housing | plastic, for DIN rail mounting or<br>for screw mounting (7) | | | |
| Pollution degree | 2 | | | |
| Protection category | IP67 (8) | | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | | |
| Insulation voltage | ≥500 V | | | |
| Weight | 100 g | | | |
| Dimensions (W / H / D) in mm | 45 / 80 / 42 | | | |

(1) Loop resistance ≤150 Ω

(2)

**BWU2487, BWU3375**
**Derating of power supply of attached sensors**




(3) **See table "Peripheral fault indication"**

(4) BWU2487 from Ident. No. 18369; BWU3032 from Ident. No. 18285; BWU3375 from Ident. No. 18403; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(5) Temperature range up to -30°C from Ident.No. ≥16381 (BWU3032).

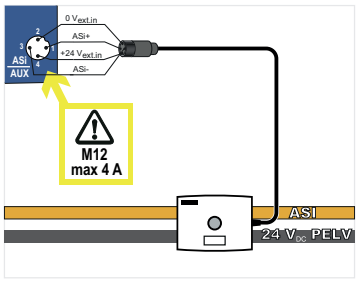
(6) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(7) Depending on substructure module (see accessories). The substructure module is not included in the scope of delivery.

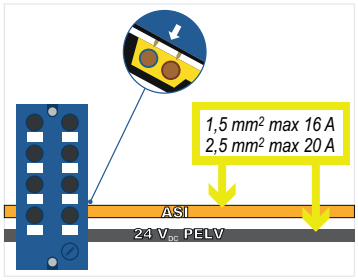
(8) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(9) **Line protection:**
If the module is supplied via a M12 connection with A or B coding, it may only be used with a current load of max. 4 A per pin in acc. with IEC 61076-2-101 and IEC 61076-2-109. A fused tap is recommended. There is no such limitation for modules supplied via piercing contacts.

**Connection to ASi and AUX via M12**

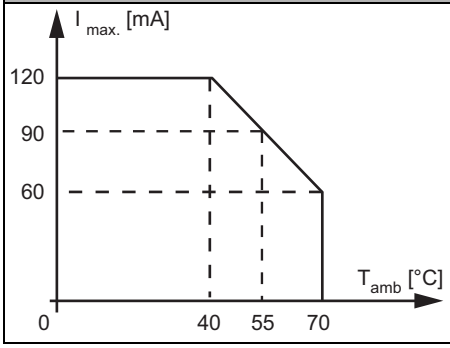



**via piercing contacts**



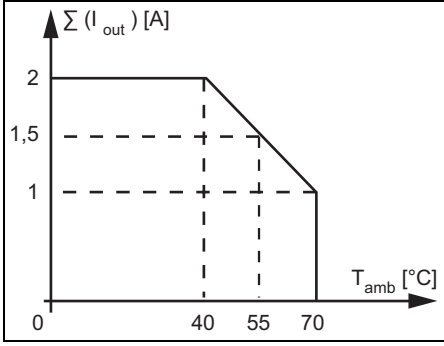

(10)

**BWU3517**
**Derating of power supply of attached sensors**




(11)

**BWU3517**
**Derating total current of outputs**




(12) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

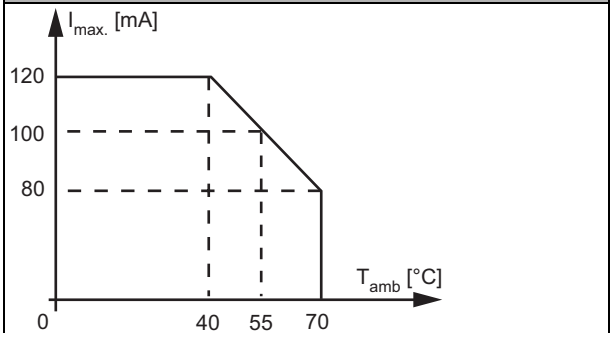
| Article No. | | BWU3496 | BWU3540 | BWU3426 | BWU2626 | BWU2617 | BWU2684 |
|---|---|---|---|---|---|---|---|
| **General data** | | | | | | | |
| Device type | | input / output | | | | | |
| **Connection** | | | | | | | |
| ASi/AUX Connection | | profile cable and piercing technology | | | | | |
| Periphery connection | | M12, single-wiring | | M12, Y-wiring | | M12, single-wiring | |
| Length of connector cable | | unlimited (1) | | | | | |
| **ASi** | | | | | | | |
| Profile | | S-7.A.0 (ID1=7 default) | S-7.0.E (ID1=F default) | S-7.A.7 (ID1=7 fixed) | | | S-7.0.E (ID1=F default) |
| Address | | 1 AB address | 1 single address | 1 AB address | | | 1 single address |
| Required Master profile | | ≥M3 | ≥M0 | ≥M4 | | | ≥M0 |
| As of ASi specification | | 2.1 | 2.0 | 3.0 | | | 2.0 |
| 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) | | | | | |
| Max. current consumption | | 6 A | 8 A | | 3 A | | |
| **Input** | | | | | | | |
| Number | | 4 | | | | | |
| Power supply | | out of ASi | | | | | |
| Sensor supply | | short-circuit and overload protected according to EN 61131-2 | | | | | |
| Power supply of attached sensors | up to +40 °C | 120 mA (2) | | | | | |
| | at +55 °C | 100 mA (2) | | | | | |
| | at +70 °C | 80 mA (2) | | | | | |
| Switching threshold | | U<5 V (low)<br>U>15 V (high) | | | | | |
| **Output** | | | | | | | |
| Number | | 3 | 4 | | | | |
| Power supply | | out of AUX | | | | | |
| Output | | short-circuit and overload protected according to EN 61131 | | | | | |
| Max. output current | up to +40 °C | 2 A per output, ∑ (Out) 6 A (3) | 2 A per output, ∑ (Out) 8 A (3) | | 1 A per output, ∑(Out) 3 A (8) | | |
| | at +55 °C | 1,5 A per output, ∑ (Out) 4,5 A (3) | 1,5 A per output, ∑ (Out) 6 A (3) | | | | |
| | at +70 °C | 1 A per output, ∑ (Out) 3 A (3) | 1 A per output, ∑ (Out) 4 A (3) | | 1 A per output, ∑(Out) 2 A (8) | | |
| **Display** | | | | | | | |
| LED ASI (green) | | on: ASi voltage on<br>flashing: ASi voltage on, but peripheral fault (4) or address 0<br>off: no ASi voltage | | | | | |
| LED FLT/FAULT (red) | | on: address 0 or offline<br>flashing: peripheral fault (4)<br>off: online | | | | | |
| LED AUX (green) | | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | | | | | |
| LEDs I1 ... In (yellow) | | state of inputs I1 ... I4 | | | | | |
| LEDs O1 ... On (yellow) | | state of outputs O1 ... O3 | state of outputs O1 ... O4 | | – | | state of outputs O1 ... O4 |
| LEDs O1 ... On (yellow / red) | | – | | | yellow: state of outputs O1 ... O4<br>red: overload | | – |

| Article No. | BWU3496 | BWU3540 | BWU3426 | BWU2626 | BWU2617 | BWU2684 |
|---|---|---|---|---|---|---|
| **Environment** | | | | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | | | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (5) | | | | | |
| Operating altitude | max. 2000 m | | | | | |
| Ambient temperature | -30 °C … +55 °C (2) (3) (6) (8)<br>(up to max. +70 °C) | | | | | |
| Storage temperature | -30 °C … +85 °C | | | | | |
| Housing | plastic, for screw mounting | | | | | |
| Pollution degree | 2 | | | | | |
| Protection category | IP67 (7) | | | | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | | | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | | | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | | | | |
| Insulation voltage | ≥500 V | | | | | |
| Weight | 200 g | | | | | |
| Dimensions (W / H / D) in mm | 60 / 151 / 31 | | | | | |

(1) Loop resistance ≤150 Ω

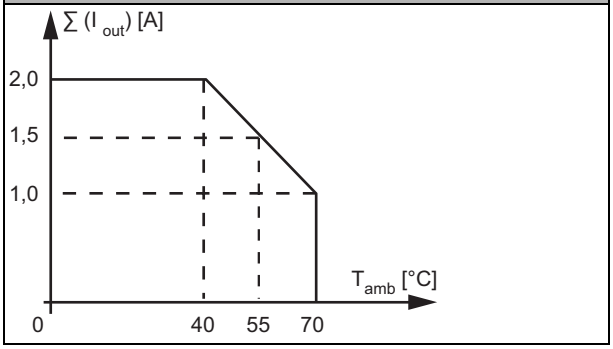
(2)

**BWU2617, BWU2626, BWU3426, BWU2684, BWU3496, BWU3540**
**Derating of power supply of attached sensors**




(3)

**BWU3426, BWU3496, BWU3450**
**Derating output current per output**




(4) **See table "Peripheral fault indication"**

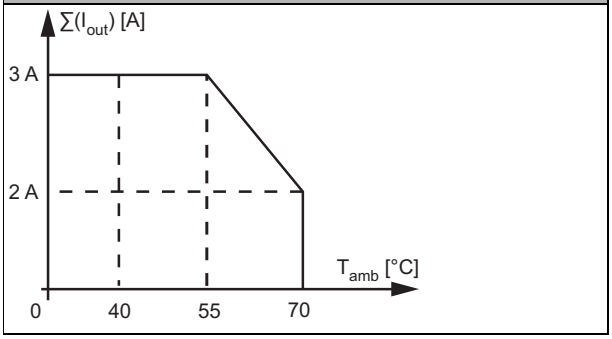
(5) BWU3496 from Ident. No. 16960; BWU3540 from Ident. No. 17247; BWU3426 from Ident. No. 17830; BWU2617 from Ident. No. 16955; BWU2684 from Ident. No. 17245; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(6) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(7) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(8)

**BWU2617, BWU2626, BWU2645, BWU2684, BWU2810**
**Derating total current of outputs**



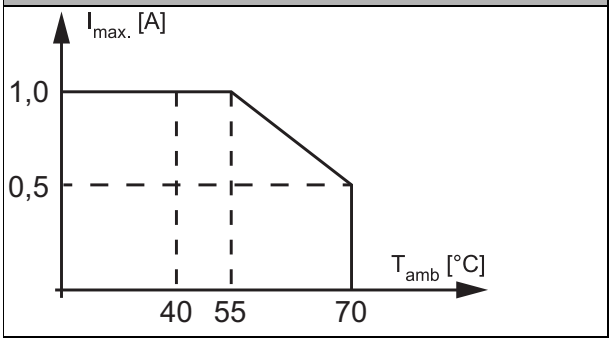

| Article No. | | BWU3892 | BWU2619 | BWU2652 |
|---|---|---|---|---|
| **General data** | | | | |
| Device type | | input / output | | output |
| **Connection** | | | | |
| ASi/AUX Connection | | profile cable and piercing technology | | |
| Periphery connection | | M12, Y-wiring | | |
| Length of connector cable | | unlimited (1) | | |
| **ASi** | | | | |
| Profile | | ASi node 1: S-7.A.7 (ID1=7 fixed),<br>ASi node 2: S-7.A.7 (ID1=6 default) | | |
| Address | | 2 AB addresses | | |
| Required Master profile | | ≥M4 | | |
| As of ASi specification | | 3.0 | | |
| Operating voltage | | 30 V (18 … 31.6 V) | | |
| Max. current consumption | | 70 mA | 270 mA | 60 mA |
| Max. current consumption without sensor/ actuator supply | | 70 mA | | 60 mA |
| **AUX** | | | | |
| Operating voltage | | 24 V (18 … 30 V) | | |
| Max. current consumption | | 7 A | 6 A | |
| **Input** | | | | |
| Number | | 8 | | – |
| Power supply | | out of AUX | out of ASi | – |
| Sensor supply | | short-circuit and overload protected according to EN 61131-2 | | |
| Power supply of attached sensors | up to +40 °C | 1 A (2) | 200 mA (8) | – |
| | at +55 °C | | 150 mA (2) | – |
| | at +70 °C | 0,5 A | 100 mA (2) | – |
| Switching threshold | | U<5 V (low)<br>U>15 V (high) | | – |
| **Output** | | | | |
| Number | | 8 | | |
| Power supply | | out of AUX | | |
| Output | | short-circuit and overload protected according to EN 61131-2 | | |
| Max. output current | up to +40 °C | 1 A per output,<br>∑(O1...O4) 3 A + ∑ (O5-O8)3 A (3) | | 1 A per output,<br>∑ (O1...O4) 3 A + ∑ (O5...O8) 3 A (10) |
| | at +55 °C | 1 A per output,<br>∑(O1...O4) 1,625 A + ∑(O5...O8) 1,625 A (3) | | |
| | at +70 °C | 0,25 A per output,<br>∑(O1...O4) 0,25 A + ∑(O5...O8) 0,25 A (3) | | 1 A per output,<br>∑ (O1...O4) 2 A + ∑ (O5...O8) 2 A (10) |

| Article No. | BWU3892 | BWU2619 | BWU2652 |
|---|---|---|---|
| **Display** | | | |
| LED ASI/FLT 1 (red/green) | green: online<br>red: offline<br>yellow/red flashing: address 0 | | |
| LED ASI/FLT 2 (red/green) | green: online<br>red: offline<br>yellow/red flashing: address 0<br>red/green flashing: peripheral fault (4)<br>red flashing: ASi node 2 is switched off, because ASi node 1 is offline | | |
| LED AUX (green) | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | | |
| LEDs I1 / I2 ... In/In+1 (yellow) | state of inputs I1 / I2 ... I7 / I8:<br>at least 1 input of input pair is on | | – |
| LEDs O1 ... On (yellow / red) | – | | yellow: state of outputs O1 ... O8<br>red: overload |
| LEDs O1/O2 ...<br>On / On+1(yellow) | state of outputs O1 / O2 ... O7 / O8:<br>at least 1 output of output pair is on | | – |
| **Environment** | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (5) | no (9) | yes (11) |
| Operating altitude | max. 2000 m | | |
| Ambient temperature | -30 °C … +55 °C (3) (6) (10)<br>(up to max. +70 °C) | | |
| Storage temperature | -30 °C … +85 °C | | |
| Housing | plastic, for screw mounting | | |
| Pollution degree | 2 | | |
| Protection category | IP67 (7) | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | |
| Insulation voltage | ≥500 V | | |
| Weight | 200 g | | |
| Dimensions (W / H / D) in mm | 60 / 151 / 31 | | |

(1) Loop resistance ≤150 Ω

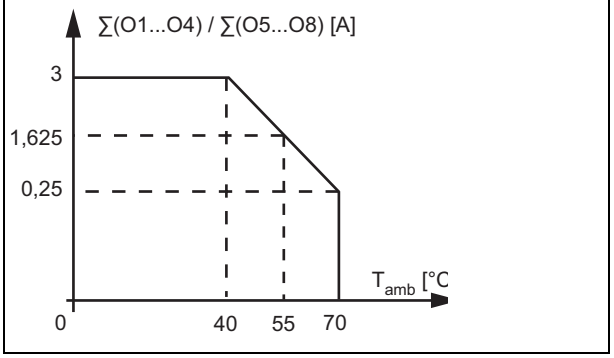
(2)

**BWU3892**
**Derating of power supply of attached sensors**



(3)

**BWU2619, BWU3892**
**Derating total current of outputs**




(4) **See table "Peripheral fault indication"**

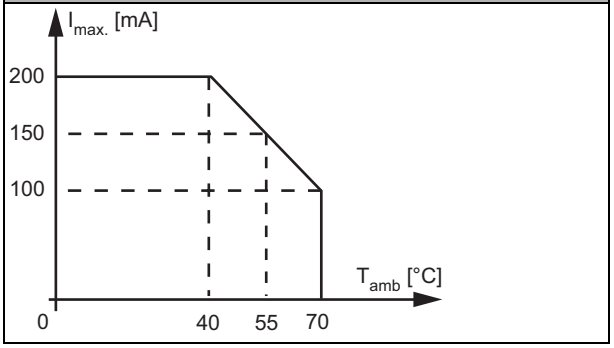
(5) BWU3892 from Ident. No. ≥18230; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(6) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(7) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(8)

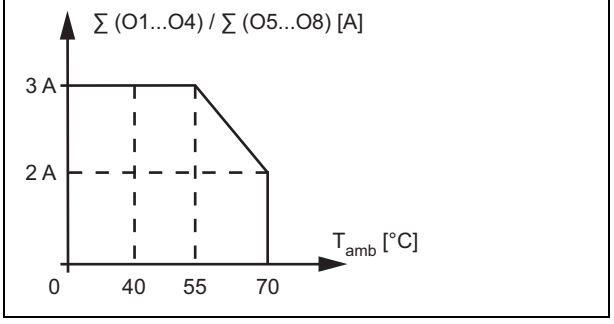
**BWU2619**
**Derating of power supply of attached sensors**




(9) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

(10)

**BWU2652**
**Derating total current of outputs**




(11) BWU2652 from Ident. No. 18263; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

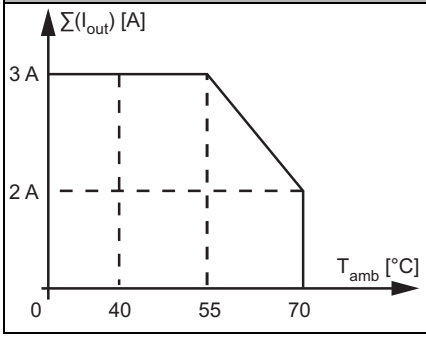
| Article No. | | BWU3510 | BWU2810 | BWU2645 |
|---|---|---|---|---|
| **General data** | | | | |
| Device type | | input / output | | |
| **Connection** | | | | |
| ASi/AUX Connection | | profile cable and piercing technology | | M12 (7) |
| Periphery connection | | M12, Y-wiring | M12, single-wiring | |
| Length of connector cable | | unlimited (1) | | |
| **ASi** | | | | |
| Profile | | S-7.A.7 (ID1=7 fixed) | | |
| Address | | 1 AB address | | |
| Required Master profile | | ≥M4 | | |
| As of ASi specification | | 3.0 | | |
| Operating voltage | | 30 V (18 … 31.6 V) | | |
| Max. current consumption | | 35 mA | | |
| Max. current consumption without sensor/ actuator supply | | 35 mA | | |
| **AUX** | | | | |
| Operating voltage | | 24 V (18 … 30 V) | | |
| Max. current consumption | | 3 A | | |
| **Input** | | | | |
| Number | | 4 | | |
| Power supply | | out of AUX | | |
| Sensor supply | | short-circuit and overload protected according to EN 61131-2 | | |
| Power supply of attached sensors | up to +40 °C | max. 1 A | | |
| | at +55 °C | | | |
| | at +70 °C | | | |
| Switching threshold | | U<5 V (low)<br>U>15 V (high) | | |
| **Output** | | | | |
| Number | | 4 | | |
| Power supply | | out of AUX | | |
| Output | | short-circuit and overload protected according to EN 61131 | | |
| Max. output current | up to +40 °C | 1 A per output,<br>∑(Out) 3 A (2) | | |
| | at +55 °C | | | |
| | at +70 °C | 1 A per output,<br>∑(Out) 2 A (3) | | |
| **Display** | | | | |
| LED ASI (green) | | on: ASi voltage on<br>flashing: ASi voltage on, but peripheral fault (3) or address 0<br>off: no ASi voltage | | |
| LED FLT/FAULT (red) | | on: address 0 or offline<br>flashing: peripheral fault (4)<br>off: online | | |
| LED AUX (green) | | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | | |
| LEDs I1 ... In (yellow) | | state of inputs I1 ... I4 | | |
| LEDs O1 ... On (yellow / red) | | yellow: state of outputs O1 ... O4<br>red: overload | | |

| Article No. | BWU3510 | BWU2810 | BWU2645 |
|---|---|---|---|
| **Environment** | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (4) | | no (8) |
| Operating altitude | max. 2000 m | | |
| Ambient temperature | -30 °C … +55 °C (2) (5)<br>(up to max. +70 °C) | | |
| Storage temperature | -30 °C … +85 °C | | |
| Housing | plastic, for screw mounting | | |
| Pollution degree | 2 | | |
| Protection category | IP67 (6) | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | |
| Insulation voltage | ≥500 V | | |
| Weight | 200 g | | |
| Dimensions (W / H / D) in mm | 60 / 151 / 31 | | 60 / 152 / 46 |

(1) Loop resistance ≤150 Ω

(2)

**BWU2645, BWU2810, BWU3510**
**Derating total current of outputs**




(3) **See table "Peripheral fault indication"**

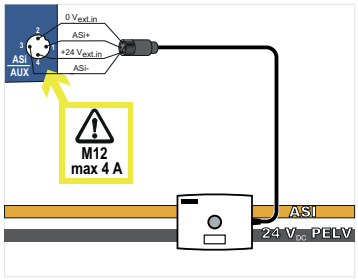
(4) BWU3510 from Ident. No. 18000; BWU2810 from Ident. No. 17248; BWU2645 from Ident. No. 17249; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(5) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

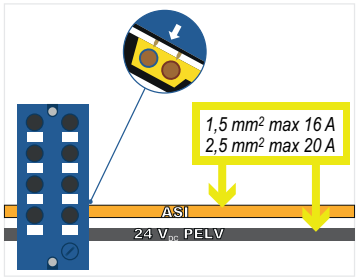
(6) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(7) **Line protection:**
If the module is supplied via a M12 connection with A or B coding, it may only be used with a current load of max. 4 A per pin in acc. with IEC 61076-2-101 and IEC 61076-2-109. A fused tap is recommended. There is no such limitation for modules supplied via piercing contacts.

**Connection to ASi and AUX via M12**




**via piercing contacts**




(8) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

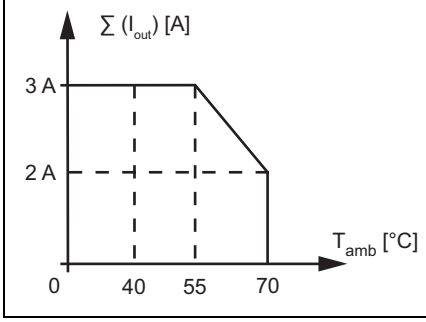
| Article No. | | BWU2713 | BWU2594 | BWU2728 |
|---|---|---|---|---|
| **General data** | | | | |
| Device type | | output | | |
| **Connection** | | | | |
| ASi/AUX Connection | | profile cable and piercing technology | | |
| Periphery connection | | M12, Y-wiring | | |
| Length of connector cable | | unlimited (1) | | |
| **ASi** | | | | |
| Profile | | S-7.F.E (ID1=F default) | S-7.A.7 (ID1=7 fixed) | |
| Address | | 1 single address | 1 AB address | |
| Required Master profile | | ≥M0 | ≥M4 | |
| As of ASi specification | | 2 | 3 | |
| Operating voltage | | 30 V (18 … 31.6 V) | | |
| Max. current consumption | | 35 mA | | |
| Max. current consumption without sensor/ actuator supply | | 35 mA | | |
| **AUX** | | | | |
| Operating voltage | | 24 V (18 … 30 V) | | |
| Max. current consumption | | 3 A | | 8 A |
| **Output** | | | | |
| Number | | 4 | | |
| Power supply | | out of AUX | | |
| Output | | short-circuit and overload protected according to EN 61131 | | |
| Max. output current | up to +40 °C | 1 A per output<br>∑ (Out) 3 A (2) | | 2 A per output,<br>∑ (Out) 8 A (9) (10) |
| | at +55 °C | | | 2 A per output,<br>∑ (Out) 4 A (9) (10) |
| | at +70 °C | 1 A per output<br>∑ (Out) 2 A (2) | | – |

| Article No. | BWU2713 | BWU2594 | BWU2728 |
|---|---|---|---|
| **Display** | | | |
| LED ASI (green) | on: ASi voltage on<br>flashing: ASi voltage on, but peripheral fault (3) or address 0<br>off: no ASi voltage | | |
| LED FLT/FAULT (red) | on: address 0 or offline<br>flashing: peripheral fault (3)<br>off: online | | |
| LED AUX (green) | on: 24 $V_{DC}$ AUX<br>off: no 24 $V_{DC}$ AUX | | |
| LEDs O1 ... On (yellow /red) | yellow: state of outputs O1 ... O4<br>red: overload | | |
| **Environment** | | | |
| Applied standards | EN 61000-6-2<br>EN 61000-6-3<br>EN 61131-2<br>EN 60529 | | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes (4) | yes (8) | yes (11) |
| Operating altitude | max. 2000 m | | |
| Ambient temperature | -30 °C … +55 °C<br>(up to max. +70 °C) (2) (5) (9) | | |
| Storage temperature | -30 °C … +85 °C | | |
| Housing | plastic, for DIN rail mounting or<br>for screw mounting (6) | | |
| Pollution degree | 2 | | |
| Protection category | IP67 (7) | | |
| Tolerable loading referring to humidity | according to EN 61131-2 | | |
| Max. tolerable shock load | 30*g*, 11 ms, acc. EN 61131-2 | | |
| Max. tolerable vibration stress | 5 ... 8 Hz 50 $mm_{pp}$/8 ... 500 Hz 6*g*, acc. EN 61131-2 | | |
| Insulation voltage | ≥500 V | | |
| Weight | 100 g | | |
| Dimensions (W / H / D) in mm | 45 / 80 / 42 | | |

(1) Loop resistance ≤150 Ω

(2)

**BWU2594, BWU2713,**
**Derating total current of outputs**




(3) **See table "Peripheral fault indication"**

(4) BWU2713 from ID no. 18595; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(5) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada.

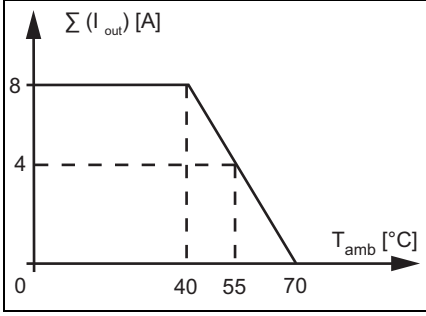
(6) Depending on substructure module (see accessories). The substructure module is not included in the scope of delivery.

(7) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

(8) BWU2594 from ID no. 18600; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(9)

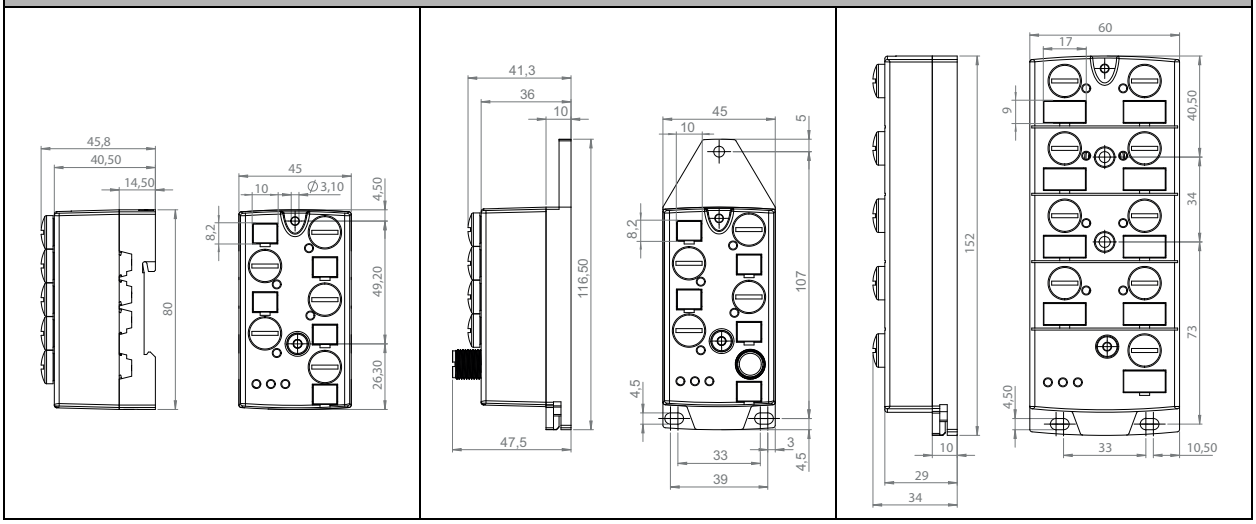
**BWU2728**
**Derating total current of outputs**




(10) To power consumers whose current draw is greater than 2A, two or more outputs can be combined with each other. The data bits of the bundled outputs must be set at the same time.

(11) BWU2728 from Ident. No. 17399; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

**Dimensional drawings**




| **UL-specifications (UL508)**<br>**BWU2547, BWU2552, BWU2594, BWU2617, BWU2619, BWU2620, BWU2626, BWU3426, BWU2645, BWU2651, BWU2652, BWU2684, BWU2713, BWU2725, BWU2728, BWU2767, BWU2770, BWU2810, BWU2983, BWU3032, BWU3077, BWU3141, BWU3240, BWU3375, BWU3539, BWU3456, BWU3457, BWU3496, BWU3510, BWU3517, BWU3540, BWU3556, BWU3775, BWU3887, BWU3892** | |
|---|---|
| External protection | An isolated source with a secondary open circuit voltage of ≤30 $V_{DC}$ with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed. |
| In general | UL mark does not provide UL certification for any functional safety rating or aspects of the above devices. |

| Article no. | Peripheral fault indication | | |
|---|---|---|---|
| | Overload sensor supply | Output short circuited | AUX voltage missing |
| BWU2487 | ● | – | – |
| BWU2547 | – | – | ● |
| BWU2552 | ● | – | – |
| BWU2594 | ● | ● | ● |
| BWU2617 | ● | ● | – |
| BWU2619 | ● | ● | – |
| BWU2620 | ● | – | – |
| BWU2626 | ● | ● | – |
| BWU3426 | ● | – | – |
| BWU2645 | ● | ● | – |
| BWU2651 | ● | – | – |
| BWU2652 | ● | ● | ● |
| BWU2684 | ● | ● | – |
| BWU2713 | ● | ● | ● |
| BWU2725 | ● | – | ● |
| BWU2728 | ● | ● | ● |
| BWU2767 | ● | – | ● |
| BWU2770 | ● | – | ● |
| BWU2810 | ● | ● | – |
| BWU2983 | ● | – | – |
| BWU3032 | ● | – | – |
| BWU3077 | ● | – | – |
| BWU3141 | ● | ● | ● |
| BWU3240 | ● | – | – |
| BWU3375 | ● | – | – |
| BWU3539 | ● | ● | – |
| BWU3456 | ● | ● | ● |
| BWU3457 | ● | – | – |
| BWU3496 | ● | – | – |
| BWU3510 | ● | ● | – |
| BWU3517 | ● | ● | ● |
| BWU3540 | ● | – | – |
| BWU3556 | ● | – | – |
| BWU3775 | ● | ● | – |
| BWU3887 | – | – | ● |
| BWU3892 | ● | ● | – |

| Programming | ASi bit assignment | | | |
|---|---|---|---|---|
| **Bit** | **D3** | **D2** | **D1** | **D0** |
| | **input** | | | |
| BWU2487 / BWU2547 / BWU2552 / BWU2617 / BWU2620 / BWU2626 / BWU3426 / BWU2645 / BWU2684 / BWU2725 / BWU2767 / BWU2810 / BWU3032 / BWU3077 / BWU3240 / BWU3375 / BWU3496 / BWU3510 / BWU3556 / BWU3540 / BWU3457 / BWU3887 | I4 | I3 | I2 | I1 |
| BWU3141, BWU3456, BWU3539, BWU3517, BWU3775 | – | – | I2 | I1 |
| BWU2619 / BWU2651 / BWU2770 / BWU2983 / BWU3892 | ASi node 1: I4 | ASi node 1: I3 | ASi node 1: I2 | ASi node 1: I1 |
| | ASi node 2: I8 | ASi node 2: I7 | ASi node 2: I6 | ASi node 2: I5 |
| | **output** | | | |
| BWU2487 / BWU2547 / BWU2594 / BWU2617 / BWU2626 / BWU3426 / BWU2645 / BWU2684 / BWU2713 / BWU2728 / BWU2810 / BWU3032 / BWU3240 / BWU3510 / BWU3540 / BWU3887 | O4 | O3 | O2 | O1 |
| BWU2767 / BWU3141/ BWU3456 / BWU3517 | – | – | O2 | O1 |
| BWU3539 / BWU3775 | O4 | O3 | – | – |
| BWU3375 /BWU3496 | – | O3 | O2 | O1 |
| BWU2619 / BWU2652 / BWU3892 | ASi node 1: O4 | ASi node 1: O3 | ASi node 1: O2 | ASi node 1: O1 |
| | ASi node 2: O8 | ASi node 2: O7 | ASi node 2: O6 | ASi node 2: O5 |

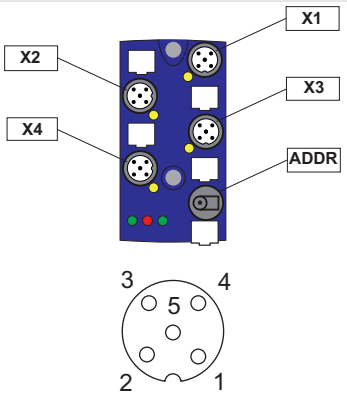
| Programming | Parameter bits | | | |
|---|---|---|---|---|
| **Bit** | **P3** | **P2** | **P1** | **P0** |
| BWU2652 | not used | 0= on / 1= off (synchronous I/O mode) | – | not used, Watchdog always on |
| BWU2594 / BWU2713 | | | | 0= off / 1= on (Watchdog) |
| BWU2728 | | | 0= off / 1= on (peripheral fault, if AUX missing) | |
| BWU2487 / BWU2547 / BWU2617 / BWU2626 / BWU3426 / BWU2645 / BWU2684 / BWU2767 / BWU2810 / BWU3032 / BWU3141 / BWU3240 / BWU3375 / BWU3456 / BWU3539 / BWU3496 / BWU3510 / BWU3517 / BWU3540 / BWU3775 / BWU3887 | | | 0= on / 1= off (data input filter 128µs) | |
| BWU2552 / BWU2620 / BWU2651 / BWU2725 / BWU2770 / BWU2983 / BWU3077 / BWU3457 BWU3556 | | | | 0= off / 1= on (peripheral fault) |
| BWU2619 / BWU3892 | | | | not used, Watchdog always on |

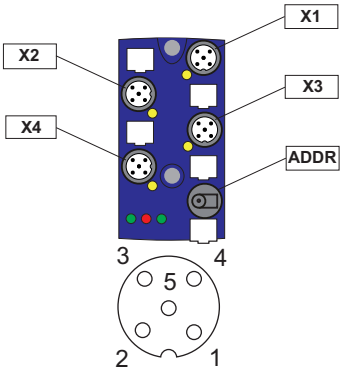
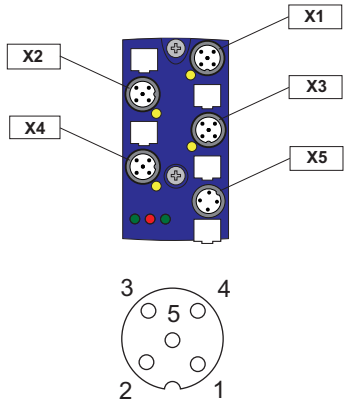
## Pin assignment

| 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**

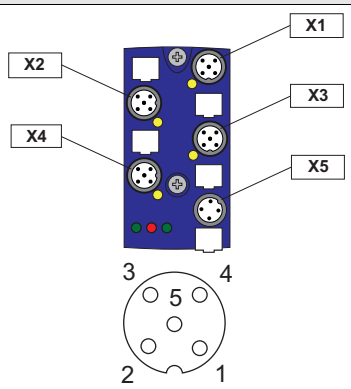
| Article no. | M12 connection | Marking | Pin1 | Pin2 | Pin3 | Pin4 | Pin5 |
|---|---|---|---|---|---|---|---|
| BWU3141 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | O1 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X3 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X4 | O2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3456 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | O1 | 24 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X3 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X4 | O2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3539 BWU3775 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | O3 | 24 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X3 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X4 | O4 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU2487 | X1 | I1/I2 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | O1/O2 | 24 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X3 | I3/I4 | 24 $V_{out\ of\ ASi}$ | I4 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | O3/O4 | 24 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3032 | X1 | I1/I2 | 24 $V_{ext\ out}$ | I2 | 0 $V_{ext\ out}$ | I1 | n.c. |
| | X2 | O1/O2 | 24 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X3 | I3/I4 | 24 $V_{ext\ out}$ | I4 | 0 $V_{ext\ out}$ | I3 | n.c. |
| | X4 | O3/O4 | 24 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3375 | X1 | I1/I2 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | O1/O2 | 24 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X3 | I3/I4 | 24 $V_{out\ of\ ASi}$ | I4 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | O3 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O3 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |



| Connections | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Article no.** | **M12 connection** | **Marking** | **Pin1** | **Pin2** | **Pin3** | **Pin4** | **Pin5** | |
| **BWU2547** | **X1** | I1/O1 | 24 $V_{ext\ out}$ | O1 | 0 $V_{ext\ out}$ | I1 | n.c. |  |
| | **X2** | I2/O2 | 24 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | I2 | n.c. | |
| | **X3** | I3/O3 | 24 $V_{ext\ out}$ | O3 | 0 $V_{ext\ out}$ | I3 | n.c. | |
| | **X4** | I4/O4 | 24 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | I4 | n.c. | |
| | **ADDR (protection cap)** | connection for ASi-3 addressing plug | | | | | | |
| **BWU3887** | **X1** | I1/O1 | 24 $V_{ext\ out}$ | I1 | 0 $V_{ext\ out}$ | O1 | n.c. | |
| | **X2** | I2/O2 | 24 $V_{ext\ out}$ | I2 | 0 $V_{ext\ out}$ | O2 | n.c. | |
| | **X3** | I3/O3 | 24 $V_{ext\ out}$ | I3 | 0 $V_{ext\ out}$ | O3 | n.c. | |
| | **X4** | I4/O4 | 24 $V_{ext\ out}$ | I4 | 0 $V_{ext\ out}$ | O4 | n.c. | |
| | **ADDR (protection cap)** | connection for ASi-3 addressing plug | | | | | | |
| | | | | | | | | |
| **BWU2767** | **X1** | I1/O1 | 24 $V_{ext\ out}$ | O1 | 0 $V_{ext\ out}$ | I1 | n.c. |  |
| | **X2** | I2/O2 | 24 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | I2 | n.c. | |
| | **X3** | I3 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I3 | n.c. | |
| | **X4** | I4 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I4 | n.c. | |
| | **ADDR (protection cap)** | connection for ASi-3 addressing plug | | | | | | |
| **BWU2594 BWU2713 BWU2728** | **X1** | O1 | 0 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. | |
| | **X2** | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. | |
| | **X3** | O3 | 0 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. | |
| | **X4** | O4 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. | |
| | **ADDR (protection cap)** | connection for ASi-3 addressing plug | | | | | | |
| **BWU2552** | **X1** | I1 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. | |
| | **X2** | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. | |
| | **X3** | I3 | 24 $V_{out\ of\ ASi}$ | I4 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. | |
| | **X4** | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. | |
| | **ADDR (protection cap)** | connection for ASi-3 addressing plug | | | | | | |
| **BWU2620 BWU3556** | **X1** | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. | |
| | **X2** | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. | |
| | **X3** | I3 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I3 | n.c. | |
| | **X4** | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. | |
| | **ADDR (protection cap)** | connection for ASi-3 addressing plug | | | | | | |
| **BWU3457** | **X1** | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. | |
| | **X2** | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. | |
| | **X3** | I3 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I3 | n.c. | |
| | **X4** | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. | |
| | **X5** | ASi | ASi+ | n.c. | ASi- | n.c. | – | |
| **BWU2725** | **X1** | I1 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I1 | n.c. | |
| | **X2** | I2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I2 | n.c. | |
| | **X3** | I3 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I3 | n.c. | |
| | **X4** | I4 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I4 | n.c. | |
| | **ADDR (protection cap)** | connection for ASi-3 addressing plug | | | | | | |
| **BWU3077** | **X1** | I1 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. | |
| | **X2** | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. | |
| | **X3** | I3 | 24 $V_{out\ of\ ASi}$ | I4 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. | |
| | **X4** | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. | |
| | **X5** | ASi | ASi+ | n.c. | ASi- | n.c. | – | |

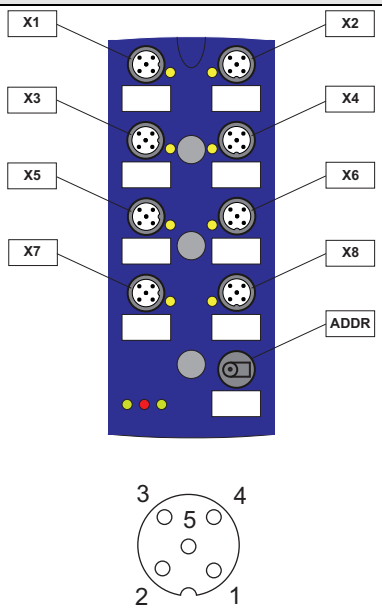
## Connections

| Article no. | M12 connection | Marking | Pin1 | Pin2 | Pin3 | Pin4 | Pin5 |
|---|---|---|---|---|---|---|---|
| BWU3240 | X1 | I1/O1 | 24 $V_{out\ of\ ASi}$ | O1 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I2/O2 | 24 $V_{out\ of\ ASi}$ | O2 | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X3 | I3/O3 | 24 $V_{out\ of\ ASi}$ | O3 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | I4/O4 | 24 $V_{out\ of\ ASi}$ | O4 | 0 $V_{out\ of\ ASi}$ | I4 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3517 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | O1 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X3 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X4 | O2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X5 | ASi | ASi+ | 0 V ext in | ASi- | 24 V ext in | – |



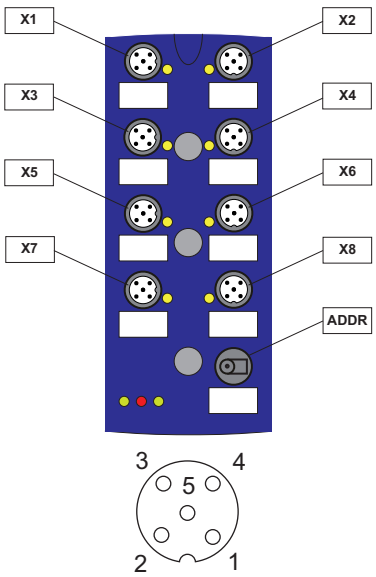

## Connections

| Article no. | M12 connection | Marking | Pin1 | Pin2 | Pin3 | Pin4 | Pin5 |
|---|---|---|---|---|---|---|---|
| BWU2617 BWU2684 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. |
| | X5 | O1 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X7 | O3 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X8 | O4 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU2619 | X1 | I1/I2 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I3/I4 | 24 $V_{out\ of\ ASi}$ | I4 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X3 | I5/I6 | 24 $V_{out\ of\ ASi}$ | I6 | 0 $V_{out\ of\ ASi}$ | I5 | n.c. |
| | X4 | I7/I8 | 24 $V_{out\ of\ ASi}$ | I8 | 0 $V_{out\ of\ ASi}$ | I7 | n.c. |
| | X5 | O1/O2 | 0 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O3/O4 | 0 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X7 | O5/O6 | 0 $V_{ext\ out}$ | O6 | 0 $V_{ext\ out}$ | O5 | n.c. |
| | X8 | O7/O8 | 0 $V_{ext\ out}$ | O8 | 0 $V_{ext\ out}$ | O7 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU2626 BWU3426 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{out\ of\ ASi}$ | I4 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. |
| | X5 | O1 | 0 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X7 | O3 | 0 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X8 | O4 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |



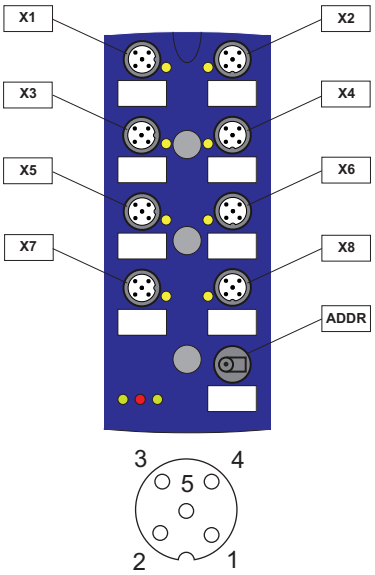
## Connections

| Article no. | M12 connection | Marking | Pin1 | Pin2 | Pin3 | Pin4 | Pin5 |
|---|---|---|---|---|---|---|---|
| BWU3496 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. |
| | X5 | O1 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X7 | O3 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X8 | not used | | | | | |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3540 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. |
| | X5 | O1 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X7 | O3 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X8 | O4 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3892 | X1 | I1/I2 | 24 $V_{ext\ out}$ | I2 | 0 $V_{ext\ out}$ | I1 | n.c. |
| | X2 | I3/I4 | 24 $V_{ext\ out}$ | I4 | 0 $V_{ext\ out}$ | I3 | n.c. |
| | X3 | I5/I6 | 24 $V_{ext\ out}$ | I6 | 0 $V_{ext\ out}$ | I5 | n.c. |
| | X4 | I7/I8 | 24 $V_{ext\ out}$ | I8 | 0 $V_{ext\ out}$ | I7 | n.c. |
| | X5 | O1/O2 | 0 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O3/O4 | 0 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X7 | O5/O6 | 0 $V_{ext\ out}$ | O6 | 0 $V_{ext\ out}$ | O5 | n.c. |
| | X8 | O7/O8 | 0 $V_{ext\ out}$ | O8 | 0 $V_{ext\ out}$ | O7 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU2651 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | I2 | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{out\ of\ ASi}$ | I4 | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. |
| | X5 | I5 | 24 $V_{out\ of\ ASi}$ | I6 | 0 $V_{out\ of\ ASi}$ | I5 | n.c. |
| | X6 | I6 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I6 | n.c. |
| | X7 | I7 | 24 $V_{out\ of\ ASi}$ | I8 | 0 $V_{out\ of\ ASi}$ | I7 | n.c. |
| | X8 | I8 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I8 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU2983 | X1 | I1 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I4 | n.c. |
| | X5 | I5 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I5 | n.c. |
| | X6 | I6 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I6 | n.c. |
| | X7 | I7 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I7 | n.c. |
| | X8 | I8 | 24 $V_{out\ of\ ASi}$ | n.c. | 0 $V_{out\ of\ ASi}$ | I8 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU2652 | X1 | O1 | 0 $V_{ext\ out}$ | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X2 | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X3 | O3 | 0 $V_{ext\ out}$ | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X4 | O4 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | X5 | O5 | 0 $V_{ext\ out}$ | O6 | 0 $V_{ext\ out}$ | O5 | n.c. |
| | X6 | O6 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O6 | n.c. |
| | X7 | O7 | 0 $V_{ext\ out}$ | O8 | 0 $V_{ext\ out}$ | O7 | n.c. |
| | X8 | O8 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O8 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |



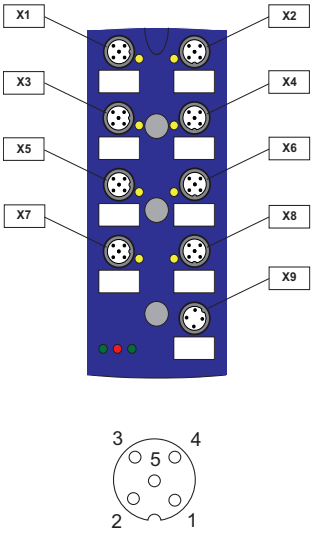
## Connections

| Article no. | M12 connection | Marking | Pin1 | Pin2 | Pin3 | Pin4 | Pin5 |
|---|---|---|---|---|---|---|---|
| BWU2770 | X1 | I1 | 24 $V_{ext\ out}$ | I2 | 0 $V_{ext\ out}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{ext\ out}$ | I4 | 0 $V_{ext\ out}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I4 | n.c. |
| | X5 | I5 | 24 $V_{ext\ out}$ | I6 | 0 $V_{ext\ out}$ | I5 | n.c. |
| | X6 | I6 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I6 | n.c. |
| | X7 | I7 | 24 $V_{ext\ out}$ | I8 | 0 $V_{ext\ out}$ | I7 | n.c. |
| | X8 | I8 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I8 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU2810 | X1 | I1 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I4 | n.c. |
| | X5 | O1 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X7 | O3 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X8 | O4 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |
| BWU3510 | X1 | I1 | 24 $V_{ext\ out}$ | I2 | 0 $V_{ext\ out}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{ext\ out}$ | I4 | 0 $V_{ext\ out}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I4 | n.c. |
| | X5 | O1 | n.c. | O2 | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O2 | n.c. | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X7 | O3 | n.c. | O4 | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X8 | O4 | n.c. | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | ADDR (protection cap) | connection for ASi-3 addressing plug | | | | | |



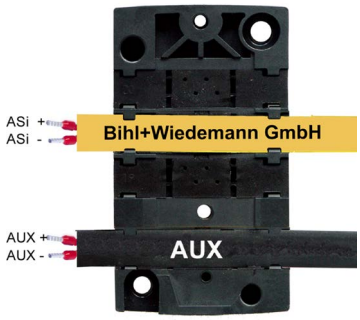

## Connections

| Article no. | M12 connection | Marking | Pin1 | Pin2 | Pin3 | Pin4 | Pin5 |
|---|---|---|---|---|---|---|---|
| BWU2645 | X1 | I1 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I1 | n.c. |
| | X2 | I2 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I2 | n.c. |
| | X3 | I3 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I3 | n.c. |
| | X4 | I4 | 24 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | I4 | n.c. |
| | X5 | O1 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O1 | n.c. |
| | X6 | O2 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O2 | n.c. |
| | X7 | O3 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O3 | n.c. |
| | X8 | O4 | 0 $V_{ext\ out}$ | n.c. | 0 $V_{ext\ out}$ | O4 | n.c. |
| | X9 | ASi | ASi+ | 0 $V_{ext\ in}$ | ASi- | 24 $V_{ext\ in}$ | – |

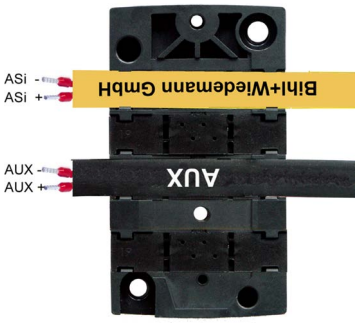


## Mounting according to cable direction

IP67




ordinary

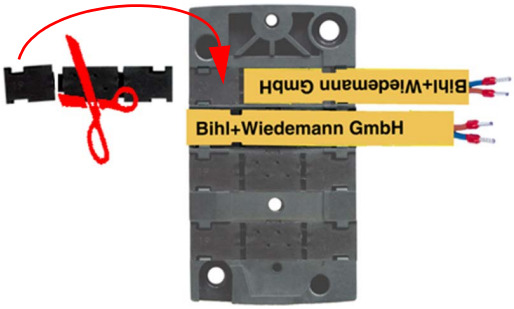


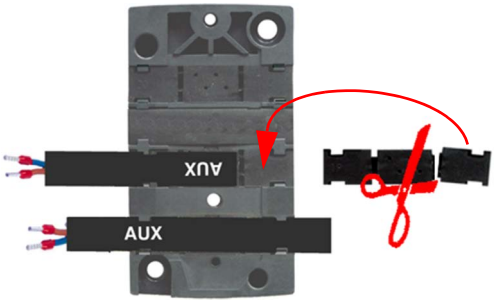

turned

## Line termination with sealing profiles / as junction

IP54

max. 8A




### Accessories:

- **ASi substructure module for 4 channel module in 45 mm housing (art. no. BWU2349)**
- **ASi substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BWU2350)**
- **ASi substructure module (CNOMO) for 8 channel module in 60 mm housing (art. no. BWU2351)**
- **Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)**
- **Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)**
- **Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)**
- **Passive Distributor ASi/AUX to 1 x M12 cable socket, straight, 5 poles, depth 19 mm, IP67 (art. no. BW3911)**
- **Passive Distributor ASi/AUX to 1 x M12 cable socket, angled, 5 poles, depth 19 mm, IP67 (art. no. BWU3408)**
- **ASi-5/ASi-3 Address Programming Device (art. no. BW4925)**
- **It is recommended to use pre-assembled cables to connect the power source with the module.**

### Accessories for BWU3077, BWU3457, BWU3517:

- **ASi substructure module for 4 channel module in 45 mm housing (art. no. BWU2349)**
- **ASi substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BWU2350)**
- **ASi substructure module (CNOMO) for 8 channel module in 60 mm housing (art. no. BWU2351)**
- **Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)**
- **Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)**
- **Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)**
- **Passive Distributor ASi to 1 x M12 cable socket, angled, 5 poles, depth 19 mm, IP67 (art. no. BWU3185)**
- **Passive Distributor ASi to 1 x M12 cable socket, straight, 5 poles, depth 19 mm, IP67 (art. no. BWU3247)**
- **ASi-5/ASi-3 Address Programming Device (art. no. BW4925)**
- **It is recommended to use pre-assembled cables to connect the power source with the module.**