


Cost efficient solution in IP20



(Figure similar)



| Figure | Housing | Inputs digital | Outputs digital | Input voltage (sensor supply) ⁽¹⁾ | Output voltage (actuator supply) ⁽²⁾ | Periphery connection | ASi/AUX connection ⁽³⁾ | ASi address ⁽⁴⁾ | Article No. |
|--|-------------------|----------------|-----------------|--|---|----------------------|-----------------------------------|----------------------------|---------------|
|  | 22,5 mm x 114 mm, | 4 | 4 x electronic | out of AUX | out of AUX | Pluggable terminals | Pluggable terminals | 1 AB address | BW4968 |

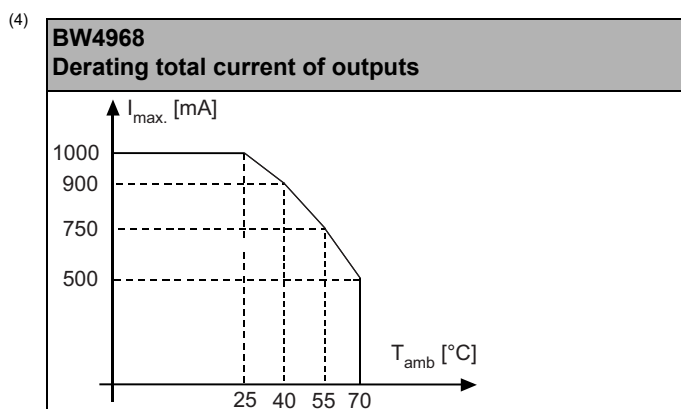
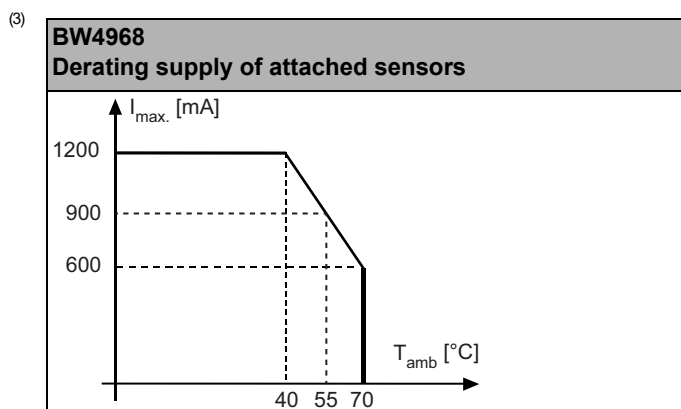
- (1) **Input voltage (sensor supply):** inputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, inputs shall not be connected to earth or to external potential.
- (2) **Output voltage (actuator supply):** outputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied 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) **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 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. | BW4968 |
| General data | |
| Device type | inputs / output |
| Connection | |
| ASi / AUX Connection | Pluggable terminals ⁽¹⁾ |
| Periphery connection | Pluggable terminals ⁽¹⁾ |
| Primary application | control cabinet |
| Length of connector cable | I/O: unlimited ⁽²⁾ |
| ASi | |
| Profile | S-7.A.7, ID1=7 (fixed) |
| Address | 1 AB address |
| Required Master profile | ≥M4 |
| Since 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 | |
| Voltage | 24 V (18 ... 30 V) |
| Max. current consumption | 2,2 A |

| | | |
|--|--|--|
| Article no. | | BW4968 |
| 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 +25 °C | 1200 mA permanent operation ⁽³⁾ |
| | at +40 °C | 1200 mA permanent operation ⁽³⁾ |
| | at +55 °C | 900 mA permanent operation ⁽³⁾ |
| | at +70 °C | 600 mA permanent operation ⁽³⁾ |
| Switching threshold | | U < 5 V (low) U > 15 V (high) |
| Output | | |
| Number | | 4 x electronic |
| Power supply | | out of AUX |
| Actuator supply | | short-circuit and overload protected according to EN 61131-2 |
| Max. output current | up to +25 °C | 1000 mA per output, Σ (O1 ... O4) 1000 mA ⁽⁴⁾ |
| | at +40 °C | 900 mA per output, Σ (O1 ... O4) 900 mA ⁽⁴⁾ |
| | at +55 °C | 750 mA per output, Σ (O1 ... O4) 750 mA ⁽⁴⁾ |
| | at +70 °C | 500 mA per output, Σ (O1 ... O4) 500 mA ⁽⁴⁾ |
| Display | | |
| LED ASI (green) | an: ASi voltage on, flashing: ASi voltage on, but peripheral fault ⁽⁵⁾ or address 0 off: no ASi Voltage | |
| LED FLT/FAULT (red) | an: address 0 or offline flashing: peripheral fault ⁽⁵⁾ off: online | |
| LEDs I1 ... In (yellow) | state of inputs I1 ... I4 | |
| LEDs O1 ... On (yellow) | state of outputs O1 ... O4 | |
| LED AUX (green) | on: 24 V _{DC} AUX off: no 24 V _{DC} AUX | |
| Environment | | |
| Applied standards | EN 61000-6-2 EN 61000-6-3 EN 61131 EN 60529 | |
| It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe | yes ⁽⁶⁾ | |
| Operating altitude | max. 2000 m | |
| Ambient temperature | -25 °C ... +55 °C (up to max. +70 °C) ⁽³⁾ ⁽⁴⁾ | |
| | no condensation permitted | |
| Storage temperature | -25 °C ... +85 °C | |
| Housing | plastic, for DIN rail mounting | |
| Pollution Degree | 2 | |
| Protection category | IP20 | |
| Tolerable loading referring to humidity | according to EN 61131-2 | |
| Voltage of insulation | ≥ 500 V | |
| Weight | 120 g | |
| Dimensions (W / D in mm) | 22,5 / 114 | |

(1) Not included in the scope of delivery.

(2) Loop resistance ≤ 150 Ω



(5) see table „peripheral fault indication“

(6) 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.

Wiring rules (recommended)

| Push-in terminals, 2 / 3 / 4 poles (pitch 5 mm) | |
|--|--|
| General | |
| Nominal cross section | 2.5 mm ² |
| Conductor cross section | |
| Conductor cross section solid | 0.2 ... 2.5 mm ² |
| Conductor cross section flexible | 0.2 ... 2.5 mm ² |
| Conductor cross section flexible, with ferrule | without plastic sleeve: 0.25 ... 2.5 mm ² |
| | with plastic sleeve: 0.25 ... 2.5 mm ² |
| 2 conductors with same cross section, stranded, with TWIN ferrules | without plastic sleeve: 0.5 ... 1.5 mm ² |
| AWG | 24 ... 14 |
| Stripped insulation length | 10 mm |

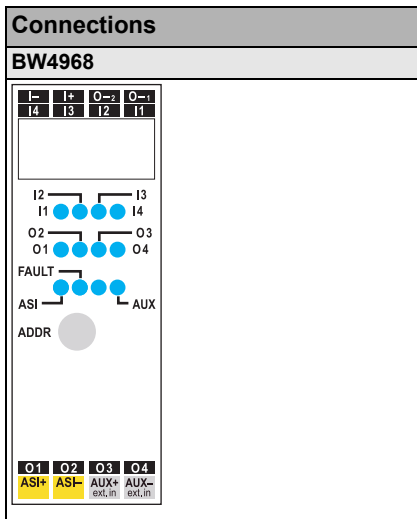
| Article no. | Peripheral fault indication | |
|---------------|-----------------------------|---------------------|
| | Overload sensor supply | AUX voltage missing |
| BW4968 | - | • |

| Programming | Bit setting | | | |
|-------------|-------------|----|----|----|
| | D3 | D2 | D1 | D0 |
| | input | | | |
| BW4968 | I4 | I3 | I2 | I1 |
| | output | | | |
| BW4968 | O4 | O3 | O2 | O1 |

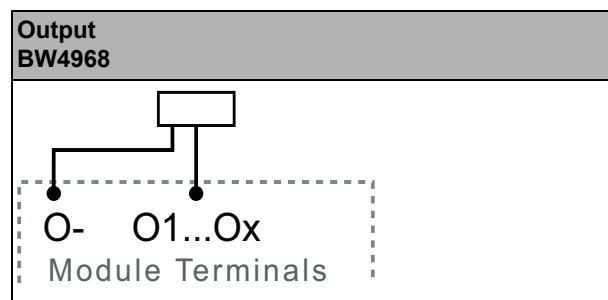
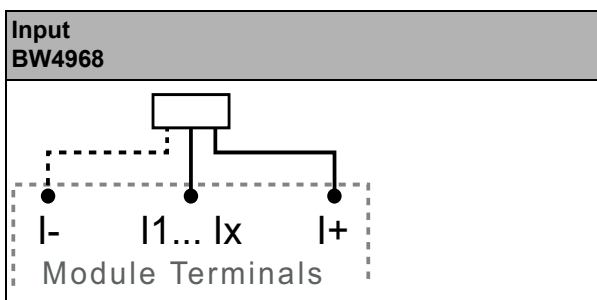
| Programming | Bit setting | | | |
|-------------|---------------|--|--|--------------------------------|
| | parameter bit | | | |
| | P3 | P2 | P1 | P0 |
| BW4968 | not used | 0 = on / 1 = off (synchronous I/O mode) | 0 = on / 1 = off (data input filter 128 µs) | 0 = off / 1 = on (watchdog) |

Connections

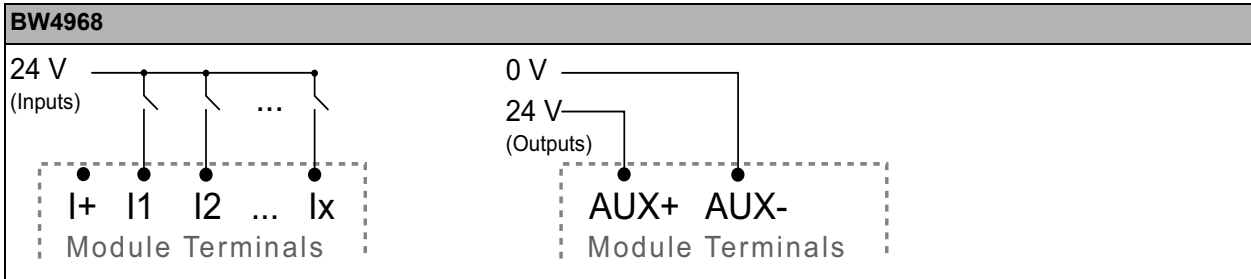
| Name | Explanation |
|---|---|
| I _x | digital input x |
| O _x | digital output x |
| O _{x3} , O _{x4} | relay output x |
| I ⁺ , I ⁻ , I ⁺ _n , I ⁻ _n | sensor supply |
| O _{-n} | GND for outputs (PNP) |
| O _{+n} | GND for outputs (NPN) |
| AUX ⁺ ext.in | power supply, out of external voltage, positive pole (AUX, actuator supply) |
| AUX ⁻ ext.in | power supply, out of external voltage, negative pole (AUX, actuator supply) |
| ASi ⁺ , ASi ⁻ | connection to ASi bus |
| ADDR | connection for ASi-3 addressing plug |
| n.c. (not connected) | not connected |



Power supply PNP via the module (recommended)



Separate power supply via external 24 V



Note

To achieve passive safety, the device must be installed in a switching cabinet with protection class IP54.

Accessories:

- Asi-5/Asi-3 Address Programming Device (art. no. BW4925)