

## Safe electronic output 10 A / 20 A

### Safe contact expansion module 10 A / 20 A

Applications up to category 4/PLe/SIL 3



(Figure similar)

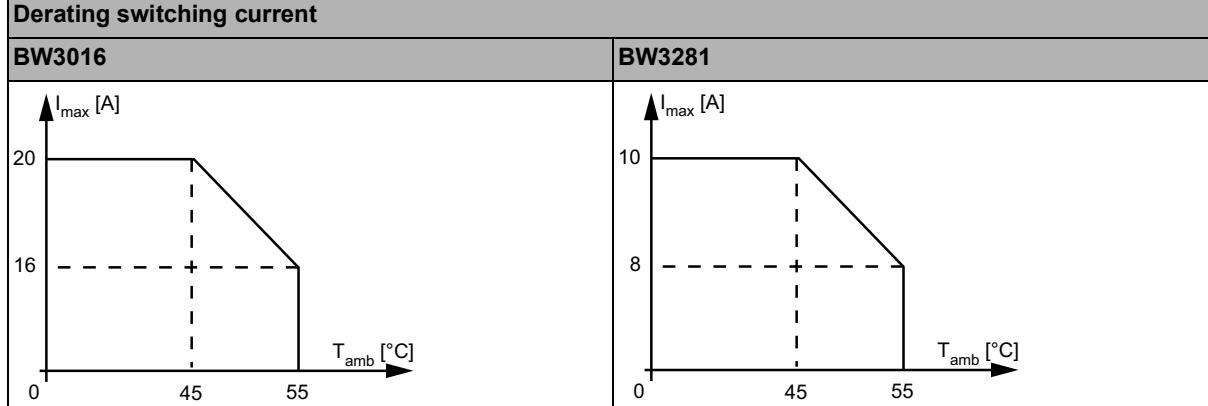
**Article no. BW3016: Safe electronic output 20 A**

**Article no. BW3281: Safe electronic output 10 A**

| Article no.                        | BW3016  | BW3281                      |
|------------------------------------|---|-----------------------------|
| <b>General data</b>                |   |                             |
| Type of device                     | safe electronic output 20 A                                     | safe electronic output 10 A |
| Number of contact sets per channel |   | 1                           |
| <b>AUX</b>                         |   |                             |
| Voltage                            | 24 V <sub>DC</sub> (18 ... 30 V)                                |                             |
| Max. current consumption           | 100 mA + load current   |                             |
| External fuse                      | 20 A, slow-blow   | 10 A, slow-blow             |
| <b>Input</b>                       |   |                             |
| Number                             | 1 x electronic safe input                                       |                             |
| Voltage                            | max. 30 V <sub>DC</sub> (SELV)                                  |                             |
| Signal level                       | 0-signal: < 5 V <sub>DC</sub><br>1-signal: > 10 V <sub>DC</sub> |                             |
| Permissible test pulse time        | max. 1,5 ms   |                             |
| Switching frequency                | max. 1 Hz   |                             |
| <b>Output</b>                      |   |                             |
| Number                             | contact expansion, 1 x electronic safe output                   |                             |
| Power supply                       | out of AUX  |                             |
| Output current                     | max. 20 A <sup>(1)</sup>  | max. 10 A <sup>(1)</sup>    |
| Capacitive load                    |   | max. 1,7 mF                 |
| UL load type                       | general purpose, resistive                                      |                             |
| <b>EDM Output</b>                  |   |                             |
| Voltage                            | max. 30 V <sub>DC</sub>   |                             |
| Current                            | max. 20 mA  |                             |
| Voltage drop                       | max. 4 V (output voltage: 14 V...30 V <sub>DC</sub> )           |                             |

| Article no.  | BW3016   | BW3281  |
|--|--|---|
| <b>Display</b>                                     |  |   |
| LED PWR (green)                                    | power supply present   |   |
| LED CH1 (yellow)                                   | lights: output on  |   |
| LED EDM1 (yellow)                                  | lights: output off   |   |
| LED TST (yellow)                                   | only when both switches are set to 1:<br>lights up when the automatic test pulse mode is activated, since for too long time no shutdown has been detected. Is maintained until the next switch off of the supply voltage |   |
| <b>Environment</b>                                 |  |   |
| Applied standards                                  | EN 62061, SIL 3<br>EN 61508, SIL 3<br>EN ISO 13849-1, PLe<br>EN 60529  |   |
| UL certification                                   | yes <sup>(2)</sup>   | yes <sup>(4)</sup>                                  |
| Can be used in passively safe paths up to SIL3/PLe |  | yes <sup>(3)</sup>                                  |
| Operating altitude                                 | max. 2000 m  |   |
| Ambient temperature                                | 0 °C ... +45 °C (+55 °C at max. 16 A) <sup>(1)</sup>   | 0 °C ... +45 °C (+55 °C at max. 8 A) <sup>(1)</sup> |
| Storage temperature                                | -25 °C ... +85 °C  |   |
| Intended environment                               | for indoor use only  |   |
| Housing  | plastic, for DIN rail mounting   |   |
| Protection class                                   | IP20   |   |
| Tolerable loading referring to humidity            | according to EN 61131-2  |   |
| Pollution degree of the intended environment       | II   |   |
| Oversupply category                                | II   |   |
| Maximum tolerable shock and vibration stress       | according to EN 61131-2  |   |
| Voltage of insulation                              | ≥500 V   |   |
| Weight   | 160 g  |   |
| Dimensions (W / H / D in mm)                       | 22,5 / 99 / 114  |   |

(1) [Derating switching current](#)



(2) From Ident. No. 18652

(3) 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.

(4) From Ident. No. 18653



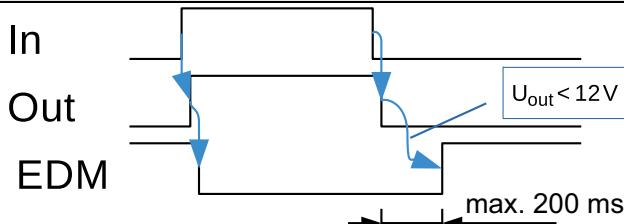
**Please observe the following instructions. For more information see installation instructions.**

- Safety precautions and warnings are designated by the symbol.
- Bihl und Wiedemann GmbH is not liable for damage resulting from improper use of its equipment. Familiarity with these instructions constitutes part of the knowledge required for proper use.
- The device should be installed in a control cabinet with a protection type of at least IP54!
- The device may only be operated within the limits of its technical specifications. It may only be operated with the specified current and voltage values.
- The 24 V must be supplied by a PELV power supply. Its maximum output voltage may not exceed 42 V even in the case of a fault!

## Test pulse (BW3016, BW3281)

| Switch setting |  |
|----------------|--|
| 0              | Every 28.800 sec (8 h) test pulses will be generated, if not an operational shutdown is done before. |
| 0              | No test pulses generated.<br>SIL3 is not achievable in this operation mode!                          |
| 0              | no valid operation mode  |
| 0              | no valid operation mode  |
| 0              |  |

## Temporal relationship between input, output and EDM



## Terminal assignment

| Clamps | Description                        |
|--------|------------------------------------|
| 0 V    | Supply, 0 V of the module          |
| 1.A1   | Switching input                    |
| 1.52   | EDM output, negative pole          |
| 1.51   | EDM output, positive pole          |
| 24 V   | Supply, 24 V for output and module |
| 1.14   | output                             |

