

## Safety Basic Monitors

2 x electronic safe outputs

Up to 4 x 2 channels safe inputs

- optionally the safe inputs will be used as well as standard inputs and signal outputs

Safe ASi outputs are supported

- max. 32 independent ASi outputs
- multiple safe ASi outputs possible via a single address

Chip card for storage of configuration data

Protection category IP20



(Figure similar)



| Figure | Model                                       | Inputs Safety, SIL 3, Cat. 4   | Inputs safety, expandable to                          | Outputs Safety, SIL 3, cat. 4                  | Safety outputs, independent according to SIL 3, expandable to | Safety communication | Fieldbus interface | 1 power supply, 1 gateway for 2 ASi networks, inexpensive power supplies | Diagnostic and configuration interface <sup>(1)</sup>      | Article no.    |
|--------|---|--|---|--|---|----------------------|--------------------|--|--|----------------|
|        | Safety Basic Monitor with extended features | 3 x 2 channels input 3 optional for speed monitor up to 4 kHz                | max. 31 x 2 channels, max. 1891 in max. configuration | 2 release circuits; 2 x electronic safe output | max. 32, max. 991 in max configuration                        | Safe Link            | ASi monitors       | yes, max. 0,5 A/ASi network, max. 8 A with ASi power supply              | Ethernet diagnostic + Modbus TCP <sup>(2)</sup> diagnostic | <b>BWU2852</b> |
|        | Safety Basic Monitor with extended features | 4 x 2 channels inputs 3+4 optional for speed monitor up to 4 kHz             | max. 31 x 2 channels                                  | 2 release circuits; 2 x electronic safe output | max. 16   | –                    | ASi monitors       | yes, max. 0,5 A/ASi network, max. 8 A with ASi power supply              | USB  | <b>BWU2700</b> |
|        | Safety Basic Monitor with extended features | 4 x 2 channels, inputs 3+4 compatible as replacement with consortial monitor | max. 31 x 2 channels                                  | 2 release circuits; 2 x electronic safe output | max. 16   | –                    | ASi monitors       | no, max. 8 A/ASi network   | USB  | <b>BWU2567</b> |

(1) **Diagnostic and configuration interface**

"USB": Access to ASi Master and Safety Monitor with Bihl+Wiedemann proprietary software by using the USB interface.

"Ethernet diagnostic + Modbus TCP diagnostic": Access to ASi Master and Safety Monitor with Bihl+Wiedemann software or diagnostic via Modbus TCP by using the Ethernet diagnostic interface.

(2) Modbus TCP diagnostic capability from **Ident.no.: 15775** (see lateral label). For a full-fledged Modbus TCP fieldbus interface use one of our Modbus TCP gateways in stainless steel or Modbus TCP gateways with integrated safety monitor.

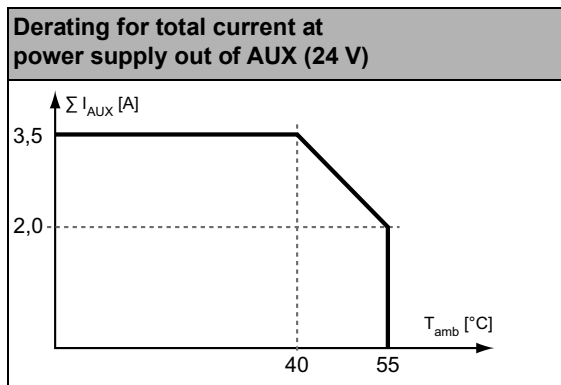
| Article no.                            | BWU2567                  | BWU2700 | BWU2852                                     |
|--|--------------------------|---------|---|
| <b>Connection</b>                      |                          |         |   |
| Connection                             | COMBICON clamps          |         |   |
| Length of connector cable              | unlimited <sup>(1)</sup> |         |   |
| <b>Safety Monitor</b>                  |                          |         |   |
| Respond delay                          | < 40 ms                  |         |   |
| <b>ASi Master</b>                      |                          |         |   |
| ASi Master                             | integrated               |         |   |
| <b>Interface</b>                       |                          |         |   |
| Diagnostic and configuration interface | USB                      |         | Ethernet diagnostic + Modbus TCP diagnostic |
|  | chip card slot           |         |   |

| Article no.   | BWU2567  | BWU2700   | BWU2852 |
|---|--|---|---------|
| <b>ASi</b>  |  |   |         |
| Voltage   | 30 V (18 ... 31,6 V)   |   |         |
| Max. current consumption                            | 200 mA <sup>(2)</sup>  |   |         |
| Max. current with internal decoupling out of AUX    | –  | 500 mA <sup>(2), (4)</sup>  |         |
| <b>AUX</b>  |  |   |         |
| Voltage   | 24 V (20 ... 30 V) (PELV)  |   |         |
| Max. current consumption                            | max. 4 A   |   |         |
| <b>Input</b>  |  |   |         |
| Number  | 4 x 2-channel safe inputs SIL3, cat. 4 or 8 standard inputs and signaling outputs  | 3 x 2-channel safe inputs SIL3, cat. 4 or 6 standard inputs and signaling outputs |         |
| Switching current                                   | 15 mA (T = 100 µs), continuously 4 mA at 24 V  |   |         |
| Safety signal                                       | floating contacts<br>inputs 3+4 optional for OSSDs   | floating contacts or OSSDs  |         |
| Supply voltage                                      | out of AUX   |   |         |
| Sensor supply                                       | short-circuit and overload protected according to EN 61131   |   |         |
| Network connection between the safe input terminals | max. resistance 150 Ω  |   |         |
| <b>Output</b>                                       |  |   |         |
| Number  | 2 (4) output switching elements;<br>semiconductor outputs (output circuits 1 and 2)<br>max. contact load: 700 mA <sub>DC-13</sub> at 24 V <sup>(2)</sup> |   |         |
| Supply voltage                                      | out of AUX   |   |         |
| Actuator supply                                     | short-circuit and overload protected according to EN 61131   |   |         |
| Max. output current signal outputs                  | 10 mA per output   |   |         |
| Max. output current for OSSD supply                 | 1,4 A (S71) <sup>(2)</sup>   | –   |         |
| Test pulse  | if output is on:<br>minimum interval between 2 test pulses: 250 ms (from safety version 4.3);<br>maximum pulse width 1 ms                                |   |         |
| <b>Display</b>                                      |  |   |         |
| LED S1 ... Sn (yellow)                              | state of safe input S1 ... S8  | state of safe input S1 ... S6   |         |
| LED SM (green/yellow/red)                           | state of Safety Monitor  |   |         |
| LED ASi M (green/yellow/red)                        | state of ASi monitor   | state of ASi master   |         |
| LED O1 (green/yellow/red)                           | output 1 has switched  |   |         |
| LED O2 (green/yellow/red)                           | output 2 has switched  |   |         |
| LED NET (green)                                     | –  | Modbus communication active   |         |
| 1 button  | Service  |   |         |

| Article no.                             | BWU2567  | BWU2700                          | BWU2852 |
|---|--|----------------------------------|---------|
| <b>UL-specifications (UL508)</b>        |  |                                  |         |
| External protection                     | An isolated source with a secondary open circuit voltage of $\leq 30 V_{DC}$ has to be protected with a 3 A maximum over current. 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.  |                                  |         |
| Applied standards                       | EN 60529<br>EN 61508<br>EN 62061<br>EN 61131<br>EN ISO 13849-1   |                                  |         |
| <b>Ambient</b>                          |  |                                  |         |
| Operation altitude                      | max. 2000 m  |                                  |         |
| Ambient temperature                     | 0 °C ... +55 °C  | -30 °C ... +55 °C <sup>(5)</sup> |         |
|   | no condensation permitted  |                                  |         |
| Storage temperature                     | -25 °C ... +85 °C  | -25 °C ... +85 °C                |         |
| Housing                                 | plastic, for DIN rail mounting   |                                  |         |
| Protection class                        | IP20   |                                  |         |
| Tolerable loading referring to humidity | according to EN 61131-2  |                                  |         |
| Voltage of insulation                   | $\geq 500 V$   |                                  |         |
| Weight                                  | 160 g  |                                  |         |
| Dimensions (W / H / D in mm)            | 22,5 / 99 / 114  |                                  |         |
| Mounting position                       | vertical (mounting rail horizontal, ASi clamps pointing downwards) <sup>(3)</sup>  |                                  |         |
| Mounting                                | Can be combined with Bihl+Wiedemann devices of the same design and neighboring devices with max. 3 W heat radiation. For higher heat radiation, a minimum distance of one module width (22.5 mm) must be provided. |                                  |         |

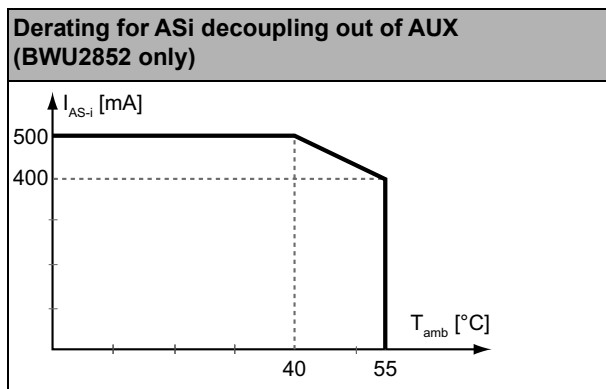
(1) Loop resistance  $\leq 150 \Omega$

(2)



(3) Make sure there is adequate ventilation. The supply air temperature at the bottom of the housing may not exceed values specified under ambient temperature.

(4)



(5) temperature range up to -30°C from Ident.No.  $\geq 16254$ .

| Article no.                               | BWU2567   | BWU2700                                      | BWU2852               |
|---|---|--|-----------------------|
| <b>ASi Safety Monitor</b>                 |   |  |                       |
| Safety Monitor                            | Safety Basis Monitor, successor for ASi consortial Safety Monitor, replacement compatible | Safety Basis Monitor, with extended features |                       |
| Optimized to ASi Monitor operations       | yes   | no   |                       |
| Release circuits                          | 16  |  | 32                    |
| Antivalent switches for local inputs      | yes   |  |                       |
| Standstill monitors of local inputs       | 4 x 50 Hz   |  | 3 x 50 Hz             |
| Standstill/speed monitors of local inputs | 2-4 axes, up to 400 Hz  | 2-4 axes, up to 4 kHz                        | 1-2 axes, up to 4 kHz |
| <b>Electrical data</b>                    |   |  |                       |
| Power supply decoupling unit              | –   | integrated                                   |                       |

## Wiring rules

| Push-in terminals  |  |
|--|--|
| <b>General</b>   |  |
| Nominal cross section  | 2.5 mm <sup>2</sup>  |
| <b>Conductor cross section</b>                                     |  |
| Conductor cross section solid                                      | 0.2 ... 2.5 mm <sup>2</sup>  |
| Conductor cross section flexible                                   | 0.2 ... 2.5 mm <sup>2</sup>  |
| Conductor cross section flexible, with ferrule                     | without plastic sleeve: 0.2 ... 2.5 mm <sup>2</sup><br>with plastic sleeve: 0.25 ... 2.5 mm <sup>2</sup> |
| 2 conductors with same cross section, stranded, with TWIN ferrules | without plastic sleeve: 0.5 ... 1.5 mm <sup>2</sup>  |
| AWG  | 24 ... 14  |
| Stripped insulation length   | 10 mm  |

| BWU2567 / BWU2700 | BWU2852 | Clamps  | Description                                    |
|-------------------|---------|---|--|
|                   |         | S22, S21, S12, S11                                | safety input terminal input 1                  |
|                   |         | S42, S41, S32, S31                                | safety input terminal input 2                  |
|                   |         | S62, S61, S52, S51                                | safety input terminal input 3                  |
|                   |         | S71, S72, S81, S82                                | safety input terminal input 4 (except BWU2852) |
|                   |         | 1.14 <sub>ext.out</sub>                           | semiconductor output 1                         |
|                   |         | 2.14 <sub>ext.out</sub>                           | semiconductor output 2                         |
|                   |         | 0 V <sub>ext.out</sub>                            | ground for semiconductor output                |
|                   |         | ASi +, ASi -                                      | connection to the ASi Bus                      |
|                   |         | AUX + <sub>ext.in</sub> , AUX - <sub>ext.in</sub> | power supply input                             |
|                   |         |   |  |

### Accessories:

- Safety Software for Configuration, Diagnosis and Programming (art. no. BW2916)
- Chip card, memory capacity 128 KB (art. no. BW2222)
- Safe Contact Expander 1 or 2 independent channels (art. no. BWU2548 / BWU2539)
- Safe Contact Expander 10 A or 20 A (art. no. BW3016 / BW3281)
- ASi Safety 4I/2O Module, 4 x 2 channels safety inputs and 2 fast electronic safety outputs in IP20 (art. no. BWU2314) as supplementary module
- ASi Speed Monitor (art. no. BWU2427 / BWU2849) as supplementary module
- USB cable for Safety Basic Monitor (art. no. BW2530)