

# ASi Safety Monitors in Stainless Steel



## ASi Safety Monitors in Stainless Steel for 2 ASi networks

### 1 ASi Safety Monitor for 2 ASi networks

- Operation using a single Monitor configuration!  
Monitor processes safety slaves on two ASi networks  
Coupling between the two networks superfluous

### Redundant power supply out of ASi:

- all fundamental functions of the device remain available even in case of power failure in one of the two ASi networks

### 16 release circuits

- 4 / 2 release circuits SIL 3, cat. 4 on the monitor
- relays or electronic safe outputs

### Safe ASi outputs are supported

- 16 independent ASi outputs  
Multiple safe ASi outputs possible via a single ASi address

### Applications up to category 4/PLe/SIL 3

### Chip card for storage of configuration data



BWU2186



BWU2000



BWU2205



The ASi Safety Monitor in stainless steel housing is a safety switching device with 16 independent release circuits. The configuration and commissioning is a simple drag and drop with the program editor ASIMON 3 G2. The configuration data can be stored on the chip card and read back.

With the help of the LCD display and buttons the safety monitor can be operated on the spot. The display is also used for the display of slave addresses and error messages.

The ASi monitor supports safe outputs, so that sensor-controlled safety components and other safety components up to category 4 / SIL 3 can be connected.

In case an emergency stop should be required or if a fault occurs, the ASi safety monitor in its protective mode can switch off the system within a response time of 40 ms at most.

<b>Article no.</b>	<b>BWU2000 / BWU2186 / BWU2205</b>
<b>Safety Monitor, advanced Monitor, generation II</b>	
Number release circuits	16
Start delay	< 10 ms
Max. turn-off time	< 40 ms
Card slot	chip card for storage of configuration data
<b>Input</b>	
Number	4 inputs to use as EDM or start inputs switching current statical 4 mA at 24 V, dynamic 30 mA at 24 V (T=100 µs)
<b>Display</b>	
LCD	indication of slave addresses and error messages in plain text
LED power	voltage ON
LED ready	LED on: start-up/restart-disable active LED flashing: external test necessary

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<b>Article no.</b>	<b>BWU2000 / BWU2186 / BWU2205</b>
<b>Electrical data</b>	
Operating current	max. 200 mA out of ASi circuit 2 (approx. 45 mA ... 200 mA) in sum max. 245 mA
Operating voltage	24 V DC (26,5 V ... 31,6 V out of ASi)
<b>UL-specifications (UL508)</b>	
External protection	an isolated source with a secondary open circuit voltage of $\leq 30$ 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.
cTUVus	the devices • BWU2000 • BWU2186 • BWU2205  from Bihl + Wiedemann GmbH were safety certified by TÜV Rheinland of North America, Inc. according to UL-standards and meet the safety requirements for the North American market.
Standards	EN 61000-6-2 EN 61000-6-4 EN 62061:2005/A1:2013, SIL 3 EN 61508:2001, SIL 3 EN ISO 13849-1:2008, performance-level e
<b>Environment</b>	
Housing	stainless steel, for DIN rail mounting
Ambient temperature	0 °C ... +55 °C
Storage temperature	-25 °C ... +85 °C
Protection category IEC 60529	IP20
Tolerable loading referring to impacts and vibrations	according to EN 61131-2
Voltage of insulation	> 500 V
Dimensions (L / W / H in mm)	85 / 120 / 96
Weight	800 g

<b>Article no.</b>	<b>BWU2000</b>	<b>BWU2186</b>	<b>BWU2205</b>
<b>Interfaces</b>			
Diagnostics interface	RS 232		Ethernet, RJ-45
Baud rates	19,2 kBaud, no parity, 1 start bit, 1 stop bit, 8 data bits		–
<b>Safety Monitor</b>			
Number of release circuits in device	4	2	
<b>Output</b>			
Number	2 output circuits, each with 1 relay output switching element (output circuits 1 and 2) max. contact load: 3 A AC-15 at 30 V, 3 A DC-13 at 30 V	2 output circuits, each with 2 relay output switching element max. contact load: 3 A AC-15 at 30 V, 3 A DC-13 at 30 V	
	semiconductor outputs (output circuits 3 and 4) max. contact load: 0,5 A DC-13 at 30 V	–	
Test pulse	if output switched on: min. interval between two test pulses is 250 ms (Safety Version 4.3); max. pulse duration 1,5 ms	–	
<b>Display</b>			
LED U ASi / fault	–	LED green: no ASi communication error and no RC in „red flashing“  LED red: communication error on ASi network LED „red flashing“: at least 1 FGK in state „red flashing“	
2 LEDs channel 1 / channel 2	–	state of contacts of the safety outputs (OSSD) are: LED off: open LED on: closed  LED flashing: delay time is running at stop category 1	

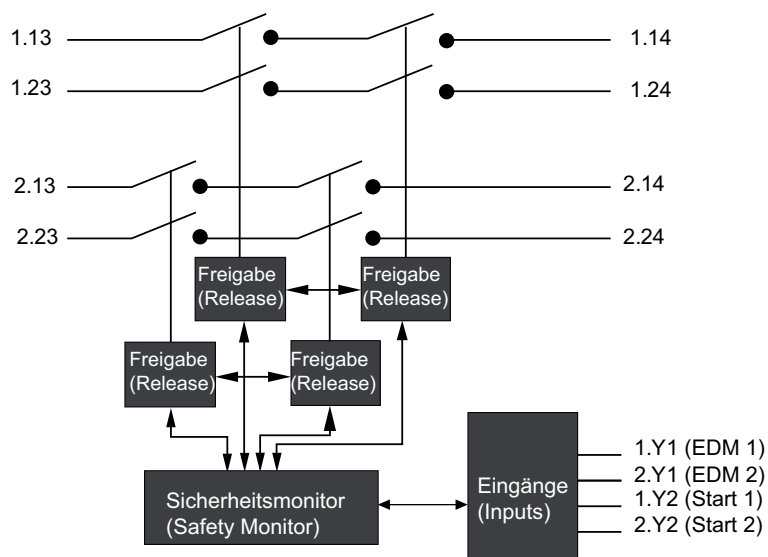
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Article no.	BWU2000	BWU2186	BWU2205
LED U ASi 1 / U ASi 2	ASi 1 / ASi 2 sufficiently voltage supplied		–
LED fault	LED red: communication error on ASi network LED flashing: at least 1 RC in state „red flashing“		–
LED AUX	auxiliary power		–
4 x LED EDM/Start	state of inputs: LED off: open LED on closed		–
4 x LED output circuits	state of output circuits: LED off: open LED on: closed		–

Article No.	Diagnostics interface	ASi Safety outputs are supported	Number of ASi circuits Safety Monitor	Max. number of release circuits	Configuration blocks
BWU2000	serial	yes	2	16	256 devices
BWU2186	serial	yes	2	16	256 devices
BWU2205	Ethernet	yes	2	16	256 devices

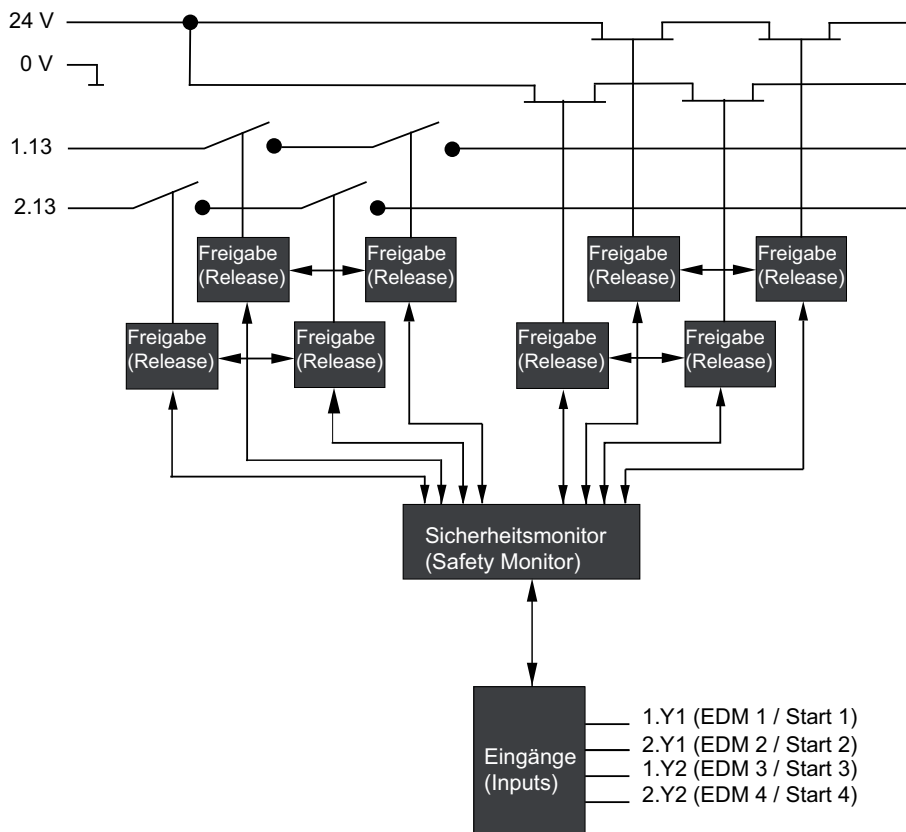
## Safety Monitor block diagram BWU2186, BWU2205



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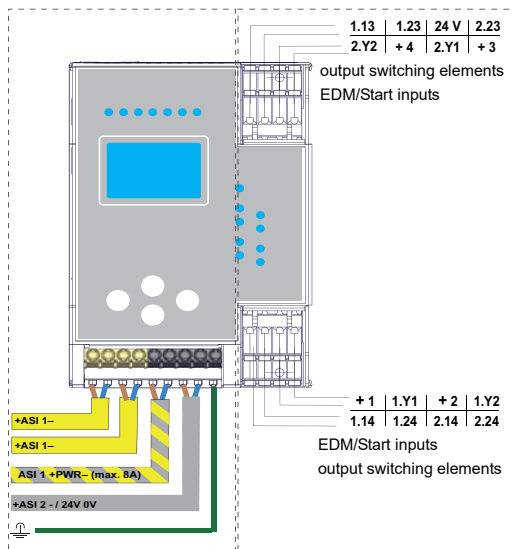


Safety Monitor block diagram BWU2000

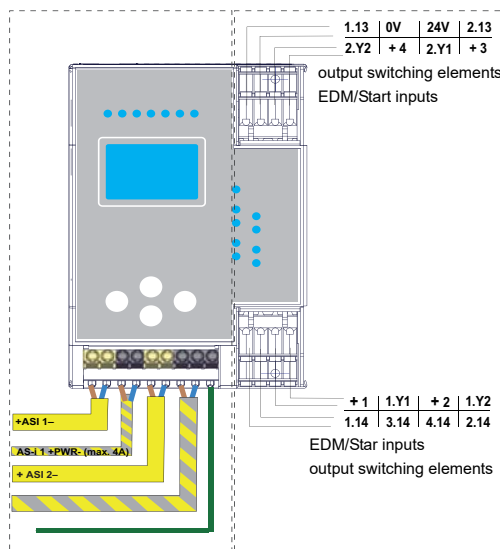


## Connections: Safety Monitor

BWU2186, BWU2205



BWU2000



## Accessories:

- Safe contact expander, 1 o 2 independent channels (art. no. BWU2548 / BWU2539)
- ASi Power Supply 4 A (art. no. BW1649) / ASi Power Supply 8 A (art. no. BW1997)

### BWU2186, BWU2000:

- ASIMON 3 G2 and ASi Control Tools with serial cable for ASi Master/Monitors in Stainless Steel (art. no. BW2071)

### BWU2205:

- Software ASIMON 3 G2 and ASi Control Tools (art. no. BW2501)



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