Safety Basic Monitors

Safety Basic Monitors

2 fast 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 AS-i outputs are supported
- max. 8 independent AS-i outputs
  multiple safe AS-i 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 commu-nication	Fieldbus interface	1 power supply, 1 gateway for 2 AS-i networks, inexpensive power supplies	Diagnostic and configuration interface [1]	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 fast electronic safe output	max. 8, max. 991 in max configuration	Safe Link	Signaling contacts	yes, max. 0,5 A/AS-i network, max. 8 A with AS-i power supply	Ethernet diagnostic + Modbus TCP [2] diagnostic	**BWU2852**
	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 fast electronic safe output	max. 8	–	Signaling contacts	yes, max. 0,5 A/AS-i network, max. 8 A with AS-i power supply	USB	**BWU2700**
	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 fast electronic safe output	max. 8	–	AS-i monitors	no, max. 8 A/AS-i network	USB	**BWU2567**

[1] **Diagnostic and configuration interface**
"USB": Access to AS-i Master and Safety Monitor with Bihl+Wiedemann proprietary software by using the USB interface.
"Ethernet diagnostic + Modbus TCP diagnostic": Access to AS-i 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
Connection			
Connection	COMBICON clamps		
Length of connector cable	unlimited [1]		
Safety Monitor			
Respond delay	< 40 ms		
AS-i Master			
AS-i Master	integrated		
Interface			
Diagnostic and configuration interface	USB		Ethernet diagnostic + Modbus TCP diagnostic
	chip card slot		

Safety Basic Monitors

Article no.	BWU2567	BWU2700	BWU2852
AS-i			
Voltage	30 V (18 ... 31,6 V)		
Max. current consumption	200 mA [2]		
Max. current with internal decoupling out of AUX	–	500 mA [2], [3]	
AUX			
Voltage	24 V (20 ... 30 V) (PELV)		
Max. current consumption	max. 4 A		
Input			
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 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		
Output			
Number	2 (4) output switching elements; semiconductor outputs (output circuits 1 and 2) max. contact load: 700 mA_{DC-13} at 24 V [2]		
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) [2]		–
Test pulse	if output is on: minimum interval between 2 test pulses: 250 ms (from safety version 4.3); maximum pulse width 1 ms		
Display			
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 AS-i M (green/yellow/red)	state of AS-i 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		
Environment			
Applied standards	EN 60529 EN 61508 EN 62061 EN 61131 EN ISO 13849-1		
Operation altitude	max. 2000 m		
Ambient temperature	0 °C … +55 °C		-30 °C … +55 °C [4]
	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	≥ 500 V		
Weight	160 g		
Dimensions (W / H / D in mm)	22,5 / 99 / 114		

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(1) Loop resistance ≤ 150 Ω

(2)

Derating for total current at power supply out of AUX (24 V)

$\Sigma\,I_{AUX}$ [A]

3,5

2,0

T_{amb} [°C]

40   55
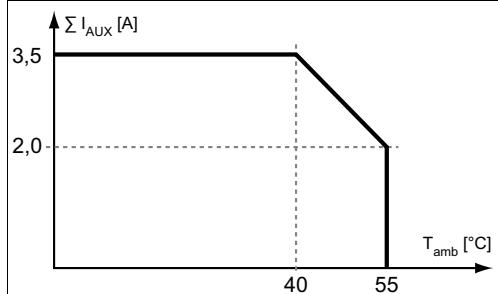
(3)

Derating for AS-i decoupling out of AUX (BWU2852 only)

I_{AS-i} [mA]

500

400

T_{amb} [°C]

40   55
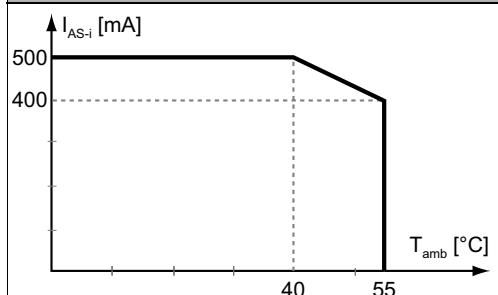
(4) temperature range up to -30°C from Ident.No.≥16254.

Article no.	BWU2567	BWU2700	BWU2852
AS-i Safety Monitor			
Safety Monitor	Safety Basis Monitor, successor for AS-i consortial Safety Monitor, replacement compatible	Safety Basis Monitor, with extended features	
Optimized to AS-i Monitor operations	yes	no	
Release circuits	8 additionally 8 release circuits (9 ... 16) for actuating standard AS-i outputs		
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
Electrical data			
Power supply decoupling unit	–	integrated	

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Wiring rules

	Push-in terminals
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: 0,2 ... 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

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$_{ext.out}$	semiconductor output 1
		2.14$_{ext.out}$	semiconductor output 2
		0 V$_{ext.out}$	ground for semiconductor output
		AS-i+, AS-i-	connection to the AS-i Bus
		AUX+$_{ext.in}$, AUX-$_{ext.in}$	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)**
- **AS-i Safety 4I/2O Module, 4 x 2 channels safety inputs and 2 fast electronic safety outputs in IP20 (art. no. BWU2314) as supplementary module**
- **AS-i Speed Monitor (art. no. BWU2427 / BWU2849) as supplementary module**
- **USB cable for Safety Basic Monitor (art. no. BW2530)**

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