

# AS-i 3.0 Sercos Gateways with integrated Safety Monitor

## AS-i 3.0 Sercos Gateways with integrated Safety Monitor

### 2 master, Sercos slave

- switch integrated

### up to 32 release circuits

- up to 6 release circuits SIL 3, cat. 4 on the Monitor

### Safe AS-i outputs are supported

- up to 64 independent AS-i outputs  
Multiple safe AS-i outputs possible via a single AS-i address

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

### Chip card for storage of configuration data

### AS-i Power24V capable

- The device can be operated directly on a 24 V (PELV) power supply
- with integrated data coupling coils and adjustable self-resetting fuses for safe use also of powerful 24 V power supplies



(figure similar)



Figure	Type	Inputs Safety, expandable to	Outputs Safety, SIL 3, cat. 4	Safety outputs, independent according to SIL 3, expandable to	Safety communication	Number of AS-i networks, number of AS-i Master <sup>1</sup>	1 power supply, 1 gateway for 2 AS-i networks, inexpensive power supplies <sup>2</sup>	Diagnostic and configuration interface <sup>3</sup>	Art. no.
	Safety, Sercos	max. 62 x 2 channels	6 release circuits; 6 x fast electronic safe outputs	max. 64	CIP Safety over Sercos	2 AS-i networks, 2 AS-i masters	yes, max. 4 A/AS-i network	Ethernet diagnostic	<b>BWU2758</b>

<sup>1</sup> **Number of AS-i networks, number of AS-i Master**  
**"Double Master"**: 2 AS-i networks, 2 AS-i Masters.  
**"Optional AS-i Safety coupling circuit"**: 2 AS-i networks, 1 AS-i Master.

<sup>2</sup> **1 power supply, 1 gateway for 2 AS-i networks, inexpensive power supplies**  
**"yes, max. 4 A/AS-i network"**: Cost-effective power for 2 AS-i networks with 1 power supply (optionally supply of multiple Single Gateways by 1 power supply). Operation with short cable lengths with standard 24 V power supply possible.

<sup>3</sup> **Diagnostic and configuration interface**  
**"Ethernet fieldbus + Ethernet diagnostic"**: Access to AS-i Master and Safety Monitor with Bihl+Wiedemann software by using the Ethernet diagnostic interface or Ethernet fieldbus interface.

(GSD, GSDML, ... file for the Gateway is built into the web server)

# AS-i 3.0 Sercos Gateways with integrated Safety Monitor

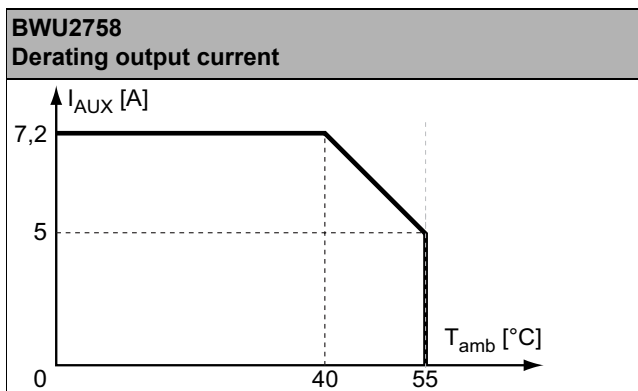
<b>Article no.</b>	<b>BWU2758</b>
<b>Interface</b>	
Ethernet interface	2 x RJ-45: 100MBaud, 2-Port-Switch, Sercos III
Baud rates	100 MBaud
<b>AS-i</b>	
Cycle time	150 $\mu$ s * (number of slaves + 2)
Operating voltage	AS-i voltage 30 V <sub>DC</sub>
<b>Display</b>	
LCD	indication of slave addresses and error messages in plain text
LED power	power on
LED Sercos	Sercos communication active
LED config error	configuration error
LED U AS-i	AS-i voltage o.k.
LED AS-i active	AS-i normal operation active
LED prg enable	automatic addresses programming enabled
LED prj mode	configuration mode active
LED AUX	auxiliary power
LEDs SI1 ... SI6	state of inputs: LED off: open LED on: closed
LEDs SO1 ... SO6	state of outputs: LED off: open LED on: closed
<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.
Applied standards	EN 62026-2 EN 61000-6-2 EN 61000-6-4 EN 62061, SIL 3 EN 61508, SIL 3 EN ISO 13849-1, PLe
<b>Environment</b>	
Operating altitude	2000 m
Ambient temperature	0 °C ... +55 °C
Storage temperature	-25 °C ... +85 °C
Housing	stainless steel, for DIN rail mounting
Protection category (EN 60529)	IP20
Maximum tolerable shock and vibration stress	according to EN 61131-2
Voltage of insulation	$\geq 500$ V
Weight	800 g
Dimensions (W / H / D in mm)	109 / 120 / 106

# AS-i 3.0 Sercos Gateways with integrated Safety Monitor

<b>Article no.</b>	<b>BWU2758</b>
<b>Safety monitor</b>	
Start delay	< 10 ms
Max. turn-off time	< 40 ms
Card slot	chip card for storage of configuration data
<b>Connection</b>	
Connection	COMBICON
Length of connector cable	unlimited <sup>1</sup>
<b>Input</b>	
Inputs Safety, SIL3, cat. 4	3 x 2 channels or
Inputs digital, EDM	up to 6 standard inputs
Switching current	statical 4 mA at 24 V, dynamic 15 mA at 2.4V (T=100 µs)
Power supply	out of AUX
Tolerated test pulse	adjustable
<b>Output</b>	
Number of release circuits on the monitor	6
Outputs	semiconductor output max. contact load: 1,2 A <sub>DC-13</sub> at 30 V, $\Sigma = 7,2 \text{ A in sum}^2$
Power supply (semiconductor outputs)	out of AUX
Test pulse (semiconductor outputs)	if output is on: minimum interval between 2 test pulses: 250 ms; maximum pulse width 1 ms

<sup>1</sup> loop resistance  $\leq 150 \Omega$

<sup>2</sup>



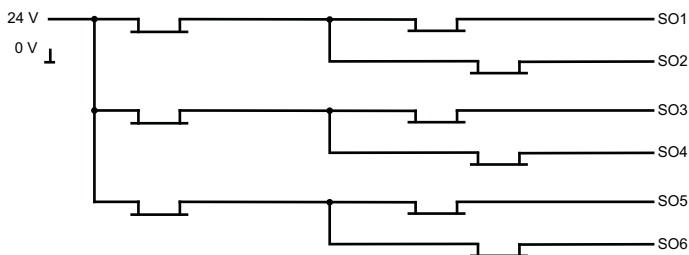
Article no.	Operating current		
	master power supply, approx 300 mA out of AS-i network	master power supply, max. 300 mA out of AS-i circuit 1 (approx. 70 mA ... 300 mA), max. 300 mA out of AS-i circuit 2 (approx. 70 mA ... 300 mA); in sum max. 370 mA	Version „1 Gateway, 1 power supply for 2 AS-i circuits“, ca. 350 mA (PELV voltage)
<b>BWU2758</b>	-	-	•

# AS-i 3.0 Sercos Gateways with integrated Safety Monitor

	BWU2758
Redundant power supply out of AS-i: all fundamental functions of the device remain available even in case of power failure in one of the two AS-i networks	-
Current measurement of the AS-i circuits	•
Self-resetting adjustable fuses	•
AS-i earth fault monitor distinguishes between AS-i cable and sensor cable	•
In version „1 gateway, 1 power supply for 2 AS-i circuits“: only 1 gateway + 1 AS-i power supply is needed for both 2 AS-i circuits	•

## Safety outputs block diagram

### BWU2758:



## Variations of terminal configuration

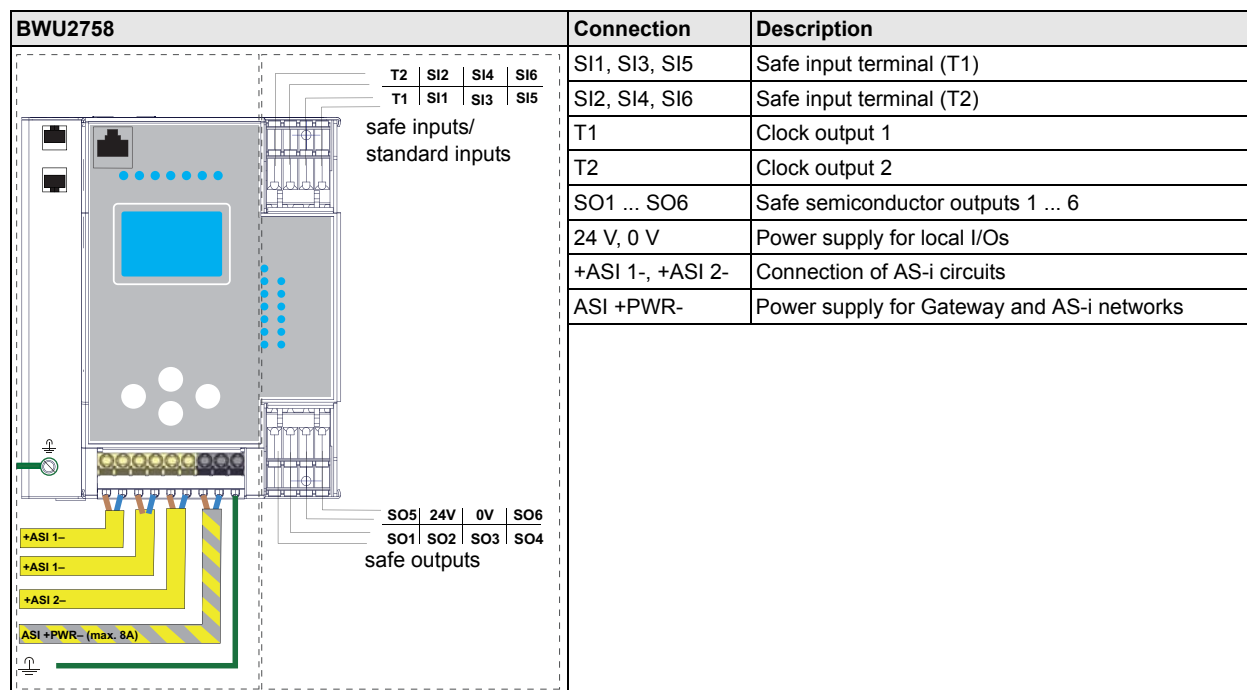
### BWU2758:

Terminals	Safe output	Safe input for mechanical contacts in combination with T1, T2	Safe antivalent input	Safe electronic input	Standard input
SI1,2	-	•	•	•	•
SI3,4	-	•	•	•	•
SI5,6	-	•	•	•	•
SO1,2 <sup>1</sup>	•	•	•	-	•
SO3,4 <sup>1</sup>	•	•	•	-	•
SO5,6 <sup>1</sup>	•	•	•	-	•

<sup>1</sup> If outputs are configured as inputs, the input current has to be limited by an external element at  $\leq 100$  mA.

# AS-i 3.0 Sercos Gateways with integrated Safety Monitor

## Connections: Gateway + Safety Monitor:



## Accessories:

- Safe contact expander, 1 or 2 independent channels (art. no. BWU2548 / BWU2539)
- ASIMON 3 G2 and AS-i Control Tools with serial cable for AS-i Master/Monitors in Stainless Steel (art. no. BW2071)
- AS-i Power Supply 4 A (art. no. BW1649) / AS-i Power Supply 8 A (art. no. BW1997)