

ASi-5/ASi-3 PROFIsafe via PROFINET Gateway with integrated Safety Monitor

ASi-5 – Great data bandwidth, short cycle times

Compatible with all ASi generations

Safety Monitor supports ASi-5 Safety and ASi-3 Safety

PROFIsafe and Safe Link in one device

- up to 450 devices

2 ASi-5/ASi-3 Master, PROFINET node

- ASi Safety input nodes report via PROFIsafe
- ASi Safety output nodes switch via PROFIsafe

Safe ASi outputs are supported

- up to 32 independent ASi outputs
Multiple safe ASi outputs possible via a single ASi address

OPC UA interface and REST API for IIoT applications

Integrated web server for simple diagnostics and maintenance

Selection of Mode of Safe Operation


Applications up to category 4/PLe/SIL 3

Chip card for storage of configuration and additional data



(Figure similar)



Figure	Fieldbus Interface	Safety communication	Inputs Safety ⁽¹⁾	Outputs Safety, SIL 3, cat. 4	Inputs safety, expandable to	Safety outputs, independent according to SIL 3, expandable to	ASi Safety	Number of ASi networks, number of ASi Master ⁽²⁾	Integrated decoupling, ASi current measurement in the gateway ⁽³⁾	Diagnostic and configuration interface ⁽⁴⁾	Article No.
	PROFINET, OPC UA	PROFIsafe (F-CPU) + Safe Link	-	-	max. 62 x 2 channels, 1922 in max. configuration	max. 64, 1984 in max. configuration	ASi-5 Safety and ASi-3 Safety compatible	2 ASi networks, 2 ASi-5/ASi-3 Masters	yes, max. 4A/ASi network	Ethernet fieldbus; Ethernet diagnostics	BWU3973

- Inputs Safety**
Safe inputs can be configured as 1-channel or 2-channel depending on the desired application or PL and SIL level. Suitable for applications up to category 4/PLe/SIL3.
- Number of ASi networks, number of ASi Master**
„Double Master“: 2 ASi networks, 2 ASi-5/ASi-3 Masters.
- Integrated decoupling, ASi current measurement in the gateway**
"yes, max. 4A/ASi network": Data decoupling integrated in the gateway. Cost-effective power for 2 ASi 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.
- Diagnostic and configuration interface**
"Ethernet fieldbus + Ethernet diagnostic": Access to ASi master and safety monitor via Bihl+Wiedemann proprietary software over Ethernet diagnostics interface or Ethernet fieldbus interface.
The latest version of the device description file of the gateway with integrated safety monitor is available in the "Downloads" section of the respective device.

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Article no.		BWU3973
Fieldbus Interface		
Type	PROFINET; 2 x RJ-45, integrated 2-Port-Switch IRT capability Conformance Class B, integrated switch complies with Conformance Class C (IRT capability)	
Baud rates	10/100 MBaud	
IT interface	OPC UA server, web server, REST API	
Safety communication	PROFIsafe (F-CPU) + Safe Link	
Function	PROFINET IO Device Media Redundancy Protocol (MRP) Shared Device	
Card slot	chip card (BW4785) for storage of configuration and additional data	
Diagnostic Interface		
Type	Ethernet; RJ-45 acc. to IEEE 802.3	
Baud rates	10/100 MBaud half duplex/ full duplex	
IT interface	OPC UA server, web server, REST API	
Safety communication	Safe Link	
ASi		
ASi specification	ASi-5 + ASi-3	
Cycle time	Cycle time ASi-5 (constant): 1,27 ms for 384 bits input data + 384 bits output data	
	Cycle time ASi-3 (variable): 150 μ s * (number of ASi-3 nodes + 2)	
ASi Safety	ASi-5 Safety and ASi-3 Safety compatible	
Operating voltage	30 V _{DC} (20 ... 31,6 V) (PELV voltage)	
Operating current	300 mA	
Current per ASi circuit	up to 30 °C	4 A per ASi circuit
	at 40 °C	4 A per ASi circuit
	at 55 °C	4 A per ASi circuit
ASi Power24V capability ⁽¹⁾	yes	
Length of the ASi line	when supplied via 24 V power supply unit: max. 50 m when supplied via 30 V power supply unit: max. 100 m for ASi-3 / max. 200 m for ASi-5	
AUX		
Operating voltage	–	
Max current consumption	–	
Display		
LCD	indication of ASi addresses and error messages in plain text	
LED PROFINET (green / red)	green: PROFINET communication active red: no PROFINET communication	
LED power (green)	power on	
LED config error (red)	configuration error	
LED U ASi (green)	ASi voltage OK	
LED ASi active (green)	ASi normal operation active	
LED prg enable (green)	automatic address programming enabled	
LED prj mode (yellow)	configuration mode active	
LED AUX (green)	–	
UL-specifications (UL508)		
External protection	An isolated voltage source with a PELV/SELV voltage ≤ 30 V _{DC} must have internal or external current limiting	
In general	UL mark does not provide UL certification for any functional safety rating or aspects of the above devices.	

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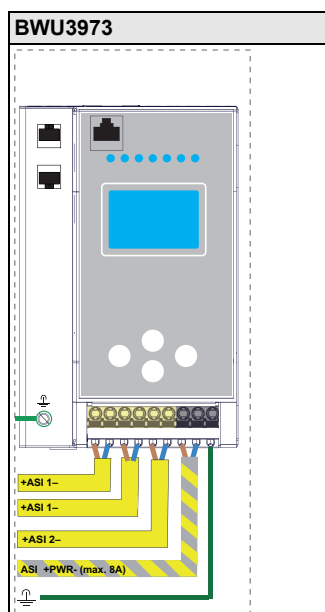
Article no.	BWU3973
Environment	
Applied standards	EN 60529 EN 62026-2 EN 61000-6-2 EN 61000-6-4 EN 62061, SIL 3 EN 61508, SIL 3 EN ISO 13849-1, Performance-Level e EN ISO 13849-2
Operating altitude	max. 2000 m
Ambient temperature	-25 °C ... +55 °C (no condensation permitted)
Storage temperature	-25 °C ... +85 °C
Housing	stainless steel, for DIN rail mounting
Pollution degree	2
Protection category	IP20
Maximum tolerable shock and vibration stress	according EN 61131-2
Voltage of insulation	≥ 500 V
Weight	800 g
Dimensions (W / H / D in mm)	85 / 120 / 106

(1) ASi Power24V

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

	BWU3973
Data decoupling integrated in the gateway	•
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	-
Current measurement of the ASi circuits	•
Self-resetting adjustable fuses	•
ASi earth fault monitor distinguishes between ASi cable and sensor cable	•
Cost-effective power for 2 ASi networks with 1 power supply	•

Connections



ASi-5/ASi-3 PROFI-safe via PROFINET Gateway with integrated Safety Monitor



Accessories:

- Safe contact expander, 1 or 2 independent channels (art. no. BWU2548 / BWU2539)
- Chip card for storage of configuration and additional data, memory capacity ≥ 16 GB (art. no. BW4785)
- Bihl+Wiedemann Safety Suite - Safety Software for Configuration, Diagnostics and Commissioning (art. no. BW2916)
- Power supplies, e.g.: 30 V power supply, 4 A, 1 phase (art. no. BW4218), 30 V power supply, 8 A, 1 phase (art. no. BW4219), 30 V power supply, 8 A, 3 phases (art. no. BW4220), 30 V Power Supply, 16 A, 1 phase (art. no. BW4221), 30 V Power Supply, 16 A, 3 phases (art. no. BW4222) (for further power supply units visit www.bihl-wiedemann.de/en/products/accessories/power-supplies)
- PROFINET Master Simulators Licenses (art. no. BW4754, BW4755)