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

ASi-5 – Great data bandwidth, short cycle times

Compatible with all ASi generations

Safe Link

1 ASi-5/ASi-3, PROFINET device

Safe ASi outputs are supported
- up to 64 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 data

(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 ASi networks, number of ASi Master [1]	Integrated decoupling, ASi current measurement in the gateway [2]	Diagnostic and configuration interface [3]	Article No.
	Safety, PROFINET, ASi-5 / ASi-3	max. 31 x 2 channels, max. 1891 in max. configuration	–	max. 64, max. 1984 in max. configuration	Safe Link	1 ASi network, 1 ASi-5 /ASi-3 Master	yes, max. 4 A/ ASi network	Ethernet fieldbus; Ethernet diagnostics	**BWU3992**

[1] **Number of ASi networks, number of ASi Master**
"Single Master": 1 ASi network, 1 ASi Master.

[2] **Integrated decoupling, ASi current measurement in the gateway**
"yes, max. 4 A/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.

[3] **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 is available in the "Downloads" section of the respective device.

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Article no.	BWU3992
Fieldbus interface	
Type	PROFINET 2 x RJ-45, integrated 2-Port-Switch, IRT capability
Conformance Class	Class B integrated switch complies with Class C (IRT capability)
IT Interface	OPC UA server, integrated web server, REST API
Baud rates	10/100 MBaud
Function	PROFINET IO Device Media Redundancy Protocol (MRP) Shared Device
Card slot	Chip card (512 KB) for storage of configuration data
Dianostic interface	
Type	Ethernet; RJ-45 acc. to IEEE 802.3
Baud rates	10/100 MBaud half-duplex or full-duplex
Safety communication	Safe Link
ASi	
ASi specification	ASi-3 + ASi-5
Cycle time	**Cycle time ASi-3 (variable):** 150 µs * (number of ASi-3 nodes + 2) **Cycle time ASi-5 (constant):** 1,27 ms for 384 bits input data + 384 bits output data
Operating voltage	30 V_{DC} (20 ... 31,6 V) (PELV voltage)
Operating current	approx. 300 mA

Current per ASi network		
	up to 30 °C	4 A per ASi network
	at 40 °C	4 A per ASi network
	at 55 °C	4 A per ASi network

ASi Power24V capability [1]	yes
Length of ASi line	with supply via 24 V power supply: max. 50 m with supply via 30 V power supply: max. 100 m for ASi-3 / max. 200 m for ASi-5
AUX	
Operating voltage	–
Max current consumption	–
Display	
LCD	menu, indication of ASi addresses and error messages in plain text
LED power (green)	power on
LED PROFINET (green/red)	green: PROFINET communication active red: no PROFINET communication
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 addresses programming enabled
LED prj mode (yellow)	configuration mode active
LED AUX (yellow)	–
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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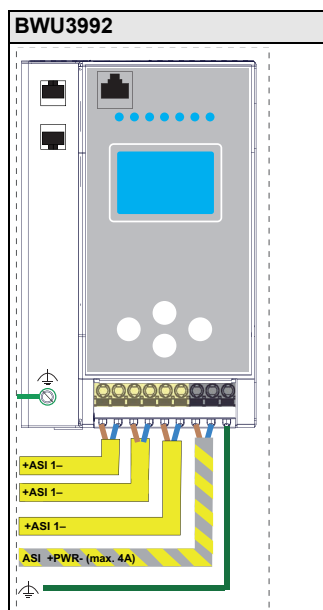
Article no.	BWU3992
Ambient	
Applied standards	EN 62026-2 EN60529 EN 61000-6-2 EN 61000-6-4 EN 62061, SIL 3 EN 61508, SIL 3 EN ISO 13849-1, Performance-Level e EN ISO 13849-2
Ambient temperature	-25 °C … +55 °C (no condensation permitted)
Storage temperature	-25 °C … +85 °C
Operating altitude	max. 5000 m
Housing	stainless steel, for DIN-rail mounting
Pollution degree	2
Protection category	IP20
Tolerable loading referring to impacts and vibrations	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.

	BWU3992
Current measurement of the ASi circuits	•
Self-resetting adjustable fuses	•
ASi earth fault monitor distinguishes between ASi cable and sensor cable	•
Data decoupling integrated in the gateway.	•

Connections: Gateway:

BWU3992

+ASI 1–
+ASI 1–
+ASI 1–
ASI +PWR- (max. 4A)

Accessories:

- **Safe contact expander, 1 or 2 independent channels (art. no. BWU2548 / BWU2539)**
- **Chip card, memory capacity 512 kB (art. no. BW4055)**
- **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)**

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