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

Bihl+Wiedemann

ASi-5 – Great data bandwidth, short cycle times

Compatible with all ASi generations

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

Safety communication via Safe Link

2 ASi-5/ASi-3 Masters, EtherCAT-Device

OPC UA interface and REST API for IIoT applications

integrated web server for simplified diagnostics

Safe speed and standstill monitoring

Applications up to category 4/PLe/SIL 3

Chip card for storage of configuration and additional data

(figure similar)

safe link · ASi 5 · ASi · c(UL)us LISTED E227214 · C E

Figure	Interface, fieldbus [1]	Safety communication	Inputs Safety [2]	Outputs Safety, SIL 3, cat. 4	ASi-5/ASi-3	ASi Safety	Number of ASi networks, number of ASi Master [3]	Integrated decoupling, ASi current measurement in the gateway [4]	Diagnostic and configuration interface [5]	Art. no.
	EtherCAT, OPC UA	Safe Link	–	–	ASi-5 and ASi-3 compatible	ASi-5 Safety and ASi-3 Safety compatible	2 ASi networks, 2 ASi-5/ASi-3 Masters	yes, max. 4 A/ASi network	Ethernet diagnostic	BWU3981

[1] **Interface, fieldbus**
Communication interface between fieldbus and gateway: interfaces for standardized fieldbus systems in industrial automation.
EtherCat ASi gateway: interface for an EtherCat fieldbus
OPC UA server: interface for the OPC UA communication

[2] **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.

[3] **Number of ASi networks, number of ASi Master**
"Double Master": 2 ASi networks, 2 ASi-5/ASi-3 Masters.

[4] **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.

[5] **Diagnostic and configuration interface**
"Ethernet diagnostic": Access to ASi master and safety monitor via Bihl+Wiedemann proprietary software over Ethernet dianostics 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.	BWU3981
Fieldbus interface	
Type	EtherCAT; RJ-45 acc. IEEE 802.3
Baud rates	100 MBaud
Safety communication	–
IT interface	–
Card slot	chip card (BW4785) for storage of configuration and additional data
Diagnostic interface	
Type	Ethernet; RJ-45 acc. IEEE 802.3
Baud rate	10/100 MBaud half-duplex or full-duplex
Safety communication	Safe Link
IT interface	OPC UA server, web server, REST API
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 µs * (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
ASi Power24V capability [(1)]	yes
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 ect run (green)	EtherCAT communication activ
LED config error (red)	configuration error
LED U ASi (green)	ASi voltage o.k.
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 (green)	–
LEDs SI1 ... SI6 (yellow)	–
LEDs SO1 ... SO6 (yellow)	–
UL-specifications (UL508)	
In general	UL mark does not provide UL certification for any functional safety rating or aspects of the above devices.

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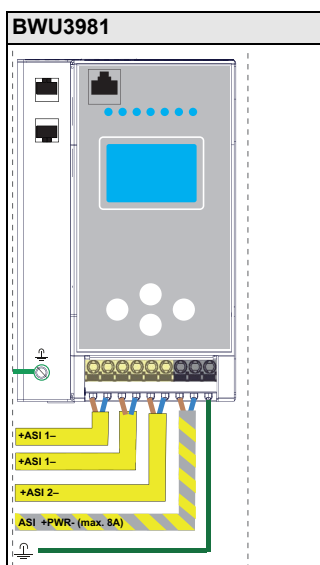
Article no.	BWU3981
Environment	
Standards	EN 62026-2 EN 60529 EN 61000-6-2 EN 61000-6-4 EN 62061, SIL 3 EN 61508, SIL 3 EN ISO 13849-1, Performance-Level e EN ISO 13849-2
Operating altitude	2000 m
Ambient temperature	-25 °C … +55 °C (no condensation permitted)
Storage temperature	-25 °C … +85 °C
Housing	stainless steel, for DIN rail mounting
Pollution Degree	2
Protection category	IP20
Tolerable loading referring to humidity	according to EN 61131-2
Maximum tolerable shock and vibration stress	according to 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.

	BWU3981
Data decoupling integrated in the gateway	●
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

BWU3981

+ASI 1–
+ASI 1–
+ASI 2–
ASI +PWR- (max. 8A)

Accessories:

- **Safe contact expander, 1 or 2 independent channels (art. no. BWU2548 / BWU2539)**
- **Chip card for storage of configuration and additional data (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_)**

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