# 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 server and
integrated web server for simplified diagnostics**

**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] | 1 power supply, 1 gateway for 2 ASi networks, inexpensive power supplies [2] | Diagnostic and configuration interface [3] | Article No. |
|---|---|---|---|---|---|---|---|---|---|
| | Safety, PROFI-NET, 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] **1 power supply, 1 gateway for 2 ASi networks, inexpensive power supplies**
   **"yes, max. 4 A/ASi network":** Cost-effective power for 2 ASi networks with 1 power supply (optionally supply of multiple Single Gateways by 1 power supply).

[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<br>2 x RJ-45, integrated 2-Port-Switch, IRT capability |
| Conformance Class | | Class B<br>integrated switch complies with Class C (IRT capability) |
| OPC UA Interface | | OPC UA server + integrated web server |
| Baud rates | | 10/100 MBaud |
| Function | | PROFINET IO Device<br>Media Redundancy Protocol (MRP)<br>Shared Device |
| Card slot | | Chip card (512 KB) for storage of configuration data |
| **Dianostic interface** | | |
| Type | | Ethernet;<br>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):**<br>150 µs * (number of ASi-3 nodes + 2)<br>**Cycle time ASi-5 (constant):**<br>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<br>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<br>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 source with a secondary open circuit voltage of ≤30 $V_{DC}$ has to be protected with a 3 A maximum over current. 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. |

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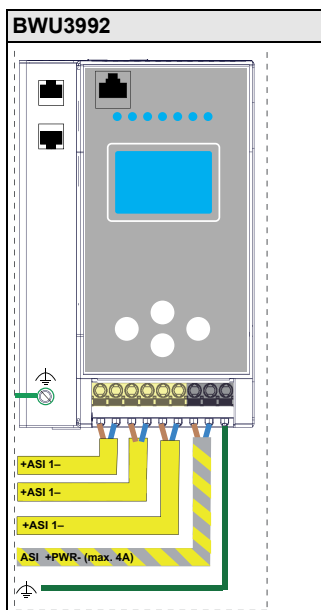| Article no. | BWU3992 |
|---|---|
| **Ambient** | |
| Applied standards | EN 62026-2 EN60529 EN 61000-6-2 EN 61000-6-4 EN 62061, SIL 3 EN 61508, SIL 3 EN ISO 13849-1, Performance-Level e EN ISO 13849-2 |
| Ambient temperature | -25 °C … +55 °C (no condensation permitted) |
| Storage temperature | -25 °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** | • |
| **In version „1 gateway, 1 power supply for 2 ASi circuits": only 1 gateway + 1 ASi power supply is needed for both 2 ASi circuits** | • |

## Connections: Gateway:



BWU3992

+ASI 1−
+ASI 1−
+ASI 1−
ASI +PWR− (max. 4A)

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**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/prod-ucts/accessories/power-supplies_)**

- **PROFINET Master Simulators Licenses (art. no. BW4754, BW4755)**

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