

AS-i 3.0 PROFINET-Gateways in Stainless Steel

PROFINET IO

- offers IRT-technology
- 1 integrated Switch

OPC UA server

Integrated web server for simple diagnostics

Recognition of duplicate AS-i addresses

AS-i Earth Fault Detector integrated


AS-i Noise Detector integrated

Optional Control III, programming in C



(figure similar)



Figure	Type	Model	Fieldbus interface ⁽¹⁾	Number of AS-i networks, number of AS-i Master ⁽²⁾	1 power supply, 1 gateway for 2 AS-i networks, inexpensive power supplies ⁽³⁾	Diagnostic and configuration interface ⁽⁴⁾	Recognition of duplicate AS-i addresses ⁽⁵⁾	AS-i fault detector ⁽⁶⁾	Programming in C ⁽⁷⁾	Article no.
	PROFINET AS-i	Gateway	PROFINET, OPC UA	2 AS-i networks, 2AS-i Masters	yes, max. 4 A/ AS-i network	Ethernet fieldbus	yes	yes	optional	BWU3759
	PROFINET AS-i	Gateway	PROFINET, OPC UA	2 AS-i networks, 2AS-i Masters	no, max. 8 A/AS-i network, redundant supply	Ethernet fieldbus	yes	yes	optional	BWU3844
	PROFINET AS-i	Gateway	PROFINET, OPC UA	1 AS-i network, 1 AS-i Master	no, max. 8 A/ AS-i network	Ethernet fieldbus	yes	yes	optional	BWU3758

(1) Fieldbus interface

Communication interface between fieldbus and gateway: interfaces for standardized fieldbus systems in industrial automation.
PROFINET AS-i Gateway: interface for a PROFINET fieldbus

OPC UA server: interface for the OPC UA communication.

(2) Number of AS-i networks, number of AS-i Master

"Single Master": 1 AS-i network, 1 AS-i Master.

"Double Master": 2 AS-i networks, 2 AS-i Masters.

(3) 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.

"no, max. 8 A/AS-i network, redundant supply": 1 power supply per AS-i network. Gateway is powered in normal operation from one of the two AS-i power supplies. Should one AS-i power supply fail, switching to the other AS-i power supply allows all the diagnostics functions to be maintained and the unaffected AS-i network continues to operate.

"no, max. 8 A/AS-i network": 1 power supply per AS-i network.

(4) Diagnostic and configuration interface

"Ethernet fieldbus": Access to AS-i Master and Safety Monitor with Bihl+Wiedemann software by using the Ethernet fieldbus interface.

The latest version of the device description file of the gateway is available in the "Downloads" section of the respective device.

(5) Recognition of duplicate AS-i addresses

Detects whether the same address has been assigned to two AS-i slaves. Frequent error when using a handheld addressing device.

(6) AS-i fault detector

Checks the AS-i line for interference effects such as noise, external voltages, ...

(7) Programming in C

Using a C-program offers the possibility to run mini-PLC functions with a gateway.

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Article no.	BWU3758	BWU3844	BWU3759
Interface			
PROFINET interface	2 x RJ-45, integrated 2-Port-Switch, IRT capability		
OPC UA interface	OPC UA server		
Conformance Class	Class B integrated switch complies with Class C (IRT capability)		
Baud rate	100 MBaud		
Function	PROFINET IO Device Media Redundancy Protocol (MRP) Shared Device		
Card slot	Chip card for storage of configuration data		
AS-i			
AS-i specification	3.0		
Cycle time	150 μ s * (number of slaves + 2)		
Operating voltage	30 V _{DC} (20 ... 31,6 V) (PELV voltage)		
Length of AS-i cable	max. 100 m		
AS-i Power24V capability ⁽¹⁾	no		yes
Display			
LCD	menu, AS-i indication of slave addresses, error messages in plain text		
LED power (green)	power ON		
LED PROFINET (green/red)	green: PROFINET communication active red: PROFINET communication not active		
LED config error (red)	configuration error		
LED U AS-i (green)	AS-i voltage o.k.		
LED AS-i active (green)	AS-i normal operation active		
LED prg enable (green)	automatic address programming enabled		
LED prj mode (yellow)	in configuration mode		
UL-specifications (UL508)			
External protection	An isolated source with a secondary open circuit voltage of ≤ 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.		
Environment			
Applied standards	EN 60529 EN 61000-6-2 EN 61000-6-4		
Operating altitude	max. 2000 m		
Operating temperature	0 °C ... +55 °C		
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	500 g		
Dimensions (W / H / D in mm)	85 / 120 / 83		

⁽¹⁾ **AS-i 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.

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Article no.	Operating current		
	Master power supply, ca. 200 mA out of AS-i circuit	Master power supply, max. 200 mA out of AS-i circuit 1 (ca. 70 mA ... 200 mA), max. 200 mA out of AS-i circuit 2 (ca. 70 mA ... 200 mA); in sum max. 270 mA	Version „1 gateway, 1 power supply for 2 AS-i networks“, approx. 250 mA (PELV voltage)
BWU3758	•	–	–
BWU3844	–	•	–
BWU3759	–	–	•

Article no.	BWU3758	BWU3844	BWU3759
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 for 2 AS-i networks	–	–	•

Accessories:

- Diagnostic Software measurements (art. no. BW2902)
- PROFINET Master Simulator (art. no. BW3035, BW3057)
- Control III, Programming in C (art. no. BW2582)
- Power supplies, e.g.: AS-i power supply, 4 A (art. no. BW1649), AS-i power supply, 8 A (art. no. BW1997)
(further power supply units can be found at www.bihl-wiedemann.de/en/products/accessories/power-supplies)