

Active Distributor ASi Safety, 1SI/1O



1 x connector for profile cable

Periphery connection via
M12 cable sockets, straight, 8 poles



(Figure similar)

Figure	Inputs Safety	Safety signal inputs	Inputs digital	Outputs digital	Input voltage (sensor supply) ⁽¹⁾	Output voltage (actuator supply) ⁽²⁾	Connection	ASi address ⁽³⁾	Special function	Art. no.
	1 x 2-channels	floating contacts	—	1 x electronic	—	out of ASi	1 x M12 cable socket, straight, 8 poles	1 single address	—	BWU4702

(1) **Input voltage (sensor supply):** inputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, inputs shall not be connected to earth or to external potential.

(2) **Output voltage (actuator supply):** outputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, outputs shall not be connected to earth or to external potential

(3) **ASi address:** 1 AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), Single addresses (max. 31 Single addresses/ASi network), mixed use allowed.
For modules with two ASi nodes the second ASi node is turned off as long as the first ASi node is addressed to address "0".
Upon request, ASi nodes are available with specific ASi address profiles.

Article No.	BWU4702
General data	
Device type	safe input
Connection	
ASi/AUX connection	profile cable and piercing technology
Periphery connection	1 x M12 cable socket, straight, 8 poles
Round cable	1 m
	max. allowed tensile strain 10 N
ASi	
Profile	S-7.B.0, ID1=F
Address	1 single address
Required Master profile	≥M3
As of ASi specification	2.1
Operating voltage	=== 30 V _{DC} (21.6 ... 31.6 V) (SELV/PELV)
Max. current consumption	100 mA
Max. current consumption without sensor/ actuator supply	40 mA
Input	
Number	1 x 2-channels safe input
Safety signal	floating contacts
Switching current	35 mA (T = 40 µs), continuously 5 mA at 24 V
Power supply	out of ASi
Sensor supply	short-circuit and overload protected according to EN 61131-2
Power supply of attached sensors	–
Switching threshold	2 mA, R ≤ 150 Ω
Output	
Number	1 x electronic
Power supply	out of ASi
Output	short-circuit and overload protected according to EN 61131-2
Max. output current	25 mA
Display	
LED ASi/FLT (red/green)	green: ASi voltage OK, ASi node online green/red: ASi voltage on, but ASi node offline green flashing/red: address 0 red/green flashing: peripheral fault ⁽¹⁾ off: no ASi voltage
LEDs S1, S2 (yellow)	state of inputs S1, S2
LED O1 (yellow)	state of output O1

Article No.	BWU4702
Environment	
Applied standards	EN ISO 13849-1 PLe cat4 EN ISO 13849-2 EN 62061 SIL3 EN 62026-2 EN 61000-6-2 EN 61000-6-4 EN 60529
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	yes ⁽²⁾
Operating altitude	max. 2000 m
Ambient temperature	-30 °C ... +60 °C ⁽³⁾
Storage temperature	-25 °C ... +85 °C
Intended environment	for indoor use only ⁽⁴⁾
Housing	plastic, for screw mounting, suitable for cable ducts (installation depth ≥19 mm)
Pollution Degree	2
Protection category	IP67 ⁽⁵⁾
Overvoltage category	II
Tolerable loading referring to humidity	according to EN 61131-2
Maximum tolerable shock and vibration stress	≤15g, T≤11 ms 10 ... 55 Hz, 0,5 mm amplitude
Insulation voltage	≥500 V
Weight	100 g
Dimensions (W / H / D) in mm	60 / 45 / 19

(1) see table "Peripheral fault indication"

(2) The module is suitable for use in passively safe paths as it has no connection to an AUX potential.

(3) Down to -25 °C with flexibly mounted cable, -30 °C only with fixed mounted cable.

(4) Intended environment according to UL certificate for the use in the USA and Canada.

(5) Manufacturer specification, IP rating not evaluated by UL.

UL-specifications (UL61010)	
BWU4702	
Model ⁽¹⁾	PBA.DBA1-4702
In general	UL mark does not provide UL certification for any functional safety rating or aspects of the above devices.
External protection	The supply source to these devices shall meet the requirements of Class 2 of NEC, or Limited Energy of UL/CSA 61010-1, -2-201 or Limited Power Source of UL/CSA 60950/62368-1.

(1) For reference see UL file E227214 "Programmable Controllers "Active Distributor Family""

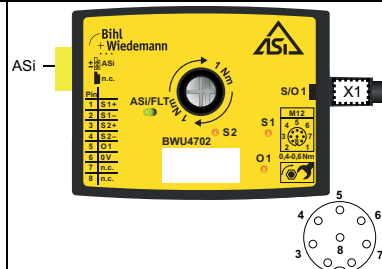
Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU4702	–	•	–

Programming	ASi bit assignment			
	D3	D2	D1	D0
	safe input			
BWU4702	S2	S2	S1	S1
	output			
BWU4702	–	–	–	O1
	parameter bit			
	P3	P2	P1	P0
BWU4702	not used	not used	not used	0= off / 1= on (Watchdog)

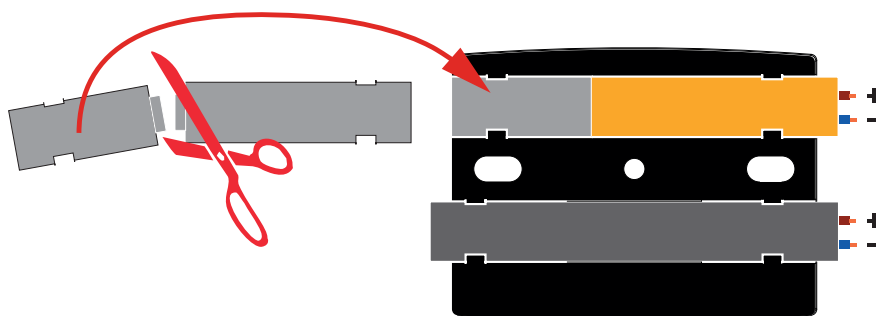
Pin assignment

Signal name	Explanation
Sx+, Sx-	safe input x
Ix	digital input x
Ox	digital output x
24V _{ext out}	power supply, out of external voltage, positive pole (AUX, actuator supply)
0V _{ext out}	power supply, out of external voltage, negative pole (AUX, actuator supply)
24V _{out of ASi}	power supply, out of ASi, positive pole (sensor supply)
0V _{out of ASi}	power supply, out of ASi, negative pole (sensor supply)
ASi+, ASi-	connection to ASi bus
n.c. (not connected)	not connected

Connections: M12 cable sockets, straight, 8 poles

Article no.	connec.	Pin1 (WH)	Pin2 (BN)	Pin3 (GN)	Pin4 (YE)	Pin5 (GY)	Pin6 (PK)	Pin7 (BU)	Pin8 (RD)	
BWU4702	X1	S1+	S1-	S2+	S2-	O1	0 V out of ASi	n.c.	n.c.	

Line termination with sealing profile



⁽¹⁾ Manufacturer specification, IP rating not evaluated by UL.

Accessories:

- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4708)
- Bihl+Wiedemann Safety Suite License - Safety Software for Configuration, Diagnostics and Commissioning (art. no. BW2916)