

2 x connectors for profile cable

Periphery connection via connecting wires



(Figure similar)

Figure	Inputs Safety	Safety signal inputs	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	4 x electronic	out of ASi	out of AUX	2 x round cable/ connecting wires	1 single address	–	BWU5151

(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 nodes the second node is turned off as long as the first node is addressed to address "0".

Upon request, nodes are available with specific ASi address profiles.

Article No.	BWU5151
General data	
Device type	safe input
Connection	
ASi/AUX connection	profile cable and piercing
Periphery connection	2 x round cable/connecting wires
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
AUX	
Operating voltage	24 V _{DC} (20 ... 30 V) (SELV/PELV)
Max. current consumption	max. 1 A
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	4 x electronic
Power supply	out of AUX
Output	short-circuit and overload protected according to EN 61131-2
Max. output current	1 A per output, ∑ (Out) 1 A
Display	
LED ASi/FLT (red/green)	green: ASi voltage on, 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 ... On (yellow)	state of outputs O1 ... O4

Article No.	BWU5151
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	no ⁽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
Housing	plastic, for screw mounting, suitable for cable ducts (installation depth ≥35 mm)
Pollution Degree	2
Protection category	IP67 ⁽⁴⁾
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 / 35

(1) **see table "Peripheral fault indication"**

(2) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

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

(4) Protection category IP67 can only be achieved, if also the cable connector fulfills IP67.

Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU5151	-	•	•

Programming	ASi bit assignment			
	D3	D2	D1	D0
	safe input			
BWU5151	S2	S2	S1	S1
	output			
BWU5151	O4	O3	O2	O1

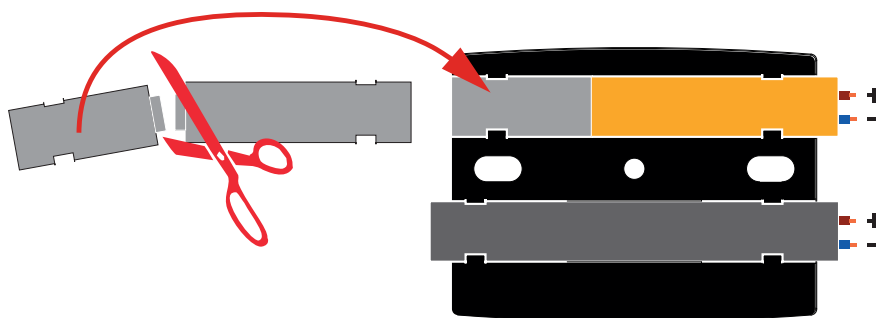
Programming	ASi bit assignment			
	parameter bit			
	P3	P2	P1	P0
BWU5151	not used	not used	0= off / 1= on (peripheral fault if AUX voltage missing)	0= off / 1= on (Watchdog)

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: round cable/connecting wires						
Article no.	connec.	BN	WH	BU	BK	PK
BWU5151	X1	S1+	S2+	S1-	S2-	-
	X2	0V _{ext out}	O1	O2	O3	O4

Line termination with sealing profile



Accessories:

- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)
- Bihl+Wiedemann Safety Suite License - Safety Software for Configuration, Diagnostics and Commissioning (art. no. BW2916)