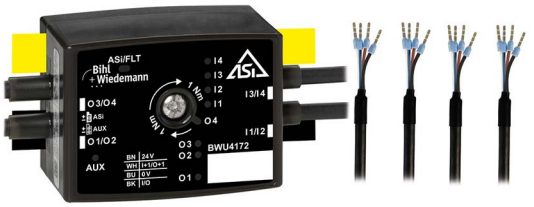
Active Distributors ASi, IP67, 4I/4O

2 x connectors for profile cable

Periphery connection via
4 x round cable/connecting wires



(Figure similar)

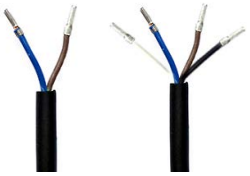
Figure	Type	Inputs digital	Outputs digital	Input voltage (sensor supply) (1)	Output voltage (actuator supply) (2)	ASi connection (3)	Connection (4)	ASi address (5)	Special function	Art. no.
	IP67, depth 35 mm	4	4 x electronic	out of ASi	out of AUX	ASi profile cable	4 x round cable/ connecting wires	1 AB address	–	**BWU4172**

(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 connection:** the connection to ASi as well to AUX (auxiliary 24 V power) is made via yellow resp. black ASi profile cable with piercing technology or via M12 socket (in IP20 via clamps).

(4) **Connection**: further connection options are available on request.

M12 cable socket, angled	M12 cable socket, straight	M8 cable socket, straight	round cable / connecting wires	Push in terminals
PUR line: oil resistant				
				

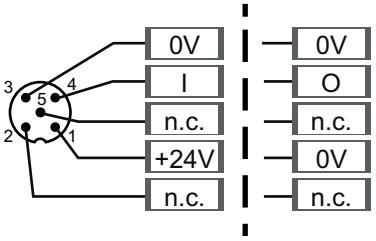
(5) **ASi address:** 1 AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), single addresses (max. 31 single addresses/ASi network), mixed use allowed.
For modules with two ASi nodes the second ASi node is turned off as long as the first ASi node is addressed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

Article No.		BWU4172
General data		
Device type		input/output
Connection		
ASi/AUX connection		profile cable and piercing
Periphery connection		4 x round cable/connecting wires
M12 wiring (1)		–
Round cable		1 m
		max. allowed tensile strain 10 N
ASi		
Profile		S-7.A.7 (ID1=7 fixed)
Address		1 AB slave
Required Master profile		≥M4
As of ASi specification		3
Operating voltage		30 V (18 … 31.6 V)
Max. current consumption		165 mA
Max. current consumption without sensor/ actuator supply		45 mA
AUX		
Operating voltage		24 V (18 … 30 V_{DC})
Max. current consumption		3 A
Input		
Number		4
Power supply		out of ASi
Power supply of attached sensors	up to +40 °C	120 mA (2)
	at +55 °C	80 mA (2)
	at +60 °C	60 mA (2)
Switching threshold		U<5 V (low) U>15 V (high)
Output		
Number		4
Power supply		out of AUX
Max. output current	up to +40 °C	1 A per output, ∑ (Out) ≤3 A (3)
	at +55 °C	1 A per output, ∑ (Out) ≤2 A (3)
	at +60 °C	1 A per output, ∑ (Out) ≤1,5 A (3)
Display		
LED ASI/FLT (red/green)		green: ASi voltage on, slave online green/red: ASi voltage on, but slave offline green flashing/red: address 0 alternating green flashing/red flashing: peripheral fault (4) off: no ASi voltage
LED AUX (green)		on: 24 V_{DC} AUX off: no 24 V_{DC} AUX
LEDs I1 ... In (yellow)		state of inputs I1 ... I4
LED O1 ...On (yellow)		state of outputs O1 ... O4

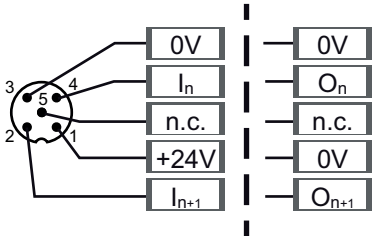
Article No.	BWU4172
Environment	
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529
Can be used in passively safe paths up to SIL3/PLe	yes (5)
Operating altitude	max. 2000 m
Ambient temperature	-30 °C … +60 °C (2) (3) (6)
Storage temperature	-25 °C … +85 °C
Housing	plastic, for screw mounting, suitable for cable ducts (≥35 mm installation depth)
Pollution degree	2
Protection category	IP67 (7)
Maximum tolerable shock and vibration stress	≤15*g*, 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) **M12 wiring:** either as a single–wiring, Y–wiring or mixed-wiring.

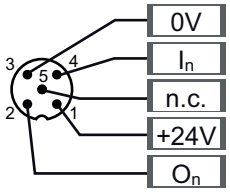
Single-wiring



Y-wiring

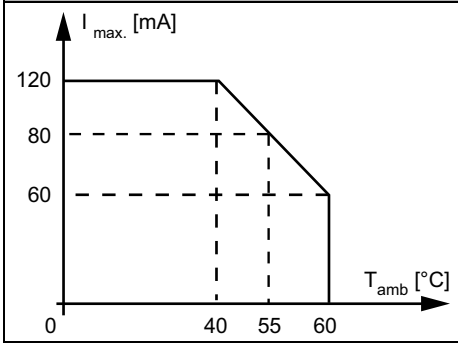


Mixed-wiring



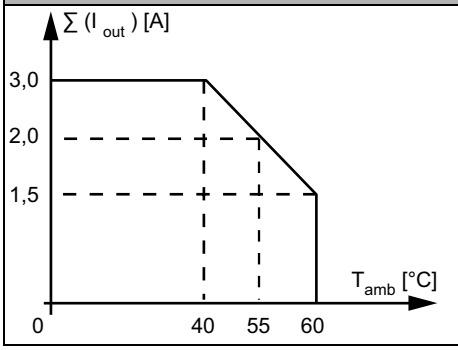
(2)

BWU4172
Derating power supply of attached sensors



(3)

BWU4172
Derating total current of outputs



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

(5) The module is suitable for use in passively safe paths because an exclusion of errors can be assumed for the connection of the two potentials, ASi and AUX.

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

(7) 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
BWU4172	•	–	•

Programming	ASi bit assignment			
	D3	D2	D1	D0
	input			
BWU4172	I4	I3	I2	I1
	output			
BWU4172	O4	O3	O2	O1

Programming	ASi bit assignment			
	parameter bit			
	P3	P2	P1	P0
BWU4172	not used	0= on / 1= off (synchronous I/O mode)	0= off / 1= on (peripheral fault, if AUX missing)	0= off / 1= on (Watchdog)

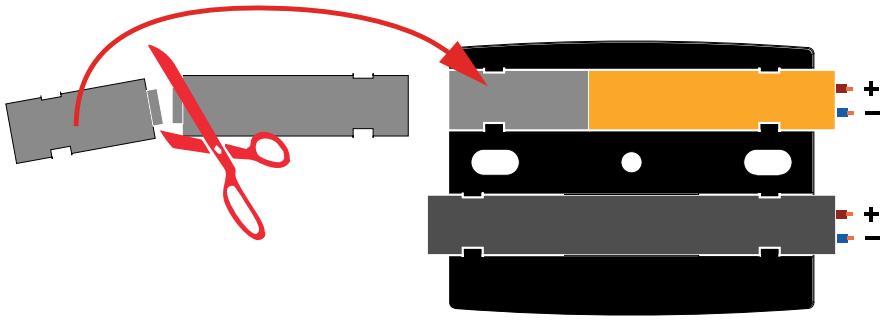
Pin assignment

Signal name	Explanation
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	GY	RD	GN	YE	OG	
BWU4172	X1	24V out of ASi	I4	0V out of ASi	I3	–	–	–	–	–	–	
	X2	n.c.	O4	0 V ext out	O3							
	X3	24V out of ASi	I2	0V out of ASi	I1							
	X4	n.c.	O2	0 V ext out	O1							

Line termination with sealing profile

max. IP54



Accessories:

- **Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)**
- **ASi addressing cable with M12 connector, connecting cable for handheld ASi address programming devices for the addressing of active distributors (art. no. BW3304)**
- **ASi addressing cable with COMBICON connector, connecting cable for ASi Master/Gateways for the addressing of active distributors (art. no. BW3305)**