

2 x 2 connectors for profile cable

space saving,
8 x M8 connections in one housing

M8 sockets optionally with 3 poles or 5 poles

high protection category IP67



(Figure similar)

Figure	Inputs digital	Outputs digital	M8 connection ⁽¹⁾	Input voltage (sensor supply) ⁽²⁾	Output voltage (actuator supply) ⁽³⁾	ASi connection ⁽⁴⁾	ASi address ⁽⁵⁾	Max. output current	Art. no.
	8	–	Single	out of ASi	–	ASi profile cable	2 AB addresses	–	BW3521
	4	4 x electronic	Single	out of ASi	out of AUX	ASi profile cable	1 AB address	1 A	BW3661

(1) M8/M12 wiring

Single wiring: 1 input or output per connection.

Y wiring: 2 inputs or outputs per connection.

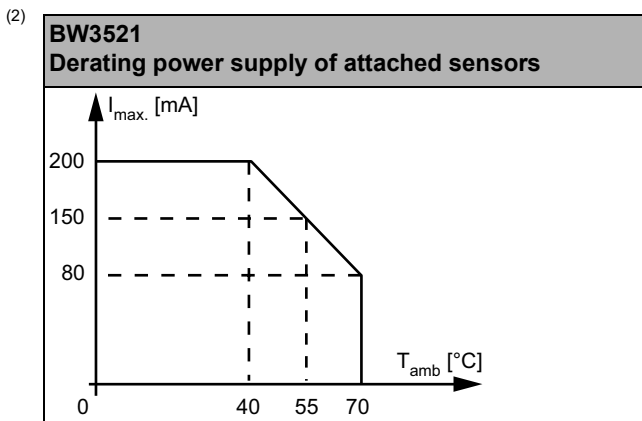
Mixed wiring: 1 input and 1 output per connection.

- (2) 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.
- (3) 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
- (4) 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).
- (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 address profiles.

Article No.	BW3521		BW3661	
General data				
Device type	input		input/output	
Connection				
ASi/AUX connection	profile cable and piercing			
Periphery connection	M8, 3 poles, single wiring			
Length of connector cable	unlimited ⁽¹⁾			
ASi				
Profile	ASi node 1: S-0.A.E (ID1=7 default), ASi node 2: S-0.A.E (ID1=6 default)		S-7.A.7 (ID1=7 fixed)	
Address	2 AB addresses		1 AB address	
Required Master profile	≥M3		≥M4	
As of ASi specification	2.1		3.0	
Operating voltage	30 V (18 ... 31.6 V)			
Max. current consumption	270 mA		165 mA	
Max. current consumption without sensor/ actuator supply	70 mA		45 mA	
Input				
Number	8		4	
Power supply	out of ASi			
Sensor supply	short-circuit and overload protected according to EN 61131-2			
Power supply of attached sensors	up to +40	200 mA ⁽²⁾	120 mA ⁽⁷⁾	
	at +55 °C	150 mA ⁽²⁾	100 mA ⁽⁷⁾	
	at +70 °C	80 mA ⁽²⁾	40 mA ⁽⁷⁾	
Switching threshold	U < 5 V (low) U > 15 V (high)			
Ausgang				
Anzahl	–		4	
Versorgungsspannung	–		out of AUX	
Max. Ausgangsstrom	bis +40 °C	–	1 A per output, Σ(Out) 3 A ⁽⁸⁾	
	bei +55 °C	–	1 A per output, Σ(Out) 2 A ⁽⁸⁾	
	bei +70 °C	–	1 A per output, Σ(Out) 2 A ⁽⁸⁾	
Display				
LED ASi/FLT (D1) (red/green)	green: ASi node online red: ASi node offline yellow/red flashing: address 0		green: ASi node online red: ASi node offline yellow/red flashing: address 0 red/green flashing: peripheral fault ⁽³⁾	
LED ASi/FLT D2 (red/green)	green: ASi node online red: ASi node offline yellow/red flashing: address 0 red/green flashing: peripheral fault ⁽³⁾ red flashing: ASi node 2 is switched off, because ASi node 1 is offline		–	
LED AUX (green)	–		on: 24 V _{DC} AUX off: no 24 V _{DC} AUX	
LEDs I1 ... In (yellow)	state of inputs I1 ... I8		state of inputs I1 ... I4	
LEDs O1 ... On (yellow)	–		state of outputs O1 ... O4	

Article No.	BW3521	BW3661
Environment		
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529	
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	yes ⁽⁴⁾	yes ⁽⁹⁾
Operating altitude	max. 2000 m	
Ambient temperature	-30 °C ... +55 °C (bis max. +70 °C) ⁽²⁾⁽⁷⁾⁽⁸⁾	
Storage temperature	-25 °C ... +85 °C	
Housing	plastic, for DIN rail mounting or for screw mounting ⁽⁵⁾	
Pollution degree	2	
Protection category	IP67 ⁽⁶⁾	
Tolerable loading referring to humidity	acc. EN 61131-2	
Max. tolerable shock load	30g, 11 ms, acc. EN 61131-2	
Max. tolerable vibration stress	5 ... 8 Hz 50 mm _{pp} /8 ... 500 Hz 6g, acc. EN 61131-2	
Insulation voltage	≥500 V	
Weight	100 g	
Dimensions (W / H / D) in mm	45 / 80 / 36	

(1) Loop resistance ≤150 Ω

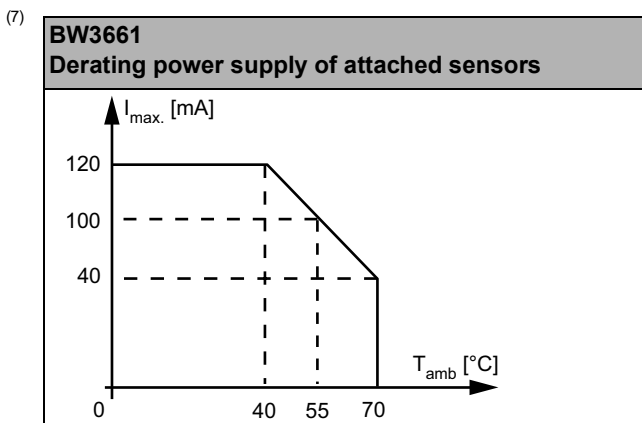


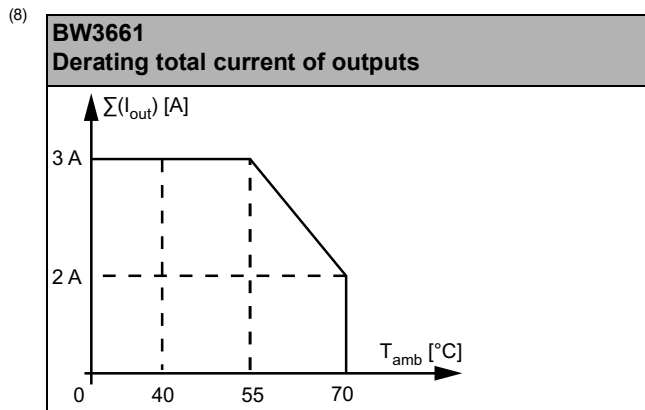
(3) See table "Peripheral fault indication"

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

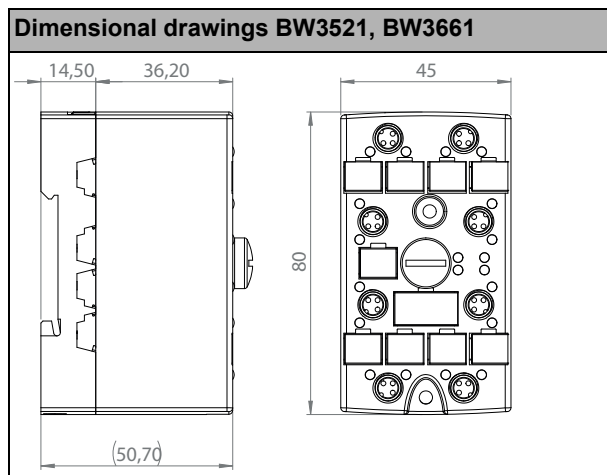
(5) Depending on substructure module (see accessories). The substructure module is not included in the scope of delivery.

(6) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.





(9) The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.



Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BW3521	•	-	-
BW3661	•	•	-

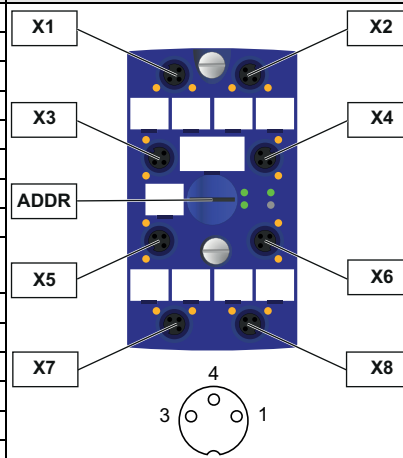
Programming	ASi bit assignment			
	D3	D2	D1	D0
	input			
BW3521	ASi node 1: I4	ASi node 1: I3	ASi node 1: I2	ASi node 1: I1
	ASi node 2: I8	ASi node 2: I7	ASi node 2: I6	ASi node 2: I5
BW3661	I4	I3	I2	I1
	output			
BW3661	O4	O3	O2	O1

Programming	Parameter bit			
	P3	P2	P1	P0
BW3521	not used	0= on / 1= off	0= on / 1= off	0= off / 1= on
BW3661		(synchronous I/O mode)	(data input filter 128µs)	(peripheral fault)
				0= off / 1= on
				(Watchdog)

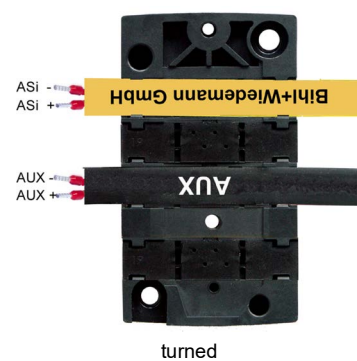
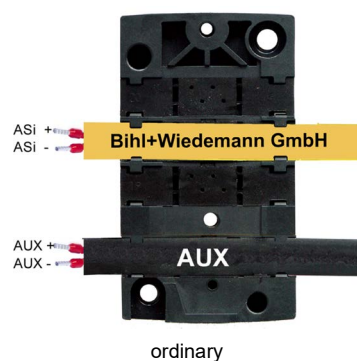
Pin assignment

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

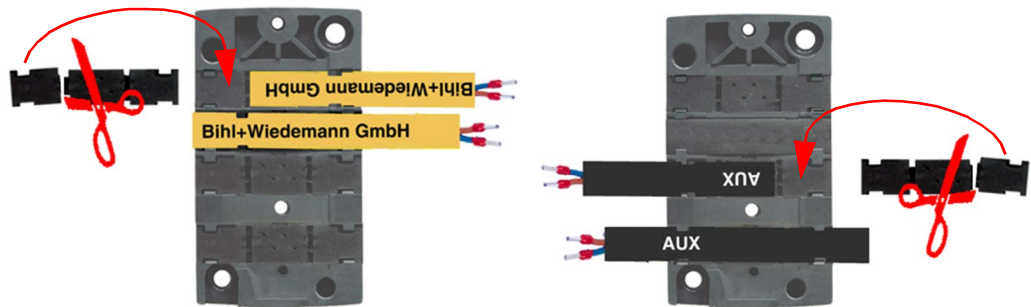
Connections							
Article no.	M8 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BW3521	X1	I1	24 V _{out of ASi}	–	0 V _{out of ASi}	I1	–
	X2	I2	24 V _{out of ASi}	–	0 V _{out of ASi}	I2	–
	X3	I3	24 V _{out of ASi}	–	0 V _{out of ASi}	I3	–
	X4	I4	24 V _{out of ASi}	–	0 V _{out of ASi}	I4	–
	X5	I5	24 V _{out of ASi}	–	0 V _{out of ASi}	I5	–
	X6	I6	24 V _{out of ASi}	–	0 V _{out of ASi}	I6	–
	X7	I7	24 V _{out of ASi}	–	0 V _{out of ASi}	I7	–
	X8	I8	24 V _{out of ASi}	–	0 V _{out of ASi}	I8	–
	ADDR (protection cap)	connection for ASi-3 addressing plug					
BW3661	X1	I1	24 V _{out of ASi}	–	0 V _{out of ASi}	I1	–
	X2	I2	24 V _{out of ASi}	–	0 V _{out of ASi}	I2	–
	X3	I3	24 V _{out of ASi}	–	0 V _{out of ASi}	I3	–
	X4	I4	24 V _{out of ASi}	–	0 V _{out of ASi}	I4	–
	X5	O1	n.c.	–	0 V _{ext out}	O1	–
	X6	O2	n.c.	–	0 V _{ext out}	O2	–
	X7	O3	n.c.	–	0 V _{ext out}	O3	–
	X8	O4	n.c.	–	0 V _{ext out}	O3	–
	ADDR (protection cap)	connection for ASi-3 addressing plug					



Mounting according to cable direction



Line termination with sealing profiles / as junction



Accessories:

- ASi substructure module for 4 channel module in 45 mm housing (art. no. BWU2349)
- ASi substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BWU2350)
- Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)
- Protection caps for unused M8 sockets (art. no. BW3818)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4708)