

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

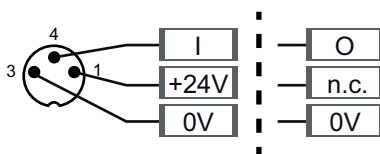
high protection category IP67



(Figure similar)

Figure	Type	Inputs digital	Outputs digital	M8 connection ⁽¹⁾	Input voltage (sensor supply) ⁽²⁾	Output voltage (actuator supply) ⁽³⁾	AS-i connection ⁽⁴⁾	AS-i address ⁽⁵⁾	Max. output current	Art. no.
	IP67, 8 x M8, 3 poles	8	–	Single	out of AS-i	–	AS-i profile cable	2 AB slaves	–	BW3521
	IP67, 8 x M8, 3 poles	4	4 x electronic	Single	out of AS-i	out of AUX	AS-i profile cable	1 AB Slave	1 A	BW3661

(1) **M8 socket, 3 poles:** single wiring
Single wiring



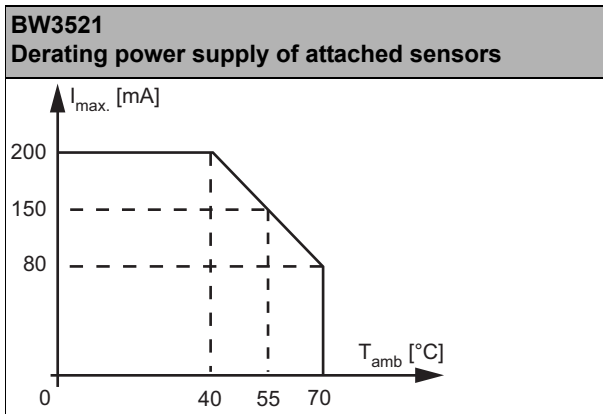
- (2) **Input voltage (sensor supply):** inputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, inputs shall not be connected to earth or to external potential.
- (3) **Output voltage (actuator supply):** outputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, outputs shall not be connected to earth or to external potential
- (4) **AS-i connection:** the connection to AS-i as well to AUX (auxiliary 24 V power) is made via yellow resp. black AS-i profile cable with piercing technology or via M12 socket (in IP20 via clamps).
- (5) **AS-i address:** 1 AB Slave (max. 62 AB Slaves/AS-i network), 2 AB Slaves (max. 31 modules with 2 AB Slaves), Single Slaves (max. 31 Single Slaves/AS-i network), mixed use allowed.
For modules with two slaves the second slave is turned off as long as the first slave is addressed to address "0".
Upon request, slaves are available with specific AS-i Slave profiles.

Article No.	BW3521	BW3661	
General data			
Device type	input	input/output	
Connection			
AS-i/AUX connection	profile cable and piercing		
Periphery connection	M8, 3 poles, single wiring		
Length of connector cable	unlimited ⁽¹⁾		
AS-i			
Profile	Slave 1: S-0.A.E (ID1=7 default), Slave 2: S-0.A.E (ID1=6 default)	S-7.A.7 (ID1=7 fixed)	
Address	2 AB slaves	1 AB slave	
Required Master profile	≥M3	≥M4	
As of AS-i 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 AS-i		
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 ⁽⁵⁾
	at +55 °C	150 mA ⁽²⁾	100 mA ⁽⁵⁾
	at +70 °C	80 mA ⁽²⁾	40 mA ⁽⁵⁾
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 ⁽⁶⁾
	bei +55 °C	–	1 A per output, Σ(Out) 2 A ⁽⁶⁾
	bei +70 °C	–	1 A per output, Σ(Out) 2 A ⁽⁶⁾
Display			
LED ASI/FLT (D1) (red/green)	green: slave online red: slave offline yellow/red flashing: address 0 red/green flashing: peripheral fault ⁽³⁾		
LED ASI/FLT D2 (red/green)	green: slave online red: slave offline yellow/red flashing: address 0 red/green flashing: peripheral fault ⁽³⁾ red flashing: slave 2 is switched off, because slave 1 is offline	–	
LED AUX (green)	–	on: 24 V _{DC} AUX off: no 24 V _{DC} AUX	
LEDs I1 ... I _n (yellow)	state of inputs I1 ... I ₈	state of inputs I1 ... I ₄	
LEDs O1 ... O _n (yellow)	–	state of outputs O1 ... O ₄	

Article No.	BW3521	BW3661
Environment		
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529	
Operating altitude	max. 2000 m	
Ambient temperature	-30 °C ... +55 °C (bis max. +70 °C) ⁽²⁾ ⁽⁵⁾ ⁽⁶⁾	
Storage temperature	-25 °C ... +85 °C	
Housing	plastic, for DIN rail mounting	
Pollution degree	2	
Protection category	IP67 ⁽⁴⁾	
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

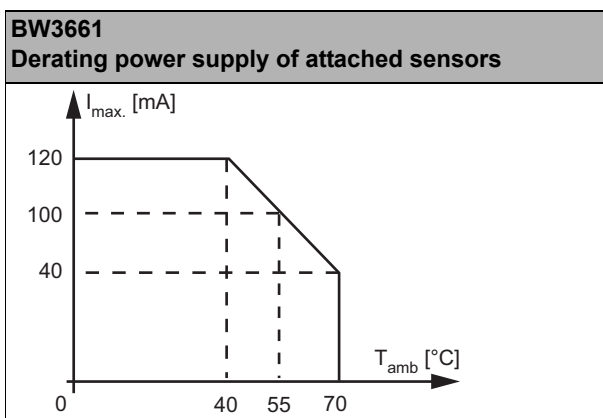
(2)

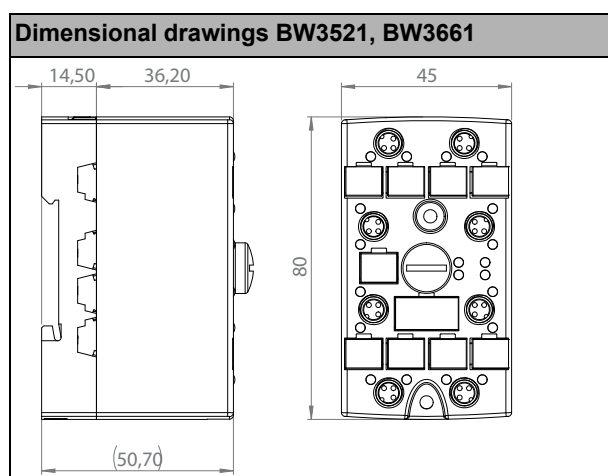
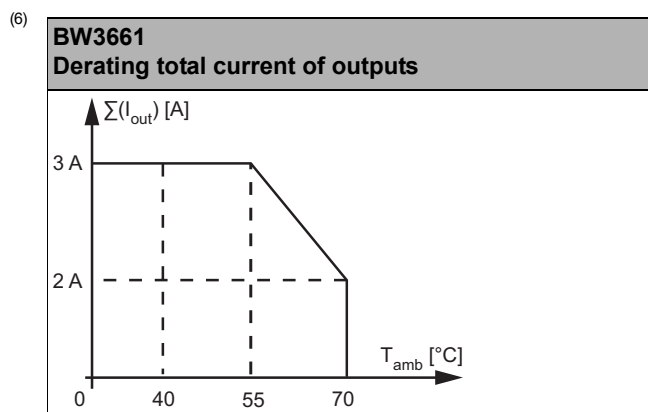


(3) See table "Peripheral fault indication"

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

(5)





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

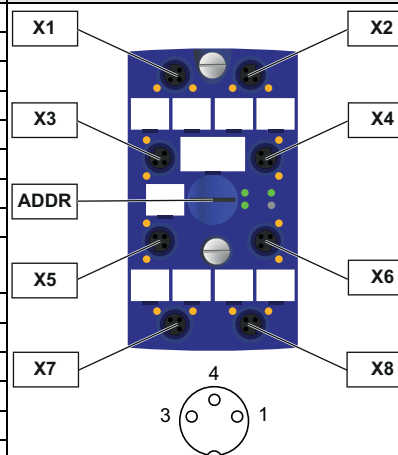
Programming	AS-i bit assignment			
	D0	D1	D2	D3
	input			
BW3521	Slave 1: I1	Slave 1: I2	Slave 1: I3	Slave 1: I4
	Slave 2: I5	Slave 2: I6	Slave 2: I7	Slave 2: I8
BW3661	I1	I2	I3	I4
	output			
BW3661	O1	O2	O3	O4

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

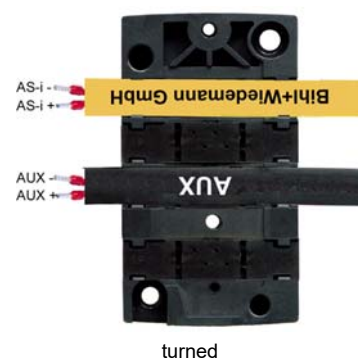
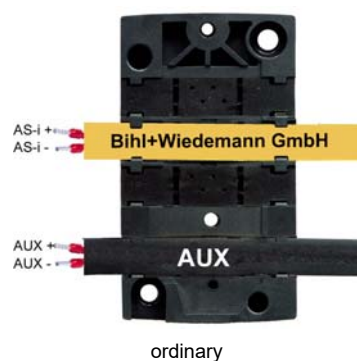
Pin assignment

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 AS-i}	power supply, out of AS-i, positive pole (sensor supply)
0 V _{out of AS-i}	power supply, out of AS-i, negative pole (sensor supply)
AS-i+, AS-i-	connection to AS-i bus
n.c. (not connected)	not connected

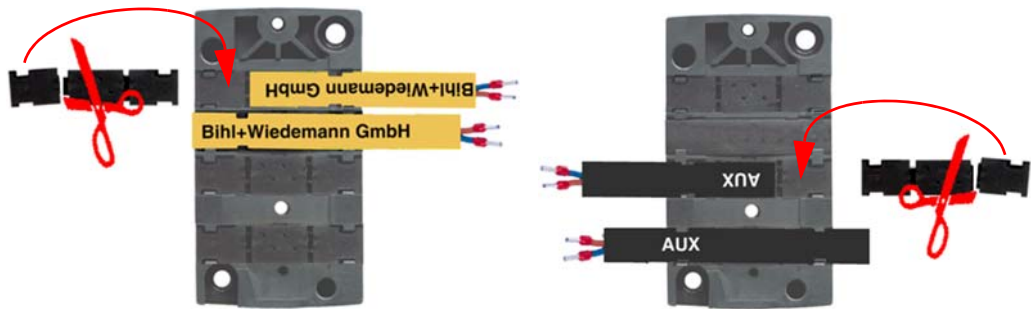
Connections							
Article no.	M8 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BW3521	X1	I1	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I1	–
	X2	I2	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I2	–
	X3	I3	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I3	–
	X4	I4	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I4	–
	X5	I5	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I5	–
	X6	I6	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I6	–
	X7	I7	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I7	–
	X8	I8	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I8	–
	ADDR (M12 dummy plug)	connection for AS-i addressing device					
BW3661	X1	I1	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I1	–
	X2	I2	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I2	–
	X3	I3	24 V _{out of AS-i}	–	0 V _{out of AS-i}	I3	–
	X4	I4	24 V _{out of AS-i}	–	0 V _{out of AS-i}	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 (dummy plug)	connection for AS-i addressing device					



Mounting according to cable direction



Line termination with sealing profiles / as junction



Accessories:

- AS-i substructure module for 4 channel module in 45 mm housing (art. no. BWU2349)
- AS-i substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BWU2350)
- Protection caps for unused M12 sockets (art. no. BW2368)
- Protection caps for unused M8 sockets (art. no. BW3818)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)