

2 x 2 connectors for profile cable

2 color LEDs per output,  
state (yellow), overload (red) (optional)

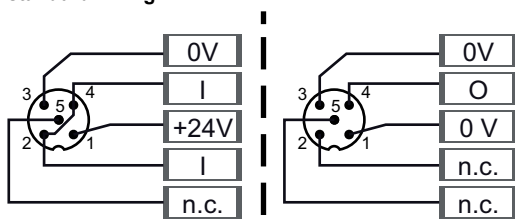


(figure similar)

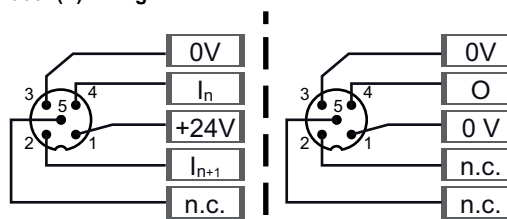


Figure	Type	Inputs digital	Outputs digital	M12 connection <sup>(1)</sup>	Input voltage (sensor supply) <sup>(2)</sup>	Output voltage (actuator supply) <sup>(3)</sup>	AS-i connection <sup>(4)</sup>	AS-i address <sup>(5)</sup>	Max. output current	Art. no.
	IP67, 4 x M12	4	—	standard	out of AS-i	—	AS-i profile cable	1 single slave	—	<b>BWU3682</b>
	IP67, 8 x M12	4	3 x electronic	standard	out of AS-i	out of AUX	AS-i profile cable	1 AB slave	2 A	<b>BWU3701</b>
	IP67, 8 x M12	4	4 x electronic	standard	out of AS-i	out of AUX	AS-i profile cable	1 single slave	2 A	<b>BWU3686</b>
	IP67, 8 x M12	8	—	dual (Y)	out of AS-i	—	AS-i profile cable	2 AB slaves	—	<b>BWU3523</b>

(1) **M12 wiring:** either as a standard wiring or dual (Y) wiring.  
**standard wiring**



**dual (Y) wiring**



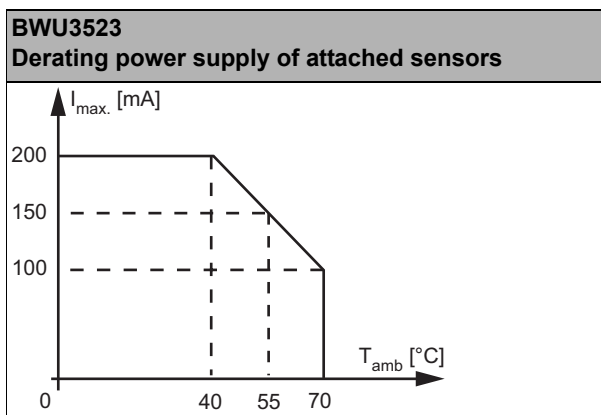
- (2) **Input voltage (sensor supply):** inputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, inputs shall not be connected to earth or to external potential.
- (3) **Output voltage (actuator supply):** outputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied 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.	BWU3523		BWU3682		BWU3686		BWU3701	
<b>General data</b>								
Device type	input				input / output			
<b>Connection</b>								
AS-i/AUX connection	profile cable and piercing							
Periphery connection	M12, dual (Y) wiring			M12, standard wiring				
Length of connector cable	unlimited <sup>(1)</sup>							
<b>AS-i</b>								
Profile	slave 1: S-0.A.2 (ID1=7 default) slave 2: S-0.A.2 (ID1=7 default)		S-0.0.E (ID1=F fixed)		S-7.0.E (ID1=F default)		S-7.A.0 (ID1=7 default)	
Address	2 AB slaves		1 single slave			1 AB slave		
Required Master profile	≥M3		≥M0			≥M3		
As of AS-i specification	2.1		2.0			2.1		
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					
<b>AUX</b>								
Operating voltage	-			24 V (18 ... 30 V)				
Max. current consumption	-			8 A		6 A		
<b>Input</b>								
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 °C	200 mA <sup>(2)</sup>		120 mA <sup>(5)</sup>				
	at +55 °C	150 mA <sup>(2)</sup>		100 mA <sup>(5)</sup>				
	at +70 °C	100 mA <sup>(2)</sup>		80 mA <sup>(5)</sup>				
Switching threshold	U<5 V (low) U>15 V (high)							
<b>Output</b>								
Number	-			4		3		
Power supply	-			out of AUX				
Output	-			short-circuit and overload protected according to EN 61131				
Max. output current	up to +40 °C	-		2 A per output, Σ (Out) 8 A <sup>(6)</sup>		2 A per output, Σ (Out) 6 A <sup>(6)</sup>		
	at +55 °C	-		1,5 A per output, Σ (Out) 6 A <sup>(6)</sup>		1,5 A per output, Σ (Out) 4,5 A <sup>(6)</sup>		
	at +70 °C	-		1 A per output, Σ (Out) 4 A <sup>(6)</sup>		1 A per output, Σ (Out) 3 A <sup>(6)</sup>		
<b>Display</b>								
LED ASI (green)	on: AS-i voltage on flashing: AS-i voltage on, but peripheral fault <sup>(3)</sup> or address 0 off: no AS-i voltage							
LED ASI/FLT 1 (red/green)	green: slave online red: slave offline yellow/red flashing: address 0 red/green flashing: peripheral fault <sup>(3)</sup>		-					

Article No.	BWU3523	BWU3682	BWU3686	BWU3701
LED ASI/FLT 2 (red/green)	green: slave online red: slave offline yellow/red flashing: address 0 red/green flashing: peripheral fault <sup>(3)</sup> red flashing: slave 2 is switched off, because slave 1 is offline		–	
LED FLT/FAULT (red)	on: slave address 0 or slave offline flashing: peripheral fault <sup>(3)</sup> off: slave online			
LED AUX (green)	–		on: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX	
LEDs I1 ... In (yellow)	state of inputs I1 ... I8		state of inputs I1 ... I4	
LEDs O1 ... On (yellow)	–		state of outputs O1 ... O4	state of outputs O1 ... O3
<b>Environment</b>				
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 (up to max. +70 °C) <sup>(2)</sup> <sup>(4)</sup> <sup>(5)</sup> <sup>(6)</sup>			
Storage temperature	-25 °C ... +85 °C			
Housing	plastic, for screw mounting	plastic, for DIN rail mounting	plastic, for screw mounting	
Pollution degree	2			
Protection category	IP67			
Tolerable loading referring to humidity	according to EN 61131-2			
Max. tolerable shock load	30g, 11 ms, acc. EN 61131-2			
Max. tolerable vibration stress	5 ... 8 Hz 50 mm <sub>pp</sub> /8 ... 500 Hz 6g, acc. EN 61131-2			
Insulation voltage	≥500 V			
Weight	200 g	100 g	200 g	
Dimensions (W / H / D) in mm	60 / 151 / 31	45 / 80 / 42	60 / 151 / 31	

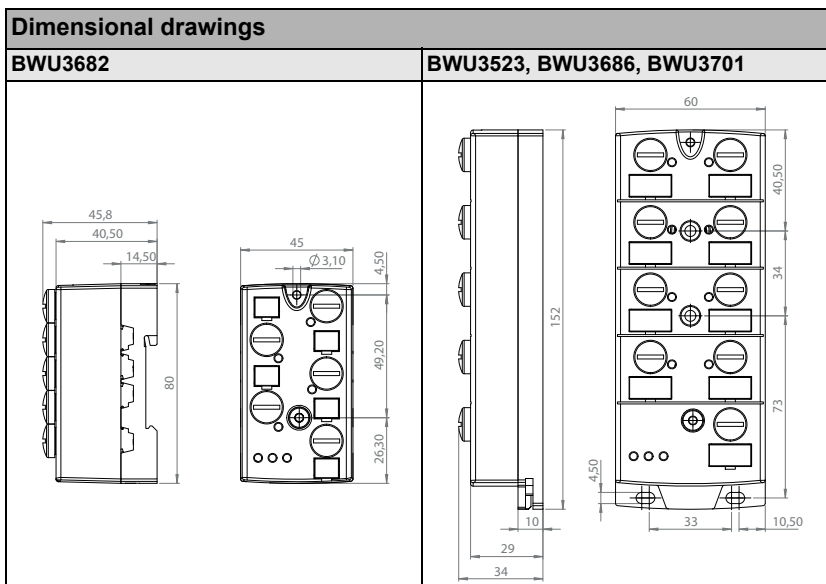
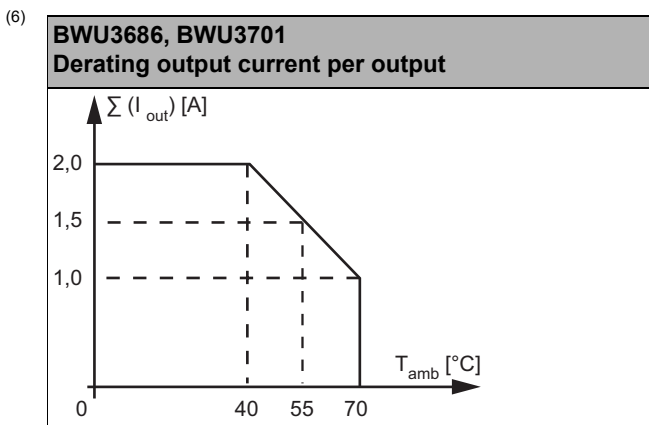
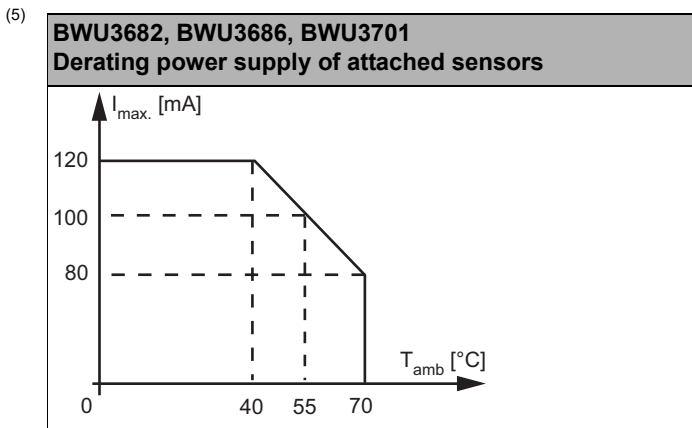
(1) Loop resistance ≤150 Ω

(2)



(3) See table "Peripheral fault indication"

(4) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada



Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU3523	•	-	-
BWU3682	•	-	-
BWU3686	•	-	-
BWU3701	•	-	-

Programming	AS-i bit assignment			
Bit	D0	D1	D2	D3
	<b>input</b>			
BWU3682, BWU3686, BWU3701	I1	I2	I3	I4
BWU3523	slave 1: I1	slave 1: I2	slave 1: I3	slave 1: I4
	slave 2: I5	slave 2: I6	slave 2: I7	slave 2: I8
	<b>output</b>			
BWU3701	O1	O2	O3	–
BWU3686	O1	O2	O3	O4

Programming	Parameter bits			
Bit	P0	P1	P2	P3
BWU3523, BWU3682, BWU3686, BWU3701	0= off / 1= on (peripheral fault)	0= on / 1= off (data input filter 128µs)	0= on / 1= off (synchronous I/O mode)	not used

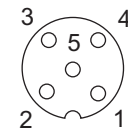
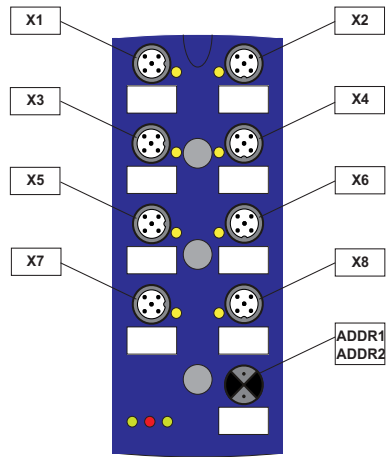
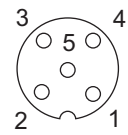
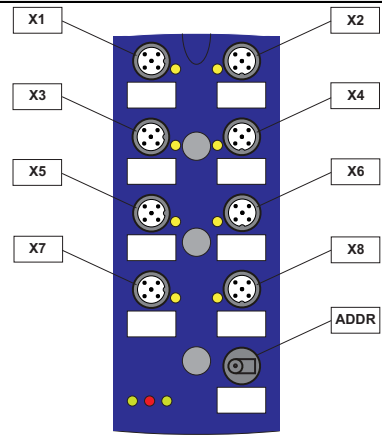
### Pin assignment

Signal name	Explanation
Ix	digital input x
Ox	digital output x
24V <sub>ext out</sub>	power supply, out of external voltage, positive pole (AUX, actuator supply)
0V <sub>ext out</sub>	power supply, out of external voltage, negative pole (AUX, actuator supply)
24V <sub>out of AS-i</sub>	power supply, out of AS-i, positive pole (sensor supply)
0V <sub>out of AS-i</sub>	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

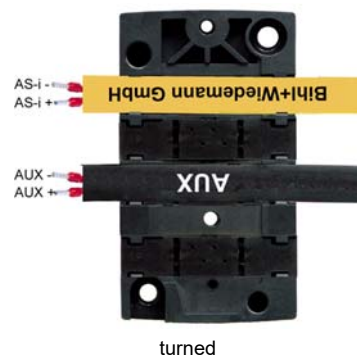
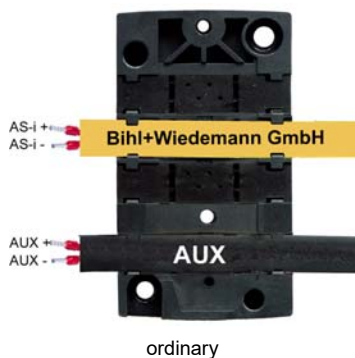
Article no.	M12 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5	
BWU3682	X1	I1	24 V out of AS-i	I1 (1)	0 V out of AS-i	I1 (1)	n.c.	
	X2	I2	24 V out of AS-i	I2 (1)	0 V out of AS-i	I2 (1)	n.c.	
	X3	I3	24 V out of AS-i	I3 (1)	0 V out of AS-i	I3 (1)	n.c.	
	X4	I4	24 V out of AS-i	I4 (1)	0 V out of AS-i	I4 (1)	n.c.	
	ADDR (dummy plug)	connection for AS-i addressing device						

Connections							
Article no.	M12 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3686	X1	I1	24 V out of AS-i	I1 (1)	0 V out of AS-i	I1 (1)	n.c.
	X2	I2	24 V out of AS-i	I2 (1)	0 V out of AS-i	I2 (1)	n.c.
	X3	I3	24 V out of AS-i	I3 (1)	0 V out of AS-i	I3 (1)	n.c.
	X4	I4	24 V out of AS-i	I4 (1)	0 V out of AS-i	I4 (1)	n.c.
	X5	O1	0 V <sub>ext</sub> out	n.c.	0 V <sub>ext</sub> out	O1	n.c.
	X6	O2	0 V <sub>ext</sub> out	n.c.	0 V <sub>ext</sub> out	O2	n.c.
	X7	O3	0 V <sub>ext</sub> out	n.c.	0 V <sub>ext</sub> out	O3	n.c.
	X8	O4	0 V <sub>ext</sub> out	n.c.	0 V <sub>ext</sub> out	O4	n.c.
<b>ADDR (dummy plug)</b>		connection for AS-i addressing device					
BWU3701	X1	I1	24 V out of AS-i	I1 (1)	0 V out of AS-i	I1 (1)	n.c.
	X2	I2	24 V out of AS-i	I2 (1)	0 V out of AS-i	I2 (1)	n.c.
	X3	I3	24 V out of AS-i	I3 (1)	0 V out of AS-i	I3 (1)	n.c.
	X4	I4	24 V out of AS-i	I4 (1)	0 V out of AS-i	I4 (1)	n.c.
	X5	O1	0 V <sub>ext</sub> out	n.c.	0 V <sub>ext</sub> out	O1	n.c.
	X6	O2	0 V <sub>ext</sub> out	n.c.	0 V <sub>ext</sub> out	O2	n.c.
	X7	O3	0 V <sub>ext</sub> out	n.c.	0 V <sub>ext</sub> out	O3	n.c.
	X8	not used					
<b>ADDR (dummy plug)</b>		connection for AS-i addressing device					
BWU3523	X1	I1	24 V out of AS-i	I2	0 V out of AS-i	I1	n.c.
	X2	I2	24 V out of AS-i	n.c.	0 V out of AS-i	I2	n.c.
	X3	I3	24 V out of AS-i	I4	0 V out of AS-i	I3	n.c.
	X4	I4	24 V out of AS-i	n.c.	0 V out of AS-i	I4	n.c.
	X5	I5	24 V out of AS-i	I6	0 V out of AS-i	I5	n.c.
	X6	I6	24 V out of AS-i	n.c.	0 V out of AS-i	I6	n.c.
	X7	I7	24 V out of AS-i	I8	0 V out of AS-i	I7	n.c.
	X8	I8	24 V out of AS-i	n.c.	0 V out of AS-i	I8	n.c.
<b>ADDR (dummy plug)</b>		connection for AS-i addressing device					

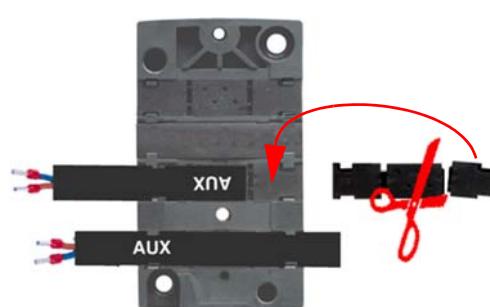
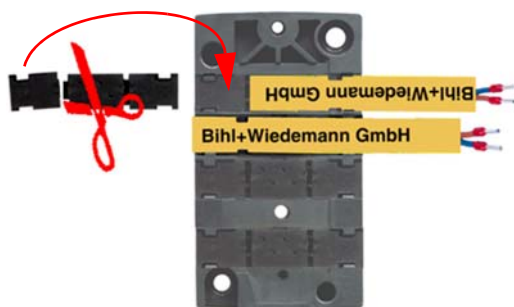
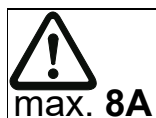


(1) Pin2 and Pin 4 are bridged internally.

## 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, for DIN rail mounting (art. no. BWU2349)
- AS-i substructure module (CNOMO) for 4 channel module in 45 mm housing, for screw mounting (art. no. BWU2350)
- AS-i substructure module (CNOMO) for 8 channel module in 60 mm housing, for DIN rail mounting (art. no. BWU3516)
- AS-i substructure module (CNOMO) for 8 channel module in 60 mm housing, for screw mounting (art. no. BWU2351)
- Protection caps for unused M12 sockets (art. no. BW2368)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)
- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)