



2 x 2 connectors for profile cable

compact housing, IP67



(Figure similar)



Figure	Type	Inputs analog	Outputs analog	M12 connection	Input voltage (sensor supply) <sup>(1)</sup>	Output voltage (actuator supply) <sup>(2)</sup>	ASi connection <sup>(3)</sup>	ASi address <sup>(4)</sup>	Art. no.
	IP67, 4 x M12	2 x 4 ... 20 mA	–	Signal at pin 2 / pin 4	out of ASi	–	ASi profile cable	1 AB slave	<b>BWU3100</b>
	IP67, 4 x M12	2 x 0 ... 10V	–	Signal at pin 2 / pin 4	out of ASi	–	ASi profile cable	1 AB slave	<b>BWU3102</b>
	IP67, 4 x M12	2 x Pt100	–	Signal at pin 1 / pin 3	out of ASi	–	ASi profile cable	1 AB slave	<b>BWU3104</b>
	IP67, 4 x M12	–	2 x 0 ... 20 mA	Signal at pin 1 / pin 3	–	out of AUX	ASi profile cable	1 single slave	<b>BWU3105</b>
	IP67, 4 x M12	–	2 x 0 ... 20 mA	Signal at pin 2 / pin 4	–	out of AUX	ASi profile cable	1 single slave	<b>BWU3106</b>
	IP67, 4 x M12	–	2 x 0 ... 10 V	Signal at pin 1 / pin 3	–	out of AUX	ASi profile cable	1 single slave	<b>BWU3107</b>

- (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) **ASi address:** AB Slave (max. 62 AB Slaves/ASi network), 2 AB Slaves (max. 31 modules with 2 AB Slaves), Single Slaves (max. 31 Single Slaves/ASi 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 ASi Slave profiles.

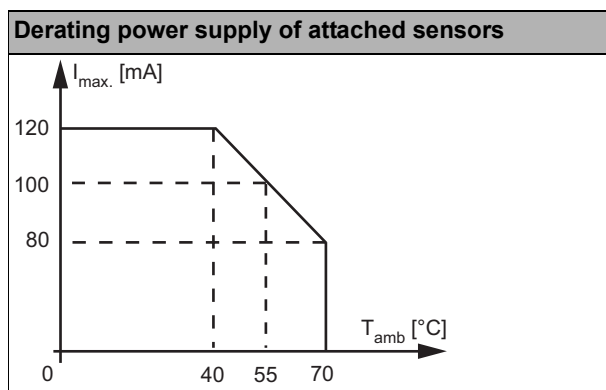
Article No.	BWU3100	BWU3102	BWU3104
<b>General data</b>			
Device type	input		
<b>Connection</b>			
ASi/AUX connection	profile cable and piercing		
Periphery connection	M12, signal at pin 2 / pin 4	M12, signal at pin 1 / pin 3	
Length of connector cable	I/O: max. 15 m <sup>(1)</sup>		
<b>ASi</b>			
Profile	S-7.A.9		
Address	1 AB slave		
Required Master profile	≥ M4		
As of ASi specification	3.0		
Operating voltage	30 V <sub>DC</sub> (18 ... 31,6 V)		
Max. current consumption	165 mA	< 80 mA	
Max. current consumption without sensor / actuator supply	45 mA	< 80 mA	
<b>AUX</b>			
Operating voltage	-		
Max. current consumption	-		
<b>Input</b>			
Number	2		
Resolution	normal: 14 bit, fast: 12 bit		14 Bit
Range of value	4000 ... 20000 dec. / 0 ... 27648 dec. <sup>(2)</sup>	0 ... 10000 dec. / 0 ... 27648 dec. <sup>(2)</sup>	-2000 ... +8500 dec. / -12000 ... 13000 dec
Internal resistance	-	130 kΩ	-
Max. voltage drop	< 5 V	-	
Max. input voltage	-	25 V	-
Max. input current	26 mA (internally limited)	-	
Power supply	out of ASi		
Power supply of attached sensors	max. 80 mA (max. 120 mA at +40 °C) <sup>(3)</sup>		-
<b>Display</b>			
LED PWR (green)	on: ASi voltage on flashing: ASi voltage on, but peripheral fault <sup>(4)</sup> or address 0 off: no ASi voltage		
LED FLT/FLAUT (red)	on: no data exchange, slave address 0 or slave offline flashing: peripheral fault <sup>(4)</sup> off: no ASi voltage		
LED AUX (green)	-		
LED I1, I2 (yellow)	state of channel I1, I2: on: analog signal within range of values flashing: analog signal outside range of values out: channel is switched off		state of channel I1, I2: on: analog signal within range of values flashing: analog signal outside range of values out: no Pt100 sensor connected

Article No.	BWU3100	BWU3102	BWU3104
<b>Environment</b>			
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529		
Operating altitude	max. 2000 m		
Ambient temperature	-30 °C ... +70 °C <sup>(3)</sup>		
Storage temperature	-25 °C ... +85 °C		
Housing	plastic, for DIN rail mounting		
Protection category	IP67		
Maximum tolerable shock and vibration stress	≤15g, T≤11 ms 5 ... 500 Hz: 5 Hz, 50 mm <sub>pp</sub> ; 7,6 Hz, 50 mm <sub>pp</sub> /6g; 500 Hz, 6g		
Insulation voltage	≥500 V		
Weight	100 g		
Dimensions (W / H / D) in mm	45 / 80 / 42		

(1) loop resistance: ≤150 Ω

(2) Siemens scale

(3)



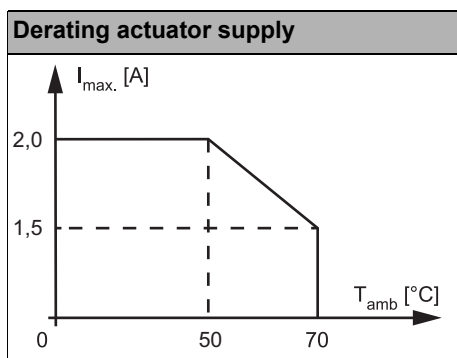
(4) See table "Peripheral fault indication"

Article No.	BWU3105	BWU3106	BWU3107
<b>General data</b>			
Device type	output		
<b>Connection</b>			
ASi/AUX connection	profile cable and piercing		
Periphery connection	M12, signal at pin 1 / pin 3	M12, signal at pin 2 / pin 4	M12, signal at pin 1 / pin 3
Length of connector cable	I/O: max. 15 m <sup>(1)</sup>		
<b>ASi</b>			
Profile	S-7.3.5		
Address	1 single slave		
Required Master profile	≥M3		
As of ASi specification	2.1		
Operating voltage	30 V <sub>DC</sub> (18 ... 31,6 V)		
Max. current consumption	<100 mA		
<b>AUX</b>			
Operating voltage	24 V <sub>DC</sub> (18 ... 30 V)		
Max. current consumption	4 A		

Article No.	BWU3105	BWU3106	BWU3107
<b>Output</b>			
Number	2		
Resolution	16 Bit (1 $\mu$ A)		16 Bit (1 mV)
Range of value	0 ... 20000 dec.		0 ... 10000 dez.
Actuator resistance	max. 600 $\Omega$		min. 3,3 k $\Omega$
Max. output voltage	-		11,5 V
Max. output current	23 mA		-
Power supply	out of AUX		
Power supply of attached actuators	max. 1,5 A (max. 2 A at +50 °C) per output <sup>(2)</sup>		
<b>Display</b>			
LED PWR (green)	on: ASi voltage on flashing: ASi voltage on, but peripheral fault <sup>(3)</sup> or address 0 off: no ASi voltage		
LED FLT/FLAUT (red)	on: no data exchange, 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		
LED O1, O2 (yellow)	state of channel O1, O2: on: analog signal within range of values flashing: analog signal outside range of values		
<b>Environment</b>			
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529		
Operating altitude	max. 2000 m		
Ambient temperature	-30 °C ... +70 °C <sup>(2)</sup>		
Storage temperature	-25 °C ... +85 °C		
Housing	plastic, for DIN rail mounting		
Protection category	IP67		
Maximum tolerable shock and vibration stress	$\leq 15g, T \leq 11$ ms 5 ... 500 Hz: 5 Hz, 50 mm <sub>pp</sub> ; 7,6 Hz, 50 mm <sub>pp</sub> /6g; 500 Hz, 6g		
Insulation voltage	$\geq 500$ V		
Weight	100 g		
Dimensions (W / H / D) in mm	45 / 80 / 42		

<sup>(1)</sup> loop resistance:  $\leq 150 \Omega$

<sup>(2)</sup>



<sup>(3)</sup> See table "Peripheral fault indication"

Article No.	Peripheral fault indication		
	analog signal outside range of values	at least 1 configured channel not connected	overload sensor supply
BWU3100	•	•	-
BWU3102	•	-	•
BWU3104	• (1)	•	-
BWU3105	•	•	-
BWU3106	•	•	-
BWU3107	•	•	-

(1) no Pt100 sensor connected

## Programming

Bit setting	BWU3100	BWU3102	BWU3104	BWU3105	BWU3106	BWU3107
	input			output		
<b>P0:</b>						
1: peripheral fault is indicated 0: peripheral fault is not indicated	•	•	•	-	-	-
1: Watch dog on 0: Watch dog off	-	-	-	•	•	•
<b>P1:</b>						
1: 4000 ... 20000 dec. 0: 0 ... 27648 dec. (1)	•	-	-	-	-	-
1: 0 ... 10000 dec. 0: 0 ... 27648 dec. (1)	-	•	-	-	-	-
1: 2 wire mode 0: 4 wire mode	-	-	•	-	-	-
not used	-	-	-	•	•	•
<b>P2:</b>						
1: 0V and Sig- internally bridged 0: 0V and Sig- not bridged	•	•	-	-	-	-
1: -200 °C ... +850 °C 0: -120 °C ... +130 °C	-	-	•	-	-	-
1: peripheral fault is indicated 0: peripheral fault is not indicated	-	-	-	•	•	•
<b>P3:</b>						
not used	• (2)	• (2)	• (2)	•	•	•

(1) Siemens scale

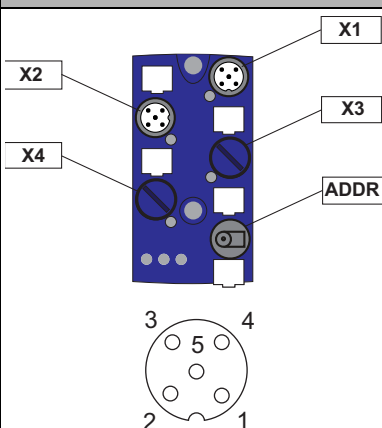
(2) Channel 2 on/off parameterized via ID1.

ID1 code	BWU3100 / BWU3102 / BWU3104
0; 2; 3	channel 1, 14 bit
1	channel 1, 12 bit
4; 5; 7 (default)	channel 1 and 2, 14 bit
6	channel 1 and 2, 12 bit

## Pin assignment

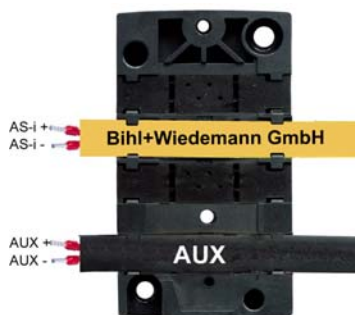
Signal name	Explanation
I <sub>x</sub>	analog input x
O <sub>x</sub>	analog output x
24 V <sub>ext.out</sub>	power supply, out of external voltage, positive pole (AUX, actuator supply)
0 V <sub>ext.out</sub>	power supply, out of external voltage, negative pole (AUX, actuator supply)
24 V <sub>out of ASi</sub>	power supply, out of ASi, positive pole (sensor supply)
0 V <sub>out of ASi</sub>	power supply, out of ASi, negative pole (sensor supply)

Connections							
Article No.	M12 connection	Mark	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3100 BWU3102	X1	I1	24V <sub>out of ASi</sub>	Sig+	0V <sub>out of ASi</sub> <sup>(1)</sup>	Sig- <sup>(1)</sup>	Shield
	X2	I2	24V <sub>out of ASi</sub>	Sig+	0V <sub>out of ASi</sub> <sup>(1)</sup>	Sig- <sup>(1)</sup>	Shield
	X3	not used					
	X4	not used					
	ADDR (dummy plug)	connection for ASi addressing device					
BWU3104	X1	I1	CH+	CHS+	CH-	CHS-	Shield
	X2	I2	CH+	CHS+	CH-	CHS-	Shield
	X3	not used					
	X4	not used					
	ADDR (dummy plug)	connection for ASi addressing device					
BWU3105 BWU3107	X1	O1	Sig+	24V <sub>ext.out</sub>	Sig-	0V <sub>ext.out</sub>	Shield
	X2	O2	Sig+	24V <sub>ext.out</sub>	Sig-	0V <sub>ext.out</sub>	Shield
	X3	not used					
	X4	not used					
	ADDR (dummy plug)	connection for ASi addressing device					
BWU3106	X1	O1	24V <sub>ext.out</sub>	Sig+	0V <sub>ext.out</sub>	Sig-	Shield
	X2	O2	24V <sub>ext.out</sub>	Sig+	0V <sub>ext.out</sub>	Sig-	Shield
	X3	not used					
	X4	not used					
	ADDR (dummy plug)	connection for ASi addressing device					

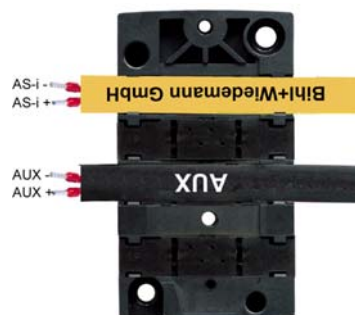


<sup>(1)</sup> Pin 3 and pin 4 bridgeable internally via parameter bit P2.

## Mounting according to cable direction

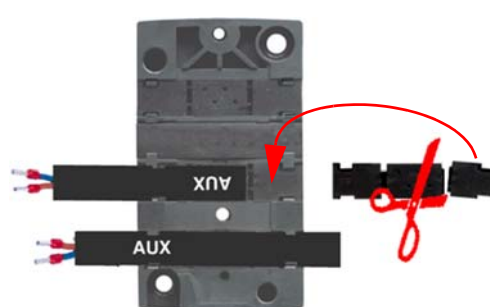
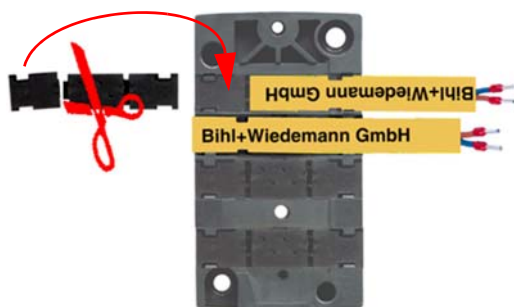
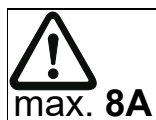


ordinary



turned

## Line termination with sealing profiles / as junction



### Accessories:

- ASi substructure module for 4 channel module in 45 mm housing (art. no. BW2349)
- ASi substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BW2350)
- Protection caps for unused M12 sockets (art. no. BW2368)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)