

2 x 2 connectors for profile cable

compact housing, IP67



(Figure similar)



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

- (1) **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.
- (2) **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
- (3) **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).
- (4) **AS-i address:** 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.

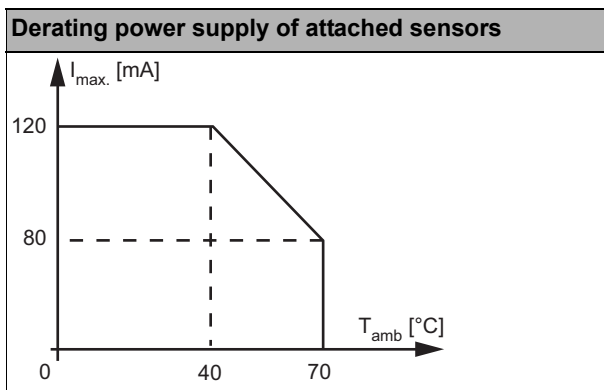
Article No.	BWU3100	BWU3102	BWU3104
General data			
Device type	input		
Connection			
AS-i/AUX connection	profile cable and piercing		
Periphery connection	M12, signal at pin 2 / pin 4	M12, signal at pin 1 / pin 3	
Length of connector cable	I/O: max. 15 m ⁽¹⁾		
AS-i			
Profile	S-7.A.9		
Address	1 AB slave		
Required Master profile	≥ M4		
As of AS-i specification	3.0		
Operating voltage	30 V _{DC} (18 ... 31,6 V)		
Max. current consumption	165 mA	< 80 mA	
Max. current consumption without sensor / actuator supply	45 mA	< 80 mA	
AUX			
Operating voltage	-		
Max. current consumption	-		
Input			
Number	2		
Resolution	normal: 14 bit, fast: 12 bit		14 Bit
Range of value	4000 ... 20000 dec. / 0 ... 27648 dec. ⁽²⁾	0 ... 10000 dec. / 0 ... 27648 dec. ⁽²⁾	-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 AS-i		
Power supply of attached sensors	max. 80 mA (max. 120 mA at +40 °C) ⁽³⁾		-
Display			
LED PWR (green)	on: AS-i voltage on flashing: AS-i voltage on, but peripheral fault ⁽⁴⁾ or address 0 off: no AS-i voltage		
LED FLT/FLAUT (red)	on: no data exchange, slave address 0 or slave offline flashing: peripheral fault ⁽⁴⁾ off: no AS-i 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
Environment			
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529		
Operating altitude	max. 2000 m		
Ambient temperature	-30 °C ... +70 °C ⁽³⁾		
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 _{pp} ; 7,6 Hz, 50 mm _{pp} /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)



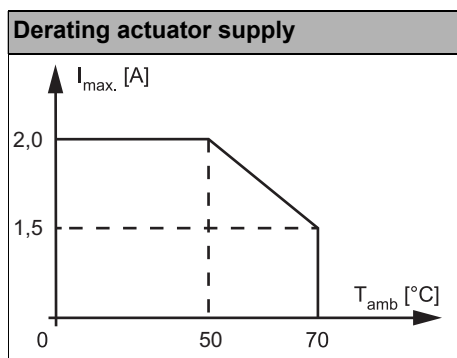
(4) See table "Peripheral fault indication"

Article No.	BWU3105	BWU3106	BWU3107
General data			
Device type	output		
Connection			
AS-i/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 ⁽¹⁾		
AS-i			
Profile	S-7.3.5		
Address	1 single slave		
Required Master profile	≥M3		
As of AS-i specification	2.1		
Operating voltage	30 V _{DC} (18 ... 31,6 V)		
Max. current consumption	<100 mA		
AUX			
Operating voltage	24 V _{DC} (18 ... 30 V)		
Max. current consumption	4 A		

Article No.	BWU3105	BWU3106	BWU3107
Output			
Number	2		
Resolution	16 Bit (1 μ A)		16 Bit (1 mV)
Range of value	0 ... 20000 dec.		0 ... 10000 dez.
Actuator resistance	max. 600 Ω		min. 3,3 k Ω
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 ⁽²⁾		
Display			
LED PWR (green)	on: AS-i voltage on flashing: AS-i voltage on, but peripheral fault ⁽³⁾ or address 0 off: no AS-i voltage		
LED FLT/FLAUT (red)	on: no data exchange, slave address 0 or slave offline flashing: peripheral fault ⁽³⁾ off: slave online		
LED AUX (green)	on: 24 V _{DC} AUX off: no 24 V _{DC} AUX		
LED O1, O2 (yellow)	state of channel O1, O2: on: analog signal within range of values flashing: analog signal outside range of values		
Environment			
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529		
Operating altitude	max. 2000 m		
Ambient temperature	-30 °C ... +70 °C ⁽²⁾		
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 _{pp} ; 7,6 Hz, 50 mm _{pp} /6g; 500 Hz, 6g		
Insulation voltage	≥ 500 V		
Weight	100 g		
Dimensions (W / H / D) in mm	45 / 80 / 42		

⁽¹⁾ loop resistance: $\leq 150 \Omega$

⁽²⁾



⁽³⁾ 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		
P0:						
1: peripheral fault is indicated 0: peripheral fault is not indicated	•	•	•	-	-	-
1: Watch dog on 0: Watch dog off	-	-	-	•	•	•
P1:						
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	-	-	-	•	•	•
P2:						
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	-	-	-	•	•	•
P3:						
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

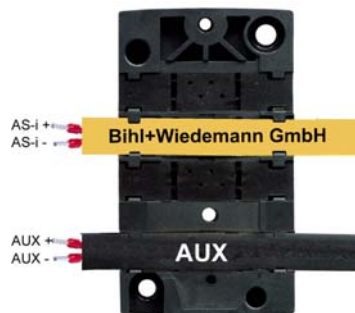
Pin assignment

Signal name	Explanation
I _x	analog input x
O _x	analog output x
24 V _{ext.out}	power supply, out of external voltage, positive pole (AUX, actuator supply)
0 V _{ext.out}	power supply, out of external voltage, negative pole (AUX, 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)

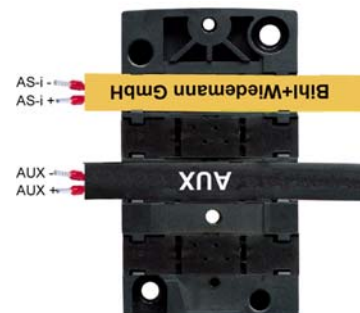
Connections									
Article No.	M12 connection	Mark	Pin1	Pin2	Pin3	Pin4	Pin5		
BWU3100 BWU3102	X1	I1	24V _{out of AS-i}	Sig+	0V _{out of AS-i} ⁽¹⁾	Sig- ⁽¹⁾	Shield		
	X2	I2	24V _{out of AS-i}	Sig+	0V _{out of AS-i} ⁽¹⁾	Sig- ⁽¹⁾	Shield		
	X3	not used							
	X4	not used							
	ADDR (dummy plug)	connection for AS-i 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 AS-i addressing device							
BWU3105 BWU3107	X1	O1	Sig+	24V _{ext.out}	Sig- ⁽¹⁾	0V _{ext.out} ⁽¹⁾	Shield		
	X2	O2	Sig+	24V _{ext.out}	Sig- ⁽¹⁾	0V _{ext.out} ⁽¹⁾	Shield		
	X3	not used							
	X4	not used							
	ADDR (dummy plug)	connection for AS-i addressing device							
BWU3106	X1	O1	24V _{ext.out}	Sig+	0V _{ext.out} ⁽¹⁾	Sig- ⁽¹⁾	Shield		
	X2	O2	24V _{ext.out}	Sig+	0V _{ext.out} ⁽¹⁾	Sig- ⁽¹⁾	Shield		
	X3	not used							
	X4	not used							
	ADDR (dummy plug)	connection for AS-i addressing device							

⁽¹⁾ Pin 3 bridged internally with Pin 4.

Mounting according to cable direction

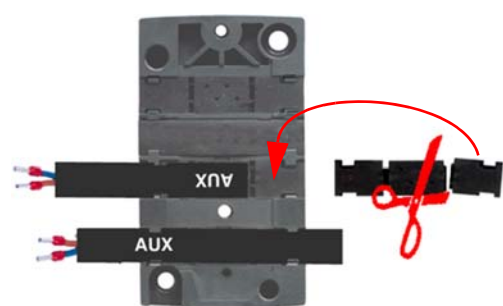
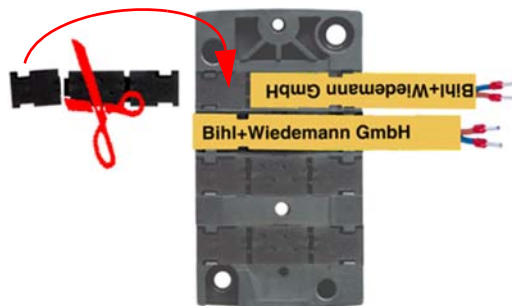


ordinary



turned

Line termination with sealing profiles / as junction



Accessories:

- AS-i substructure module for 4 channel module in 45 mm housing (art. no. BW2349)
- AS-i 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)