

Robust housing solution for cabinet mounting



(Figure similar)

Figure	Type	Inputs digital	Outputs digital	Input voltage (sensor supply) ⁽¹⁾	Output voltage (actuator supply) ⁽²⁾	AS-i connection ⁽³⁾	AS-i address ⁽⁴⁾	Article No.
	stainless Steel, IP20, depth: 45 mm	4	3 x relay	out of AS-i	—	clamps	1 AB slave	BW1808
	stainless Steel, IP20, depth: 45 mm	4	4 x relay	out of AS-i	—	clamps	1 single slave	BW1926
	stainless Steel, IP20, depth: 45 mm	4	4 x electronic	out of AUX	out of AUX	clamps	1 AB slave	BWU1907
	stainless Steel, IP20, depth: 45 mm	4	4 x electronic	out of AUX	out of AUX	clamps	1 single slave	BWU2565
	stainless Steel, IP20, depth: 45 mm	8	—	out of AUX	—	clamps	2 AB slaves	BWU2077
	stainless Steel, IP20, depth: 45 mm	—	8 x electronic	—	out of AUX	clamps	2 AB slaves	BWU2078
	stainless Steel, IP20, depth: 90 mm	4	4 x relay	out of AS-i	—	clamps	1 single slave	BW2555
	stainless Steel, IP20, depth: 90 mm	8	—	out of AUX	—	clamps	2 AB slaves	BWU2556

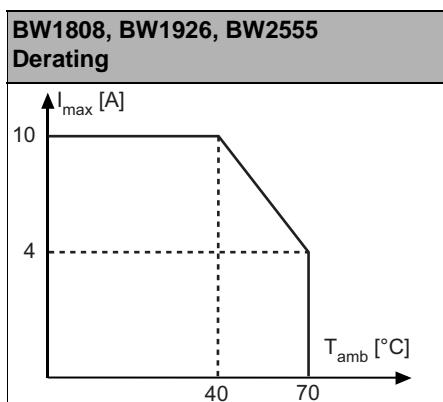
Replacement, AS-i version 2.0: Single Slaves (digital), work even with the first AS-i Masters.

- (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):** Electronic 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. For relay outputs the relay contacts are initiated from AS-i. The load circuit is powered externally as specified in the data sheet.
- (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:** 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.	BW1808	BW1926	BW2555		
General data					
Device type	input / output				
Connection					
AS-i / AUX connection	spring type terminals				
Periphery connection	spring type terminals				
Length of connector cable	I: max. 1,5 m O: unlimited ⁽¹⁾				
AS-i					
Profile	S-7.A.E, ID1= 7 (default)	S-7.F.E, ID1= F (default)			
AS-i address	1 AB slave	1 single slave			
Required Master profile	≥M3	≥M0			
Since AS-i specification	2.1	2.0			
Operating voltage	30 V (26 ... 31,6 V)				
Max. current consumption	200 mA				
Max. current consumption without sensor/ actuator supply	<30 mA				
AUX					
Voltage	–				
Max. current consumption	–				
Input					
Number	4				
Power supply	out of AS-i				
Power supply of attached sensors	max. 100 mA				
Input level	inputs 24 V _{DC} < 0,8 mA (low) > 5 mA (high)				
Output					
Number	up to +40 °	3 x relays, change over, 230 V; 10 A ⁽²⁾ (AC1)	4 x relays, change over, 230 V; 10 A ⁽²⁾ (AC1)		
	at +70 °C	3 x relays, change over, 230 V; 4 A ⁽²⁾ (AC1)	4 x relays, change over, 230 V; 4 A ⁽²⁾ (AC1)		
Relay control	out of AS-i				
Max. output current	–				
Display					
LED PWR (green)	AS-i voltage o.k.				
LED AUX (green)	–				
LED FLT/FAULT (red)	communication error				
LEDs I1 ... In (yellow)	state of inputs I1 ... I4				
LEDs O1 ... On (yellow)	state of outputs O1 ... O3	state of outputs O1 ... O4			
Environment					
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 60529				
UL certified	yes				
Operating altitude	max. 2000 m				
Ambient temperature	-25 °C ... +45 °C (up to max. +70 °C) ⁽³⁾				
Storage temperature	-25 °C ... +70 °C				
Housing	stainless steel, for DIN rail mounting				
Protection category	IP20				
Voltage of insulation	330 g		440 g		
Weight	50 / 120 / 45		50 / 120 / 90		

⁽¹⁾ Loop resistance: ≤150 Ω.

(2)



It is possible to connect multiple relay modules in parallel.

(3) Maximum ambient operating temperature +45 °C according UL certificate for the use in the USA and Canada.

Article no.	BWU2565	BWU1907
General data		
Device type	input/output	
Connection		
AS-i / AUX Connection	spring type terminals	
Periphery connection	sprint type terminals	
Length of connector cable	I/O: max. 1,5 m ⁽¹⁾	
UL-specifications (UL61010-1 and UL61010-2-201)		
External protection	An isolated source with a secondary open circuit voltage of ≤30 V _{DC} with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.	
AS-i		
Profile	S-7. F. E, ID1=7 (fixed)	S-7.A.7, ID1= 7 (fixed)
Address	1 Single Slave	1 AB Slave
Required Master profile	≥M0	≥M4
Since AS-i specification	2.0	3.0
Operating voltage	30 V (18 ... 31,6 V)	
Max. current consumption	60 mA	
Max. current consumption without sensor/ actuator supply	<30 mA	
AUX		
Voltage	24 V (18 ... 30 V)	
Max. current consumption	AUX-I: 1,2 A permanent operating; 4 A max.	AUX-I: 1,2 A permanent operation; 4 A max.
	AUX-O: 1,2 A permanent operation; 4 A max.	AUX-O: 2 A permanent operation; 4 A max.
	in total: 8 A max.	in total: 8 A max.
Input		
Number	4	
Power supply	out of AUX	
power supply of attached sensors	up to +40 °C	1,2 A permanent operation ⁽²⁾
	at +55 °C	0,9 A permanent operation ⁽²⁾
	at +70 °C	0,6 A permanent operation ⁽²⁾
Switching threshold	inputs 24 V _{DC} < 0,8 mA (low) > 5 mA (high)	

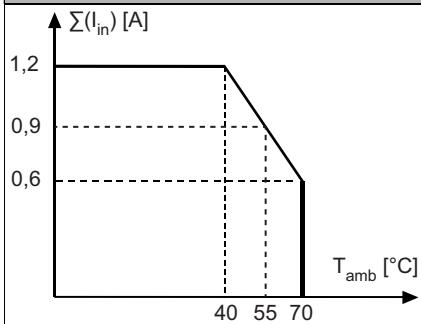
Article no.	BWU2565		BWU1907
Output			
Number	4 x electronic		
Power supply	out of AUX		
Max. output current	up to +40 °C	0,5 A per output, Σ (Out) 1,2 A ⁽³⁾	
	at +55 °C	0,5 A per output, Σ (Out) 0,9 A ⁽³⁾	
	at +70 °C	0,5 A per output, Σ (Out) 0,6 A ⁽³⁾	
Display			
LED PWR (green)	on: AS-i voltage o.k.		
LED AUX (green)	AUX-I: AUX voltage for inputs o.k., AUX-O: AUX voltage for outputs o.k.		
LED FLT/FAULT (red)	on: communication error flashing: AUX I voltage missing or overload		
LEDs I1 ... In (yellow)	state of input I1 ... I4		
LEDs O1 ... On (yellow)	state of outputs O1 ... O4		
Environment			
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 60529		
UL certified	no		
Operating altitude	max. 2000 m		
Ambient temperature	-25 °C ... +70 °C		
Storage temperature	-40 °C ... +70 °C		
Housing	stainless steel, for DIN rail mounting		
Protection category	IP20		
Voltage of insulation	330 g		
Weight	50 / 120 / 45		

(1) Loop resistance: $\leq 150 \Omega$.

(2)

BWU1907, BWU2565

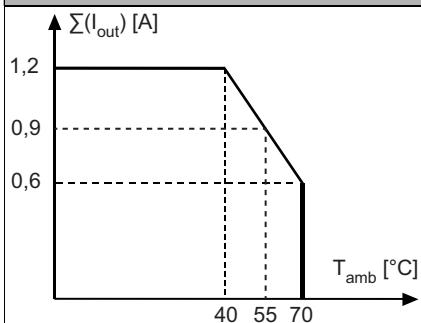
Derating power supply of attached sensors



(3)

BWU1907, BWU2565

Derating total current of outputs

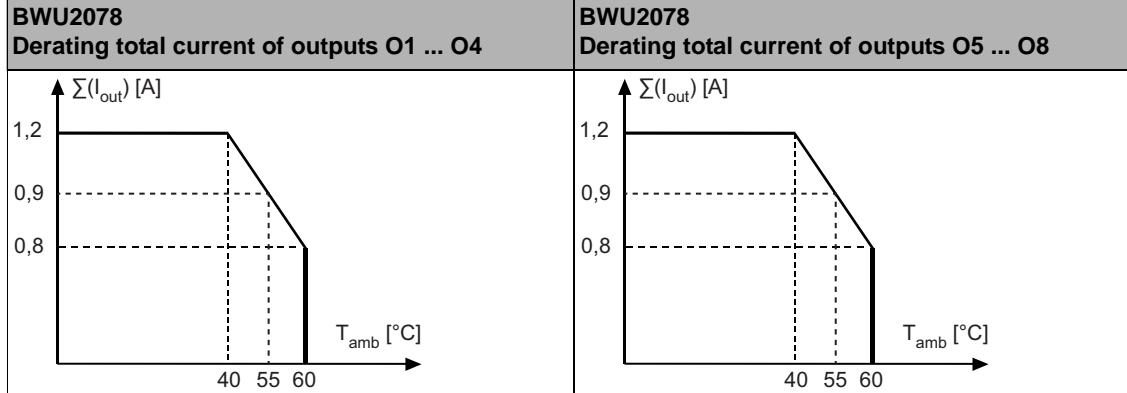


Article no.	BWU2078	BWU2077	BWU2556
General data			
Device type	output	input	
Connection			
AS-i / AUX Connection	spring type terminals		
Periphery connection	spring type terminals		
Length of connector cable	O: max. 1,5 m ⁽¹⁾	I: max. 1,5 m ⁽¹⁾	
UL-specifications (UL61010-1 and UL61010-2-201)			
External protection	An isolated source with a secondary open circuit voltage of $\leq 30 \text{ V}_{\text{DC}}$ with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.		
AS-i			
Profile	S-7.A.7, ID1= 7 (fixed)	2 x S-0.A.E, ID1= 7 (fixed)	
Address	2 AB Slaves		
Required Master profile	$\geq \text{M4}$	$\geq \text{M3}$	
Since AS-i specification	3.0	2.1	
Operating voltage	30 V (18 ... 31,6 V)		
Max. current consumption	80 mA	100 mA	
Max. current consumption without sensor/ actuator supply	<30 mA		
AUX			
Voltage	24 V (18 ... 30 V)		
Max. current consumption	AUX1: 2 A permanent operation; 4 A max. AUX2: 2 A permanent operation; 4 A max. in total: 8 A max.	AUX: 1,2 A permanent operation; 4 A max.	
Input			
Number	–	8	
Power supply	–	out of AUX	
power supply of attached sensors	up to +40 °C	–	1,2 A permanent operation ⁽³⁾
	at +55 °C	–	0,9 A permanent operation ⁽³⁾
	at +60 °C	–	0,8 A permanent operation ⁽³⁾
Switching threshold	–	inputs 24 V _{DC} < 0,8 mA (low) > 5 mA (high)	
Output			
Number	8 x electronic	–	
Power supply	out of AUX	–	
Max. output current	up to +40 °C	0,5 A per output, $\sum (O1 \dots O4) 1,2 \text{ A} + \sum (O5 \dots O8) 1,2 \text{ A}^{(2)}$	–
	at +55 °C	0,5 A per output, $\sum (O1 \dots O4) 0,9 \text{ A} + \sum (O5 \dots O8) 0,9 \text{ A}^{(2)}$	–
	at +60 °C	0,5 A per output, $\sum (O1 \dots O4) 0,6 \text{ A} + \sum (O5 \dots O8) 0,8 \text{ A}^{(2)}$	–
Display			
LED PWR (green)	on: AS-i voltage o.k. flashing: address 0		
LED AUX (green)	AUX 1, AUX 2: AUX voltage o.k.	AUX voltage o.k.	
LED FLT/FAULT (red)	communication error	on: communication error flashing: AUX voltage missing or overload	
LEDs I1 ... In (yellow)	–	state of inputs I1 ... I8	
LEDs O1 ... On (yellow)	state of outputs O1 ... O8	–	

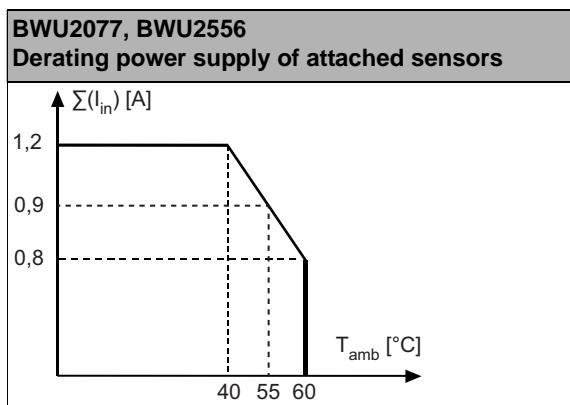
Article no.	BWU2078	BWU2077	BWU2556
Environment			
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 60529		EN 61131-2 EN 61000-6-2 EN 61000-6-3 EN 60529
UL certified		no	
Operating altitude		max. 2000 m	
Ambient temperature		-25 °C ... +60 °C	
Storage temperature		-40 °C ... +70 °C	
Housing		stainless steel, for DIN rail mounting	
Protection category		IP20	
Voltage of insulation	330 g		440 g
Weight	50 / 120 / 45		50 / 120 / 90

(1) Loop resistance: $\leq 150 \Omega$.

(2)



(3)



Programming	Bit setting			
	D0	D1	D2	D3
	input			
BW1808 / BWU1907 / BW1926 / BW2555 / BWU2565	I1	I2	I3	I4
BWU2077 / BWU2556	Slave 1: I1	Slave 1: I2	Slave 1: I3	Slave 1: I4
	Slave 2: I5	Slave 2: I6	Slave 2: I7	Slave 2: I8
output				
BW1808	O1	O2	O3	-
BWU1907 / BW1926 / BW2555 / BWU2565	O1	O2	O3	O4
BWU2078	Slave 1: A1	Slave 1: A2	Slave 1: A3	Slave 1: A4
	Slave 2: A5	Slave 2: A6	Slave 2: A7	Slave 2: A8
parameter bit				
P0	P1	P2	P3	
BWU1907 / BWU2565	0= Off / 1= On (Watchdog)	0= ON / 1= Off (data input filter 128 µs)	0= On / 1= Off (synchronous I/O mode)	not used
BW1808 / BW1926 / BWU2077 / BWU2078 / BW2555 / BWU2556	not used			

Connections:				
BW1808 / BW1926 / BW2555				
● ADDR	AS-i+ AS-i- +24V I1 +24V I2 0V 0V +24V I3 +24V I4 AS-i+ AS-i-	● PWR ● FLT ● I1 ● I2 ● I3 ● I4	PE PE K4CM K4NO K4NC K3NC K3CM K3NO K2CM K2NO K2NC K1NC K1CM K1NO	ASI+, ASI- +24 V, 0 V Sensor supply, generated out of AS-i PE Protective ground I1 ... I4 24V inputs K1CM ... K4CM Relay common K1NO ... K4NO Relay normally open K1NC ... K4NC Relay normally closed
Notice: In article no.: BW1808 the output O4 is not assigned; K4 is not used!				
BWU1907 / BWU2565				
● ADDR	AS-i+ AS-i- +24V I1 +24V I2 0V 0V +24V I3 +24V I4 AS-i+ AS-i-	● AUX-I ● AUX-O ● I1 ● I2 ● I3 ● I4	+24V ext.in 0V ext.in nc nc +24V O ext.in 0V O ext.in O1 0VO O2 0VO O3 0VO O4 0VO	AS-i+, AS-i- +24 V I ext.in, 0 V I ext.in +24 V O ext.in, 0 V O ext.in +24 V I, 0 V I 0 V O I1 ... I4 O1 ... O4
Connection to the AS-i bus Supply inputs for inputs Supply inputs for outputs Sensor supply Supply outputs GND for outputs Inputs Outputs				
BWU2077 / BWU2556				
● ADDR 1 ● ADDR 2	AS-i+ AS-i- +24V I1 0V 0V +24V I2 +24V I3 0V 0V +24V I4	● PWR ● FLT ● I1 ● I2 ● I3 ● I4 ● AUX ● I5 ● I6 ● I7 ● I8	+24V ext.in 0V ext.in I5 +24V 0V 0V I6 +24V I7 +24V 0V 0V I8 +24V	AS-i+, AS-i- +24 V ext.in, 0 V ext.in Sensor supply I1 ... I8
Connection to the AS-i bus Supply inputs for inputs Sensor supply Inputs				

Connections:		BWU2078	
AS-i +	AS-i -	ADDR 1	AS-i +, AS-i - Connection to the AS-i bus
0V 1 ext.in	+24 V 1 ext.in	ADDR 2	+24 V 1 ext.in 0V 1 ext.in Supply inputs for outputs
0V 1	O 1	PWR	0V 1 ext.in outputs O1 ... O4
0V 1	O 2	FLT	+24 V 2 ext.in 0V 2 ext.in Supply inputs for outputs
0V 1	O 3	O 1	0V 2 ext.in outputs O5 ... O8
0V 1	O 4	O 2	0V1 Reference potential for outputs O1 ... O4
AS-i +	AS-i -	O 3	0V2 Reference potential for outputs O5 ... O8
		O 4	O1 ... O8 Outputs