

Robust housing solution for cabinet mounting



(Figure similar)

Figure	Type	Inputs digital	Outputs digital	Input voltage (sensor supply) ⁽¹⁾	Output voltage (actuator supply) ⁽²⁾	ASi connection ⁽³⁾	ASi address ⁽⁴⁾	Article No.
	stainless Steel, IP20, depth: 45 mm	4	3 x relay	out of ASi	—	clamps	1 AB address	BW1808
	stainless Steel, IP20, depth: 45 mm	4	4 x relay	out of ASi	—	clamps	1 single address	BW1926
	stainless Steel, IP20, depth: 45 mm	4	4 x electronic	out of AUX	out of AUX	clamps	1 AB address	BW1907
	stainless Steel, IP20, depth: 45 mm	4	4 x electronic	out of AUX	out of AUX	clamps	1 single address	BWU2565
	stainless Steel, IP20, depth: 45 mm	8	—	out of AUX	—	clamps	2 AB addresses	BWU2077
	stainless Steel, IP20, depth: 45 mm	—	8 x electronic	—	out of AUX	clamps	2 AB addresses	BW2078
	stainless Steel, IP20, depth: 90 mm	4	4 x relay	out of ASi	—	clamps	1 single address	BW2555
	stainless Steel, IP20, depth: 90 mm	8	—	out of AUX	—	clamps	2 AB addresses	BW2556

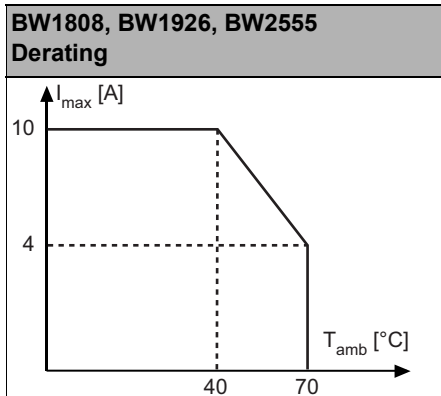
Replacement, ASi version 2: Single ASi nodes (digital), work even with the first ASi Masters.

- (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):** Electronic 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. For relay outputs the relay contacts are initiated from ASi. The load circuit is powered externally as specified in the data sheet.
- (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:** 1 AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), Single addresses (max. 31 Single addresses/ASi network), mixed use allowed.
For modules with two ASi nodes the second ASi node is turned off as long as the first ASi node is addressed to address "0".
Upon request, ASi nodes are available with specific ASi address profiles.

Article no.		BW1808		BW1926		BW2555	
General data							
Device type		input / output					
Connection							
ASi / AUX connection		spring type terminals					
Periphery connection		spring type terminals					
Length of connector cable		I: max. 1,5 m O: unlimited ⁽¹⁾					
ASi							
Profile		S-7.A.E, ID1= 7 (default)		S-7.F.E, ID1= F (default)			
ASi address		1 AB address		1 single address			
Required Master profile		≥M3		≥M0			
Since ASi specification		2.1		2			
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 ASi					
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 ASi					
Max. output current		—					
Display							
LED PWR (green)		ASi 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					
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe		yes ⁽³⁾					
UL certified		yes					
Operating altitude		max. 2000 m					
Ambient temperature		-25 °C ... +45 °C (up to max. +70 °C) ⁽⁴⁾					
Storage temperature		-25 °C ... +70 °C					
Housing		stainless steel, for DIN rail mounting					
Protection category		IP20					
Weight		330 g				440 g	
Dimensions (W / H / D) in mm		50 / 120 / 45				50 / 120 / 90	

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

(2)



It is possible to connect multiple relay modules in parallel.

(3) The module is suitable for use in passively safe paths as it has no connection to an AUX potential.

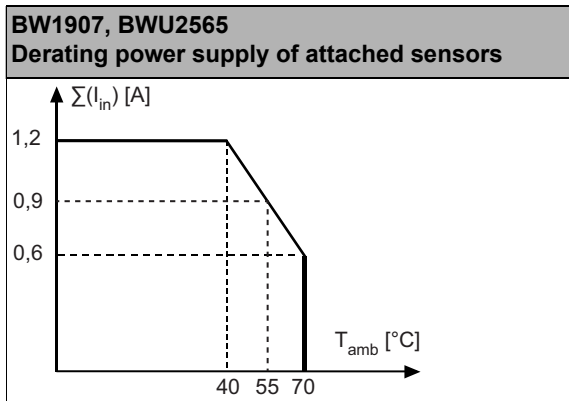
(4) Maximum ambient operating temperature +45 °C according UL certificate for the use in the USA and Canada.

Article no.		BWU2565	BW1907
General data			
Device type		input/output	
Connection			
ASi / 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.	
ASi			
Profile		S-7. F. E, ID1=7 (fixed)	S-7.A.7, ID1= 7 (fixed)
Address		1 Single address	1 AB address
Required Master profile		≥M0	≥M4
Since ASi specification		2	3
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)	

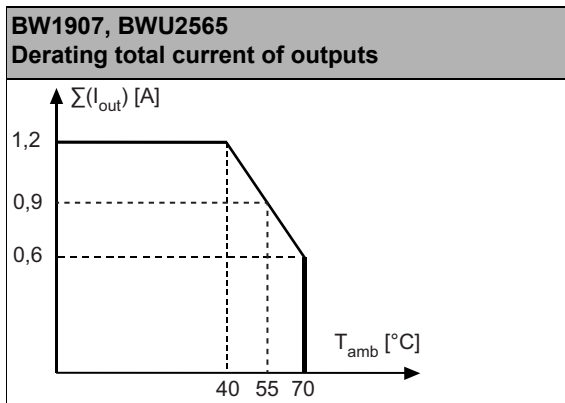
Article no.		BWU2565	BW1907
Output			
Number		4 x electronic	
Power supply		out of AUX	
Max. output current	up to +40 °C	0,5 A per output, $\sum$ (Out) 1,2 A ⁽³⁾	
	at +55 °C	0,5 A per output, $\sum$ (Out) 0,9 A ⁽³⁾	
	at +70 °C	0,5 A per output, $\sum$ (Out) 0,6 A ⁽³⁾	
Display			
LED PWR (green)		on: ASi 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	
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe		no ⁽⁴⁾	
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	
Weight		330 g	
Dimensions (W / H / D) in mm		50 / 120 / 45	

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

(2)



(3)



(4)

The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.

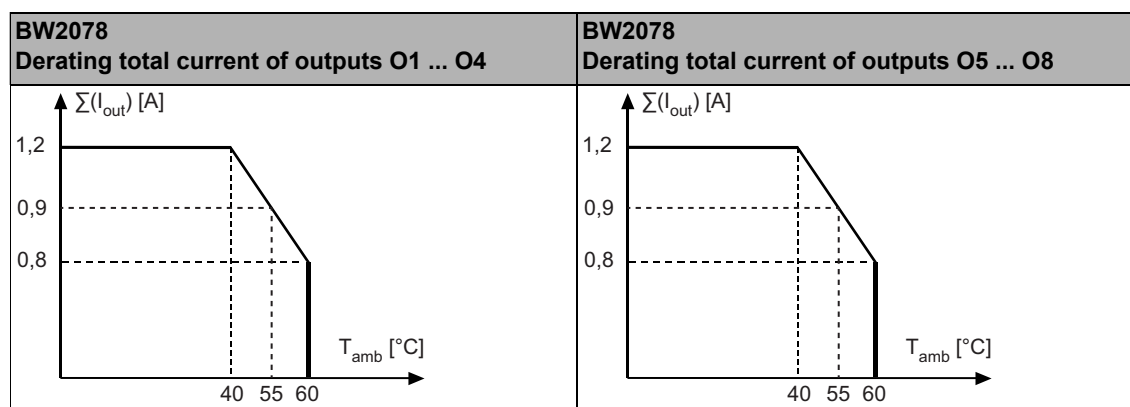
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

Article no.		BW2078	BWU2077	BW2556
General data				
Device type		output	input	
Connection				
ASi / 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 ≤30 V _{DC} with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.		
ASi				
Profile		S-7.A.7, ID1= 7 (fixed)	2 x S-0.A.E, ID1= 7 (default)	
Address		2 AB addresses		
Required Master profile		≥M4	≥M3	
Since ASi specification		3	2.1	
Operating voltage		30 V (26 ... 31,6 V)	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.	AUX: 1,2 A permanent operation; 4 A max.	
		AUX2: 2 A permanent operation; 4 A max.		
		in total: 8 A max.		
Input				
Number		—	8	
Power supply		—	out of AUX	
power supply of attached sensors	up to +40 °C	—	1,2 A permanent operation ⁽⁴⁾	
	at +55 °C		0,9 A permanent operation ⁽⁴⁾	
	at +60 °C		0,8 A permanent operation ⁽⁴⁾	
Switching threshold		—	inputs 24 V _{DC} < 0,8 mA (low) > 5 mA (high)	

Article no.		BW2078	BWU2077	BW2556
Output				
Number		8 x electronic	—	
Power supply		out of AUX	—	
Max. output current	up to +40 °C	0,5 A per output, Σ (O1 ... O4) 1,2 A + Σ (O5 ... O8) 1,2 A ⁽²⁾	—	
	at +55 °C	0,5 A per output, Σ (O1 ... O4) 0,9 A + Σ (O5 ... O8) 0,9 A ⁽²⁾		
	at +60 °C	0,5 A per output, Σ (O1 ... O4) 0,6 A + Σ (O5 ... O8) 0,8 A ⁽²⁾		
Display				
LED PWR (green)		on: ASi 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	—	
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	
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe		no ⁽³⁾		
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		
Weight		330 g		440 g
Dimensions (W / H / D) in mm		50 / 120 / 45		50 / 120 / 90

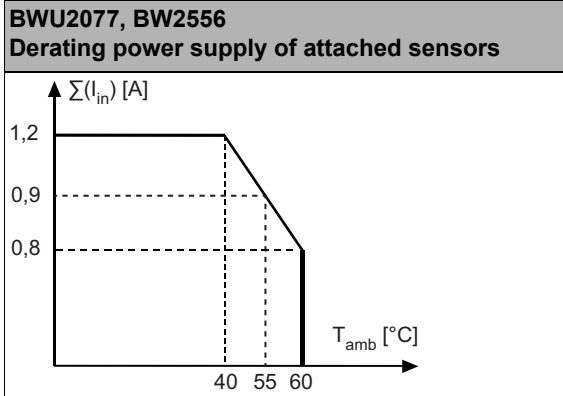
(1) Loop resistance: $\leq 150 \Omega$.

(2)



(3) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

(4)



UL-specifications (UL61010)

BWU2077, BWU2565

External protection	An isolated source with a secondary open circuit voltage of $\leq 30 V_{DC}$ with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.
In general	UL mark does not provide UL certification for any functional safety rating or aspects of the above devices.

Programming	Bit setting			
	D3	D2	D1	D0
	input			
BW1808 / BW1907 / BW1926 / BW2555 / BWU2565	I4	I3	I2	I1
BWU2077 / BW2556	ASi node 1: I4 ASi node 2: I8	ASi node 1: I3 ASi node 2: I7	ASi node 1: I2 ASi node 2: I6	ASi node 1: I1 ASi node 2: I5
	output			
BW1808	–	O3	O2	O1
BW1907 / BW1926 / BW2555 / BWU2565	O4	O3	O2	O1
BW2078	ASi node 1: A4 ASi node 2: A8	ASi node 1: A3 ASi node 2: A7	ASi node 1: A2 ASi node 2: A6	ASi node 1: A1 ASi node 2: A5
	parameter bit			
	P3	P2	P1	P0
BW1907 / BWU2565	not used	0= On / 1= Off (synchronous I/O mode)	0= On / 1= Off (data input filter 128 µs)	0= Off / 1= On (Watchdog)
BW1808 / BW1926 / BWU2077 / BW2078 / BW2555 / BW2556	not used			

Connections:

BW1808 / BW1926 / BW2555					
ASi+ ASi–		● ADDR	PE PE		ASi +, ASi –
+24V I1			K4CM K4NO		+24 V, 0 V
+24V I2		● PWR	K4NC K3NC		PE
0 V 0 V		● I1	K3CM K3NO		I1 ... I4
+24V I3		● I2	K2CM K2NO		K1CM ... K4CM
+24V I4		● I3	K2NC K1NC		K1NO ... K4NO
ASi+ ASi–		● I4	K1CM K1NO		K1NC ... K4NC
		● O1			
		● O2			
		● O3			
		● O4			

Notice: In article no.: BW1808 the output O4 is not assigned; K4 is not used!

Connections:

BW1907 / BWU2565

ASi+	ASi-	ADDR	+24V I ext.in	0V I ext.in	ASi +, ASi -	Connection to the ASi bus
+24V I1		● PWR	nc	nc	+24 V I ext.in	Supply inputs for inputs
+24V I2		● FLT	+24V O ext.in	0V O ext.in	0 V I ext.in	
0V I	0V I	● I1	O1	0V O	+24 V O ext.in	Supply inputs for outputs
+24V I3		● I2	O2	0V O	0 V O ext.in	
+24V I4		● I3	O3	0V O	+24 V I, 0 V I	Sensor supply
ASi+	ASi-	● I4	O4	0V O	0 V O	Supply outputs GND for outputs
		● AUX-I			I1 ... I4	Inputs
		● AUX-O			O1 ... O4	Outputs

BWU2077 / BW2556

ASi+	ASi-	ADDR 1	ADDR 2	+24V ext.in	0V ext.in	ASi +, ASi -	Connection to the ASi bus
+24V I1		● PWR		I5	+24V	+24 V ext.in, 0 V ext.in	Supply inputs for inputs
0V	0V	● FLT		0V	0V	+24 V, 0 V	Sensor supply
+24V I2		● I1	● AUX	I6	+24V	I1 ... I8	Inputs
+24V I3		● I2	● I5	I7	+24V		
0V	0V	● I3	● I6	0V	0V		
+24V I4		● I4	● I7	I8	+24V		
		● I5	● I8				

BW2078

ASi+	ASi-	ADDR 1	ADDR 2	+24V1 ext.in	0V1 ext.in	ASi +, ASi -	Connection to the ASi bus
0V1 ext.in	+24V1 ext.in	● PWR		+24V2 ext.in	0V2 ext.in	+24 V1 ext.in	Supply inputs for outputs
0V1	O1	● FLT	● AUX 1	+24V2 ext.in	0V2 ext.in	0 V1 ext.in	outputs O1 ... O4
0V1	O2	● O1	● AUX 2	O5	0V2	+24 V2 ext.in	Supply inputs for outputs
0V1	O3	● O2	● O5	O6	0V2	0 V2 ext.in	outputs O5 ... O8
0V1	O4	● O3	● O6	O7	0V2	0 V1	Reference potential for outputs O1 ... O4
ASi+	ASi-	● O4	● O7	O8	0V2	0 V2	Reference potential for outputs O5 ... O8
			● O8			O1 ... O8	Outputs

Accessories:

- ASi-5/ASi-3 Address Programming Device (art. no. BW4708)