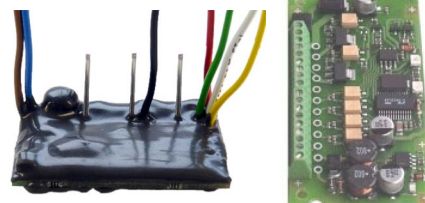


Circuit Board Modules ASi, PCB Solutions safe

ASi Safety Circuit Board Module

Connection of 2 safe switching contacts



(figure similar)

Figure	Type	Inputs Safety, SIL 3, cat. 4	Safety signal inputs	Outputs digital	Connection ⁽¹⁾	Coating ⁽²⁾	ASi address ⁽³⁾	Special function	Article no
	circuit board 43mm x 30mm	1 x 2 channels	floating contacts	2 x electronic	connecting wires, 100 mm	yes	1 Single address	for mounting in E-STOP housing	BWR2426
	circuit board 43mm x 30mm	1 x 2 channels	floating contacts	2 x electronic	connecting wires, 200 mm	yes	1 Single address	for mounting in E-STOP housing	BWR3067
	circuit board 43mm x 30mm	1 x 2 channels	floating contacts	2 x electronic	connecting wires, 100 mm + contact pins	yes	1 Single address	for mounting in E-STOP housing	BWR2521
	circuit board 73mm x 37,5mm	1 x 2 channels	floating contacts	2 x electronic	plug-in screw terminals	no	1 Single address	–	BWR1896
	circuit board 73mm x 37,5mm	1 x 2 channels	floating contacts	2 x electronic	screw terminals	no	1 Single address	–	BWR1751

(1) **Connection:** further connection options are available on request.

screw terminals nominal cross section 0,5 mm ²	wiring pins contact spacing 2,54 mm	solder lugs contact spacing 2,54mm	socket board nominal cross section 0,65 mm ²	plug-in spring type terminals nominal cross section 0,5 mm ²	connecting wires nominal cross section 0,34 mm Length 100 / 200 mm (other lengths available on request)

(2) **Coating:** Coating protects components and circuit boards when touched.

thin coated	thick coated

(3) **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.

Circuit Board Modules ASi, PCB Solutions safe



Article no.	BWR1751	BWR1896
Connection		
Connection	screw terminals	plug-in screw terminals
Length of connector cable	I/O: max. 15 m ⁽¹⁾	
ASi		
Profile, S-IO.ID.ID2	S-7.B.0	
Address	1 single address	
Required Master profile	≥ M0	
Since ASi specification	2	
Voltage	22 31,6V	
Max. current consumption	< 80 mA	
Max. current consumption without sensor/actuator supply	80 mA	
AUX		
Voltage	24 V (20 ... 30 V _{DC}) (PELV)	
Max. current consumption	220 mA ⁽²⁾	
Input		
Number	1 x 2 channels	
Safety signal	floating contacts	
Power supply	out of ASi	
Switching threshold	U _{in} < 2 V low, U _{in} >10 V high	
Max. loop resistance (switch)	200 Ω	
Output		
Number	2, electronic, short-circuit protected	
Power supply	out of AUX	
Max. output current	100 mA per output	
Display		
LED FLT (red)	ASi communication error	
LED ASi (green)	ASi voltage	
LED S1, S2 (yellow)	state of safe inputs	
LED Out1, Out 2 (yellow)	state of outputs	
UL Recognized Component		
In general	FUS mark does not provide UL certification for any functional safety rating or aspects of the above devices	
External protection	The input to the devices need to be provided with a fuse rated 4A max or else the devices need to be powered from a class 2 or a SELV limited power source.	
Environment		
Applied standards	EN 60529 EN 61000-6-2 EN 61000-6-4 EN 62061 SIL 3 EN ISO13849-1 PLe	
Ambient temperature	-30 °C ... +70 °C ⁽³⁾ no condensation permitted	
Storage temperature	-25 °C ... +85 °C	
Protection category	IP00	
Coated	no	
Allowable shock and vibration stress	≤15g, T ≤11 ms 10 ... 55 Hz, 0,5 mm amplitude	
Weight	27 g	
Dimensions (W /H / D in mm)	73 / 37,5 / 12	

⁽¹⁾ loop resistance: ≤ 150Ω

⁽²⁾ At output short-circuit max. 1.5 A.

⁽³⁾ temperature range up to -30°C from Ident.No. ≥16290 (BWR1896); Ident.No. ≥16291 (BWR1751)

Circuit Board Modules ASi, PCB Solutions safe

Article no.	BWR2426	BWR3067	BWR2521
Connection			
Connection	connecting wires, 100 mm	connecting wires, 200 mm	connecting wires, 100 mm + contact pins
Length of connector cable	I/O: max. 15 m ⁽²⁾		
ASi			
Profile, S-IO.ID.ID2	S-7.B.0		
Address	1 single address		
Required Master profile	≥ M0		
Since ASi specification	2.0		
Voltage	22 31,6 V		
Max. current consumption	< 120 mA		
Max. current consumption without sensor/actuator supply (min. I ASi)	80 mA		
Input			
Number	1 x 2 channels		
Safety signal	floating contacts		
Power supply	out of ASi		
Switching threshold	U _{in} < 2 V low, U _{in} >10 V high		
Max. loop resistance (switch)	100 Ω		
Output			
Number	2 x electronic ⁽³⁾	2 x electronic	
Power supply	out of ASi		
Max. output current	20 mA per output, Σ (outputs) ≤ 40 mA		
Display			
LED FLT (red)	ASi communication error		
LED ASi (green)	ASi voltage		
LED S1, S2 (yellow) ⁽¹⁾	state of safe inputs		
LED Out1, Out 2 (yellow)	state of outputs		
UL Recognized Component			
In general	RU mark does not provide UL certification for any functional safety rating or aspects of the above devices		
External protection	The input to the devices need to be provided with a fuse rated 4A max or else the devices need to be powered from a class 2 or a SELV limited power source.		
Environment			
Applied standards	EN 60529 EN 61000-6-2 EN 61000-6-4 EN 62061 SIL 3 EN ISO13849-1 PLe		
Ambient temperature	-30 °C ... +70 °C ⁽⁴⁾		
	no condensation permitted		
Storage temperature	-25 °C ... +85 °C		
Protection category	IP00 (thick coated)		
Coated	yes, thick coated		
Allowable shock and vibration stress	≤15g, T ≤11 ms 10 ... 55 Hz, 0,5 mm amplitude		
Weight	27 g		
Dimensions (W / H / D in mm)	43 / 10 / 30		

⁽¹⁾ **BWR2426, BWR2521, BWR3067:**

For proper functionality of the LED display, the node has to be in data exchange with the ASi master.

⁽²⁾ loop resistance: ≤ 100Ω

⁽³⁾ outputs short-circuit protected

⁽⁴⁾ temperature range up to -30°C from Ident.No. ≥16287 (BWR3067); Ident.No. ≥16288 (BWR2426); Ident.No. ≥16289 (BWR2521)

Circuit Board Modules ASi, PCB Solutions safe

Programming:	ASi Bit-setting			
	D0	D1	D2	D3
	Safe input			
BWR1751, BWR1896, BWR2426, BWR2521, BWR3067	S1	S1	S2	S2
	Output			
BWR1751, BWR1896, BWR2426, BWR2521, BWR3067	O1	O2	-	
	Parameter bit			
	P0	P1	P2	P3
BWR1751, BWR1896, BWR2426, BWR2521, BWR3067	not used			

Signal	BWR2426 / BWR3067	BWR2521
ASi +	BN	BN
ASi -	BU	BU
S11, S12	RD, RD	Pin, RD
S21, S22	YE, YE	Pin, YE
O1	WH	WH
O2	GR	GR
0V	BK	Pin, BK

BWR1751	BWR1896

Caution:

The modules can not be used with the OEM carrier board BW1484.

LED assignment	
BWR1751 / BWR1896	BWR2426 / BWR2521 / BWR3067

Accessories:

- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)
- Bihl+Wiedemann Safety Suite License - Safety Software for Configuration, Diagnostics and Commissioning (art. no. BW2916)