


Cost efficient solution in IP20



(Figure similar)

Figure	Housing	Primary application ⁽¹⁾	Inputs digital	Outputs digital	Input voltage (sensor supply) ⁽²⁾	Output voltage (actuator supply) ⁽³⁾	ASi connection ⁽⁴⁾	ASi address ⁽⁵⁾	Article No.
	22,5 mm x 99,0 mm x 114,5 mm, 6 x 4 contacts	control cabinet	8	–	out of AUX	–	Push-in terminals	2 AB addresses	BWU2721

(1) **Primary Application**

Control cabinet: Cost-optimized modules whereby the supply voltage for the sensors and actuators is connected via additional patch terminals. Optimal application in the main control cabinet.

Decentralized control cabinet: Ideal for use in decentralized control cabinets. 3-wire sensors or actuators can be connected directly to terminals in the module without additional patch terminals or the module has an extremely flat design.

(2) **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.

(3) **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

(4) **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).

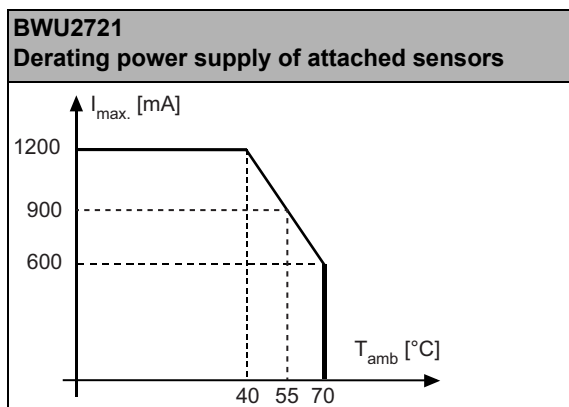
(5) **ASi address:** 1 AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), Single addresses (max. 31 Single addresses/ASi network), mixed use allowed. For modules with two ASi nodes the 2nd ASi node is turned off as long as the 1st ASi node is addressed to address "0". Upon request, ASi nodes are available with specific ASi node profiles.

Article no.	BWU2721	
General data		
Device type	input	
Connection		
ASi / AUX connection	Push-in terminals	
Periphery connection	Push-in terminals	
Primary application	control cabinet	
Length of connector cable	I/O: unlimited ⁽¹⁾	
ASi		
Profile	ASi node 1: S-7.A.E, ID1=7 (default) ASi node 2: S-7.A.E, ID1=6 (default)	
Address	2 AB addresses	
Required Master profile	≥M3	
Since ASi specification	2.1	
Operating voltage	30 V (18 ... 31.6 V)	
Max. current consumption	60 mA	
Max. current consumption without sensor/ actuator supply	60 mA	
AUX		
Voltage	24 V (18 ... 30 V)	
Max. current consumption	1,2 A	
Input		
Number	8	
Power supply	out of AUX	
Sensor supply	short-circuit and overload protected according to EN 61131	
Power supply of attached sensors	up to +40 °C	1200 mA permanent operation ⁽²⁾
	at +55 °C	900 mA permanent operation ⁽²⁾
	at +70 °C	600 mA permanent operation ⁽²⁾
Switching threshold	U < 5 V (low) U > 15 V (high)	
Display		
LED ASI/FLT 1 (red/green)	green: online red: offline yellow/red flashing: address 0	
LED ASI/FLT 2 (red/green)	green: online red: offline yellow/red flashing: address 0 red/green flashing: peripheral fault ⁽³⁾ red flashing: ASi node 2 is switched off, because ASi node 1 is offline	
LEDs I1 ... In (yellow)	state of inputs I1 ... I8	
LEDs O1 ... On (yellow)	-	
LED AUX (green)	on: 24 V _{DC} AUX off: no 24 V _{DC} AUX	

Article no.	BWU2721
Environment	
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 61131 EN 60529
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	yes ⁽⁴⁾
Operating altitude	max. 2000 m
Ambient temperature	-30 °C ... +55 °C (up to max. +70 °C) ⁽²⁾ ⁽⁵⁾ no condensation permitted
Storage temperature	-25 °C ... +85 °C
Housing	plastic, for DIN rail mounting
Pollution Degree	2
Protection category	IP20
Tolerable loading referring to humidity	according to EN 61131-2
Voltage of insulation	≥500 V
Weight	120 g
Dimensions (W / H / D in mm)	22,5 / 99 / 114

(1) Loop resistance ≤150 Ω

(2)



(3) see table „peripheral fault indication“

(4) BWU2721 from Ident. No. 18264; The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(5) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

Wiring rules

Push-in terminals, 2 / 3 / 4 poles (pitch 5 mm)	
General	
Nominal cross section	2.5 mm ²
Conductor cross section	
Conductor cross section solid	0.2 ... 2.5 mm ²
Conductor cross section flexible	0.2 ... 2.5 mm ²
Conductor cross section flexible, with ferrule	without plastic sleeve: 0.25 ... 2.5 mm ²
	with plastic sleeve: 0.25 ... 2.5 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules	without plastic sleeve: 0.5 ... 1.5 mm ²
AWG	24 ... 14
Stripped insulation length	10 mm

UL-specifications (UL508)	
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.
Contacting	Only the terminals included in the scope of delivery or identical terminals from the same manufacturer should be used. ⁽¹⁾

⁽¹⁾ From ident. No. 19577 the terminal blocks have been changed, in case of a module exchange the terminals of devices with Ident. No. <19577 cannot be transferred to the new device.

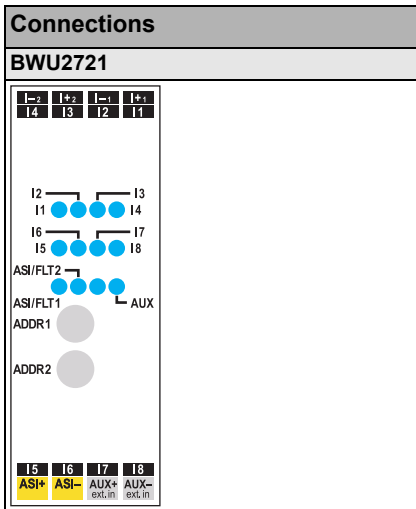
Article no.	Peripheral fault indication	
	Overload sensor supply	AUX voltage missing
BWU2721	-	•

Programming	Bit setting			
	D3	D2	D1	D0
	input			
BWU2721	ASi node 1: I4	ASi node 1: I3	ASi node 1: I2	ASi node 1: I1
	ASi node 2: I8	ASi node 2: I7	ASi node 2: I6	ASi node 2: I5

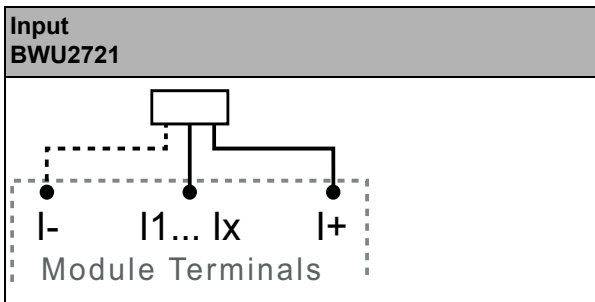
Programming	Bit setting			
	parameter bit			
	P3	P2	P1	P0
BWU2721	not used	0 = on / 1 = off (synchronous I/O mode)	0 = on / 1 = off (data input filter 128 μ s)	0 = off / 1 = on (peripheral fault, if AUX voltage missing)

Connections

Name	Explanation
I _x	digital input x
O _x	digital output x
O _{x3} , O _{x4}	relay output x
I ₊ , I ₋ , I ₊ _n , I ₋ _n	sensor supply
O ₋ _n	GND for outputs (PNP)
O ₊ _n	GND for outputs (NPN)
AUX ⁺ _{ext.in}	power supply, out of external voltage, positive pole (AUX, actuator supply)
AUX ⁻ _{ext.in}	power supply, out of external voltage, negative pole (AUX, actuator supply)
ASi ⁺ , ASi ⁻	connection to ASi bus
ADDR	connection for ASi addressing device
n.c. (not connected)	not connected



Power supply PNP



Note

To achieve passive safety, the device must be installed in a switching cabinet with protection class IP54.

Accessories:

- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)