

2 x connectors for profile cable

Periphery connection via connecting wires

To connect Leuze MLD530-RT3M with free selection of mode of operation to ASi.



(Figure similar)



Figure	Inputs Safety, SIL 3, Kat. 4	Safety Signal inputs	Inputs digital	Outputs digital	Input voltage (sensor supply) (1)	Output voltage (actuator supply) (2)	Connection (3)	ASi address (4)	Special function	Art. no.
	1 x 2-channels	OSSDs	–	2 x electronic	out of AUX	out of AUX	1 x round cable/ connecting wires	1 Single address	For connection to Leuze MLD530-RT3M (5)	BWU4166

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

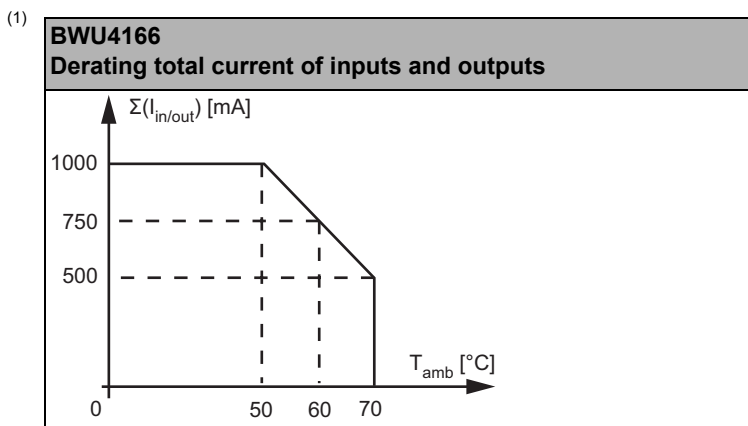
M12 cable socket, angled	M12 cable socket, straight	M8 cable socket, straight	round cable / connecting wires	Push in terminals
PUR line: oil resistant				

- (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.
- (5) **Connection to Leuze MLD530-RT3M:** The connection is made with free selection of the operating mode by suitable pin assignment (operating mode 6 only possible with 1 sensor)

Article no.	BWU4166
General data	
Device type	safe input
Connection	
ASi/AUX connection	Profile cable and piercing technology
Periphery connection	1 x round cable/connecting wire
Cable	2 m
	max. allowed tensile strain 10 N
ASi	
Profile	S-7.B.1, (ID1=F, default)
Address	1 Single address
Required Master profile	≥M3
As of ASi specification	2.1
Operating voltage	30 V (21,6 ... 31.6 V)
Max. current consumption	60 mA
Max. current consumption without sensor/ actuator supply	60 mA

Article no.		BWU4166
AUX		
Voltage		24 V (20 ... 30 V _{DC}) (PELV)
Max. current consumption		max. 1 A ⁽¹⁾
Input		
Number		1 x 2-channels safe input
Safety Signal		OSSDs
Power supply		out of AUX
Sensor supply		short-circuit and overload protected, according to EN 61131-2
Power supply of attached sensors	up to +50 °C	750 mA, $\Sigma(\text{In/Out})$ 1 A ⁽¹⁾
	at +60 °C	750 mA, $\Sigma(\text{In/Out})$ 750 mA ⁽¹⁾
	at +70 °C	500 mA, $\Sigma(\text{In/Out})$ 500 mA ⁽¹⁾
Switching threshold safe input		V _{in} > 11 V for High-Level, V _{in} < 5 V for Low-Level, Input current > 2,5 mA at 15 V
Switching threshold standard input		–
OSSD test pulses		0 ... 50 Hz
OSSD test pulse length		U _{aux} ≥ 21,5 V = 0 ... 1 ms test pulses possible U _{aux} ≥ 17 V = 0 ... 0,8 ms test pulses possible U _{aux} < 17 V = 0 ... 0,6 ms
Start delay		< 22 ms
Output		
Number		2
Power supply		out of AUX
Output		short-circuit and overload protected, according to EN 61131-2
Max. output current	up to +50 °C	750 mA, $\Sigma(\text{In/out})$ 1 A ⁽¹⁾
	at +60 °C	750 mA, $\Sigma(\text{In/Out})$ 750 mA ⁽¹⁾
	at +70 °C	500 mA, $\Sigma(\text{In/Out})$ 500 mA ⁽¹⁾
Display		
LED ASI/FLT (red/green)		green: ASi voltage on, ASi node online green/red: ASi voltage on, but ASi node offline green flashing/red: address 0 alternating green flashing/red flashing: peripheral fault ⁽²⁾ off: no ASi voltage
LEDs S1, S2 (yellow)		state of inputs S1, S2
LED O1, O2 (yellow)		state of outputs O1, O2

Article no.	BWU4166
Environment	
Applied standards	EN ISO 13849-1 PLe Kat4 EN ISO13849-2 EN 62061 SIL 3 EN 62026-2 EN 61000-6-2 EN 61000-6-4 EN 60529
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	no ⁽³⁾
Operating altitude	max. 2000 m
Ambient temperature	30 °C ... +60 °C (bis max. +70 °C) ^{(1) (4)}
Storage temperature	-25 °C ... +85 °C
Housing	plastic, for screw mounting, suitable for cable ducts (installation depth ≥19 mm)
Pollution Degree	2
Protection category	IP67 ⁽⁵⁾
Tolerable loading referring to humidity	according to EN61131-2
Maximum tolerable shock and vibration stress	≤15g, T≤11 ms 10 ... 55 Hz, 0,5 mm amplitude
Insulation voltage	≥500 V
Weight	100 g
Dimensions (W / H / D) in mm	60 / 45 / 19



(2) see table "Peripheral fault indication"

(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) Down to -25 °C with flexibly mounted cable, -30 °C only with fixed mounted cable.

(5) Protection category IP67 can only be achieved, if also the cable connector fulfills IP67.

Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU4166	•	•	•

Programming	ASi bit assignment			
	D3	D2	D1	D0
	safe input			
BWU4166	OSSD2	OSSD2	OSSD1	OSSD1
	output			
BWU4166	-	-	O2	O1
	parameter bit			
	P3	P2	P1	P0
BWU4166	not used	not used	not used	(0 = off / 1 = on) (Watchdog)

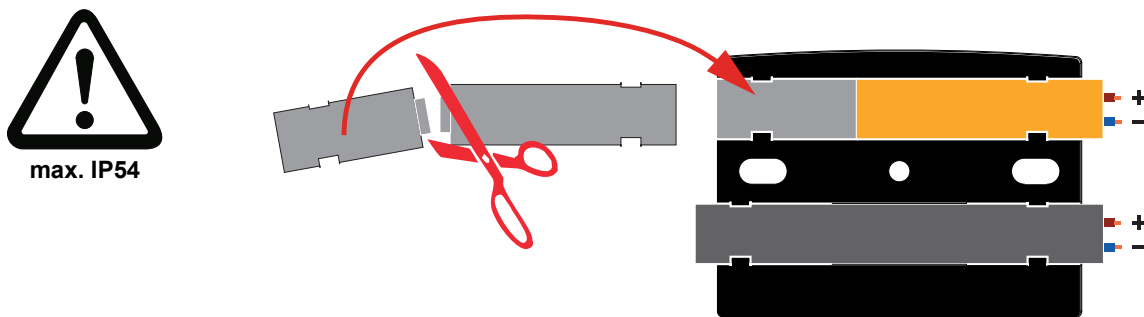
Pin assignment

Signal name	Explanation
Sx +, Sx -	safe inputx
Ox	digital 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)

Connections: round cable/connecting wires										
Article no.	Connec- tion	WH	BN	GN	YE	GY	PK	BU	RD	
BWU4166	X1	O1 (1)	0 V ext out	24 V ext out	O1 (1)	OSSD 2	OSSD 1	24 V ext out	O2	

(1) Internally bridged

Line termination with sealing profile



Accessories:

- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- 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)