

ASi-5 motor module for 48 V motorized rollers Interroll EC5000 AI

ASi-5 motor module for 48 V motorized rollers, IP67, M12, 2M/4I

New standard ASi-5

**suitable for
2 x 48 V motorized rollers Interroll EC5000 AI with 20 W/35 W/50 W**

Cyclic writing of speed and ramps possible

4 x digital inputs for sensor connection

Protection category IP67



(figure similar)



Article no.	BWU4212	
General data		
Motorized rollers	2 x Interroll (EC5000 AI, 48V, 20 W/35 W/50 W)	
Connection		
ASi/AUX connection	profile cable and piercing	
Periphery connection	M12	
ASi		
Address	1 ASi-5 slave	
Required ASi specification of master	ASi-5	
Operating voltage	30 V (18 ... 31.6 V)	
Max. current consumption	200 mA	
AUX		
Voltage	48 V _{DC} (45 ... 51 V) ⁽¹⁾	
Max. current consumption	at 20 W: 1,4 A continuously, 3,0 A peak	
	at 35 W: 2,4 A continuously, 5,6 A peak	
	at 50 W: 3,4 A continuously, 7,6 A peak	
Input		
Number	4 x sensor inputs + 2 x motor fault inputs	
Power supply	sensor inputs: out of ASi motor fault inputs: out of AUX (48 V) ⁽¹⁾	
Power supply of attached sensors	up to +40 °C	120 mA ⁽²⁾
	at +55 °C	80 mA ⁽²⁾
	at +70 °C	40 mA ⁽²⁾
Switching threshold	U _{in} < 5 V (low)	
	U _{in} > 10 V (high)	

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Output		
Number (digital)		2
Number (analog)		2
Power supply		out of AUX (48 V) ⁽¹⁾ (galvanic separation)
Overload voltage tolerated by reaction (AUX)		60 V-resistant brake resistor compatible
Max. output current		10 mA per output
Supply of motors		out of AUX (48 V) ⁽¹⁾
Max. current for motor supply	up to +40 °C	per motor: 1,7 A continuously ⁽³⁾
	at +55 °C	per motor: 1,35 A continuously ⁽³⁾
	at +70 °C	per motor: 1,0 A continuously ⁽³⁾
Line protection fuse		yes, separately for each motor, 4,0 A, at 8 A (200%) release between 1 s and 120 s, fuse UL certified ⁽⁴⁾
Display		
LED ASI (green)		on: ASi voltage on off: no ASi voltage
LED FLT/FAULT (red)		on: no data exchange flashing: peripheral fault ⁽⁵⁾ off: data exchange ok
LED AUX (green)		on: 24 V DC AUX off: no 24 V DC AUX
LEDs I1 ... I4 (yellow)		state of inputs I1 ... I4
LEDs M1, M2 (yellow)		state of motors M1, M2 on: motor on off: motor off
LEDs ERR1, ERR2 (red)		on: fuse at motor M1, M2 is blown ⁽⁵⁾ flashing: motor M1, M2 is signaling fault condition ⁽⁵⁾
Environment		
Applied standards		EN 61000-6-2, EN 61000-6-4, EN 60529
Operating altitude		max. 2000 m
Operating temperature		-30 °C ... +70 °C) ^{(2) (3)}
Storage temperature		-25 °C ... +85 °C
Housing		plastic, for DIN rail mounting
Protection category		IP67
Tolerable loading referring to humidity		according to EN 61131-2
Max. tolerable shock load		30g, 11 ms, acc. EN 61131-2
Max. tolerable vibration stress		5 ... 8 Hz 50 mm _{pp} /8 ... 500 Hz 6g, acc. EN 61131-2
Isolation voltage		≥ 500 V
Weight		200 g
Dimensions (W / H / D in mm)		45 / 80 / 38 (without substructure module)

(1)



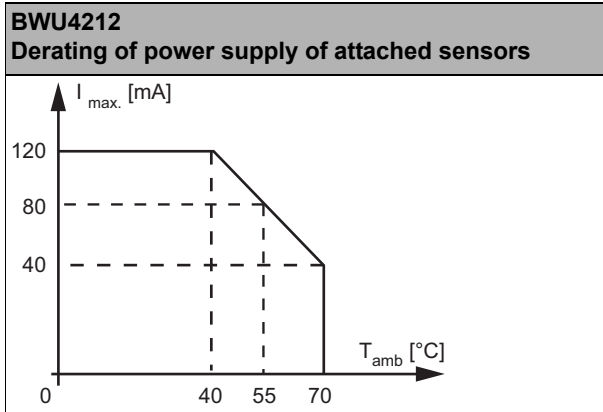
Notice

48 V_{DC} **must not** be connected to:
device with 24 V_{DC} operating voltage (see data sheet of the manufacturer)

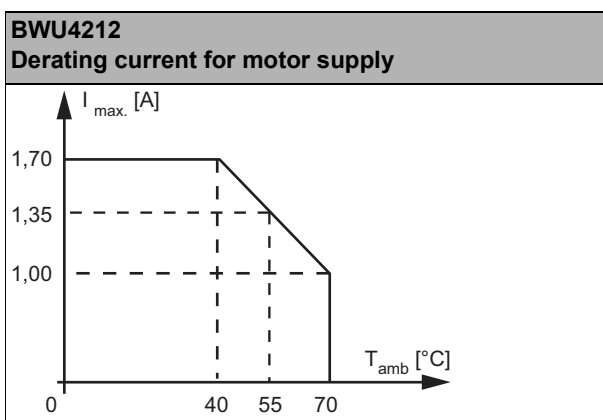
- the ASi connection of the device
- the ASi gateway

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(2)

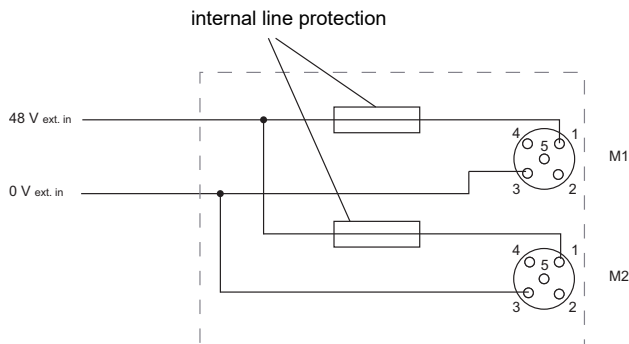


(3)



(4)

In the motor module UL approved fuses are placed before each of the motor supply connections. A short circuit in the motor causes this fuse to blow, protecting the connection cable between the module and motor. After blowing the fuse the module is no longer functional and needs to be replaced. The characteristics of the fuse must be checked against the motor data before using the module. The protection circuit in the module allows a very simple protection of the motor cables. The fuse for the cable protection is a slow-blow one; without short circuit the robust behavior of the module remains.

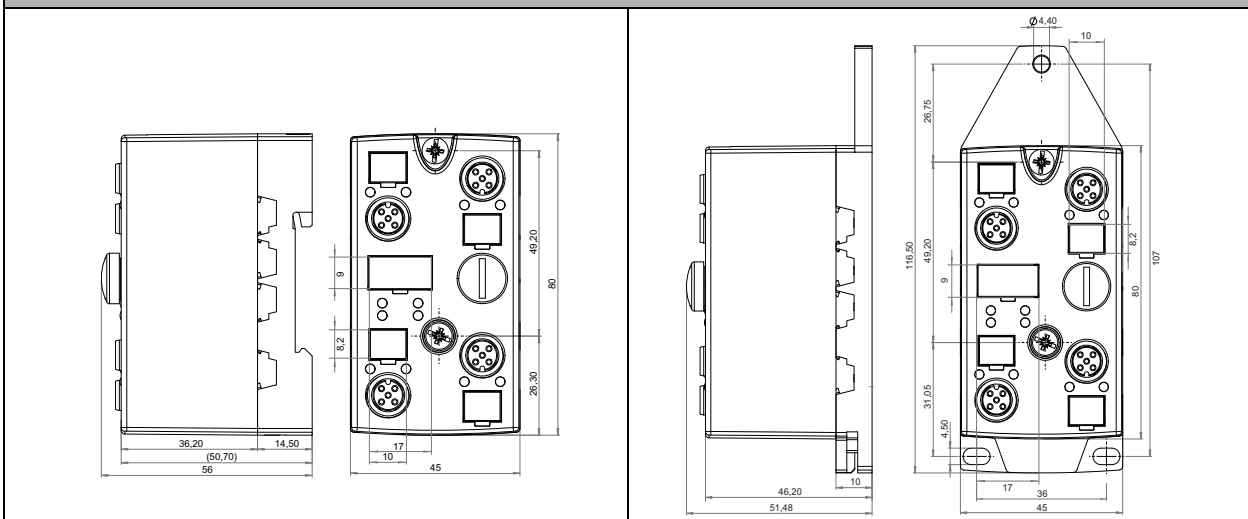


(5)

see table "Peripheral fault indication".

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Dimensional drawings



Article no.	Peripheral fault indication			
	Overload output	AUX voltage missing	Overload sensor supply	at least 1 motor fuse is blown or 1 motor in fault condition
BWU4212	•	•	•	•

Programming (ASi bit assignment)

Article no.	Byte	bit							
		D7	D6	D5	D4	D3	D2	D1	D0
BWU4212		input							
	0	Fuse M2	Fuse M1	Error M2 ⁽¹⁾	Error M1 ⁽¹⁾	I4	I3	I2	I1
	1	reserved	Temperature Error	Voltage Error	reserved			Error M2 ⁽¹⁾	Error M1 ⁽¹⁾
	2	AUX- voltage (mV), high byte, UINT16							
3	AUX- voltage (mV), low byte, UINT16								

⁽¹⁾ The motor ports can be deactivated individually using the software ASIMON360 (BW2916) or ASi Control Tools360 (BW2902).

Article no.	Byte	bit							
		D7	D6	D5	D4	D3	D2	D1	D0
BWU4212		output							
	0	Speed M1 ⁽¹⁾ (speed motor 1) (- 100 ... 0 ... 100 percent), INT8							
	1	Speed M2 ⁽¹⁾ (speed motor 2) (- 100 ... 0 ... 100 percent), INT8							
	2	ramp M1 (0 ... 25,5 s), UINT8 ⁽²⁾							
3	ramp M2 (0 ... 25,5 s), UINT8 ⁽²⁾								

⁽¹⁾ The motor ports can be deactivated individually using the software ASIMON360 (BW2916) or ASi Control Tools360 (BW2902).

⁽²⁾ time for setpoint step change from 0 ... 100%

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Pin assignment

Signal name	Explanation
Ix	digital input x
CW Mx	Direction of rotation of motor x
Error Mx	Indicating error at motor x
Speed Mx	Speed of motor x
48 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)
ASi+, ASi-	connection to ASi bus
24 V _{out of ASi}	Power supply, out of ASi, positive pole (sensor supply)
0 V _{out of ASi}	Power supply, out of ASi, negative pole (sensor supply)
n.c.	not connected

Connections								
Article no.	M12 connection	Name	Function	Pin1	Pin2	Pin3	Pin4	Pin5
BWU4212	X1	I1/I2	input 1, 2	24 V _{out of ASi}	I2	0 V _{out of ASi}	I1	n.c.
	X2	I3/I4	input 3, 4	24 V _{out of ASi}	I4	0 V _{out of ASi}	I3	n.c.
	X3 ⁽¹⁾	M1/ERR1	motor 1	48 V _{ext out}	CW M1	0 V _{ext out}	Error M1	Speed M1
	X4 ⁽¹⁾	M2/ERR2	motor 2	48 V _{ext out}	CW M2	0 V _{ext out}	Error M2	Speed M2
	ADDR (dummy plug)	connection for ASi addressing device						

<p>(1)</p>	<p>Notice</p> <p>Incorrect wiring at the motor sockets can cause a device defect.</p>
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Accessories:

- ASi substructure module for 4-channel module in 45 mm-housing (article no. BW2349)
- ASi substructure module (CNOMO) for 4-channel module in 45 mm-housing (article no. BW2350)
- Protection caps for not used M12 sockets (article no. BW2368)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)
- It is recommended to use pre-assembled cables to connect the motors to the module.