

# 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)



<b>Article no.</b>	<b>BWU4212</b>	
<b>General data</b>		
Motorized rollers	2 x Interroll (EC5000 AI, 48V, 20 W/35 W/50 W)	
<b>Connection</b>		
ASi/AUX connection	profile cable and piercing	
Periphery connection	M12	
<b>ASi</b>		
Address	1 ASi-5 address	
Required ASi specification of master	ASi-5	
Operating voltage	30 V (18 ... 31.6 V)	
Max. current consumption	200 mA	
<b>AUX</b>		
Voltage	48 V <sub>DC</sub> (45 ... 51 V) <sup>(1)</sup>	
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	
<b>Input</b>		
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) <sup>(1)</sup>	
Power supply of attached sensors	up to +40 °C	120 mA <sup>(2)</sup>
	at +55 °C	80 mA <sup>(2)</sup>
	at +70 °C	40 mA <sup>(2)</sup>
Switching threshold	U <sub>in</sub> < 5 V (low)	
	U <sub>in</sub> > 10 V (high)	

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<b>Output</b>		
Number (digital)		2
Number (analog)		2
Power supply		out of AUX (48 V) <sup>(1)</sup> (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) <sup>(1)</sup>
Max. current for motor supply	up to +40 °C	per motor: 1,7 A continuously <sup>(3)</sup>
	at +55 °C	per motor: 1,35 A continuously <sup>(3)</sup>
	at +70 °C	per motor: 1,0 A continuously <sup>(3)</sup>
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 <sup>(4)</sup>
<b>Display</b>		
LED ASi (green)		on: ASi voltage on off: no ASi voltage
LED FLT/FAULT (red)		on: no data exchange flashing: peripheral fault <sup>(5)</sup> off: data exchange ok
LED AUX (green)		on: 48 V DC AUX off: no 48 V DC AUX
LEDs I1 ... In (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 <sup>(5)</sup> flashing: motor M1, M2 is signaling fault condition <sup>(5)</sup>
<b>Environment</b>		
Applied standards		EN 61000-6-2, EN 61000-6-4, EN 60529
Can be used in passively safe paths up to SIL3/PLe		yes <sup>(6)</sup>
Operating altitude		max. 2000 m
Operating temperature		-30 °C ... +70 °C) <sup>(2)</sup> <sup>(3)</sup>
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 <sub>pp</sub> /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)

<sup>(1)</sup>



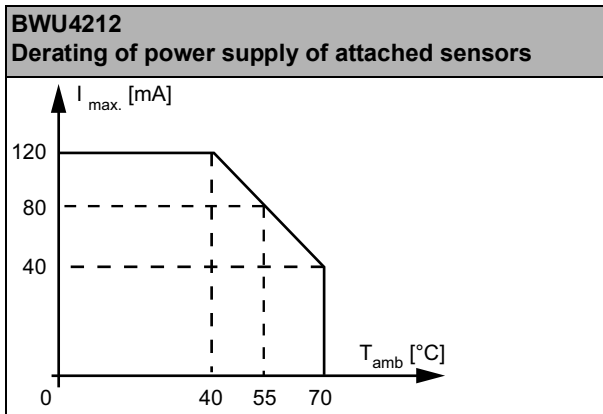
### Notice

48 V<sub>DC</sub> **must not** be connected to:  
device with 24 V<sub>DC</sub> operating voltage (see data sheet of the manufacturer)

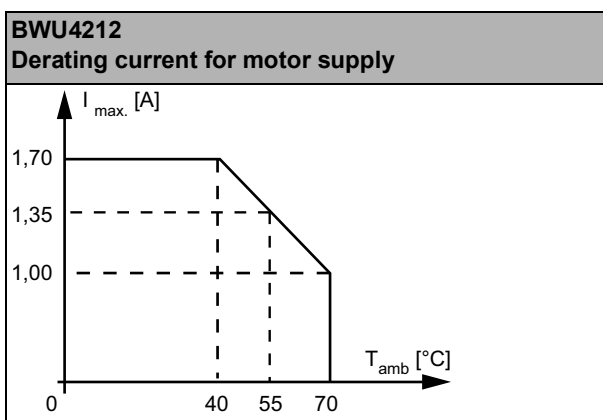
- the ASi connection of the device
- the ASi gateway

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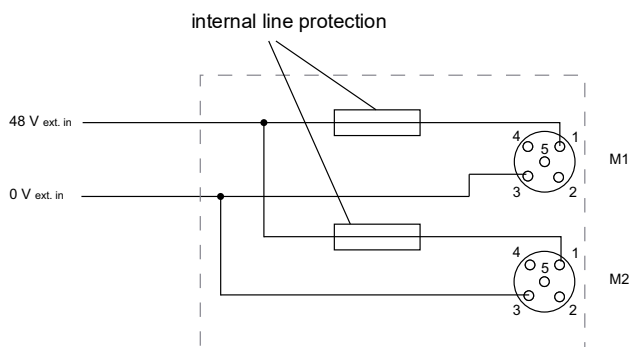


(3)



(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.



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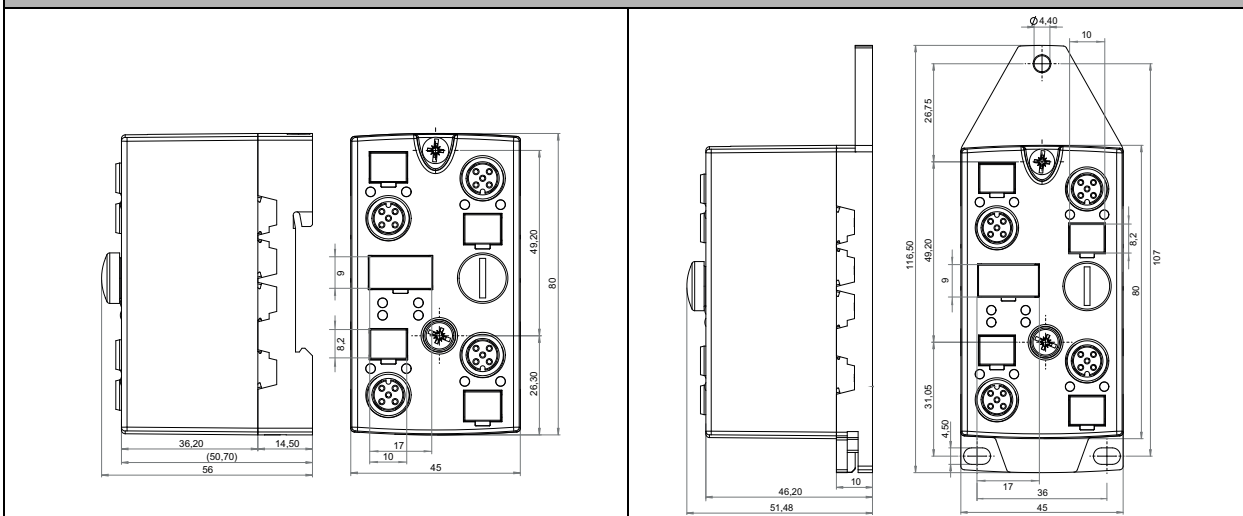
see table "Peripheral fault indication".

(6)

The module is suitable for use in passively safe paths because an exclusion of errors can be assumed for the connection of the two potentials, ASi and AUX.

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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	0	Fuse M2	Fuse M1	Error M2 <sup>(1)</sup>	Error M1 <sup>(1)</sup>	I4	I3	I2	I1
	1	reserved	Temperature Error	Voltage Error	reserved			Error M2 <sup>(1)</sup>	Error M1 <sup>(1)</sup>
	2	AUX- voltage (mV), high byte, UINT16							
	3	AUX- voltage (mV), low byte, UINT16							

<sup>(1)</sup> 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	0	Speed M1 <sup>(1)</sup> (speed motor 1) (- 100 ... 0 ... 100 percent), INT8							
	1	Speed M2 <sup>(1)</sup> (speed motor 2) (- 100 ... 0 ... 100 percent), INT8							
	2	ramp M1 (0 ... 25,5 s), UINT8 <sup>(2)</sup>							
	3	ramp M2 (0 ... 25,5 s), UINT8 <sup>(2)</sup>							

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

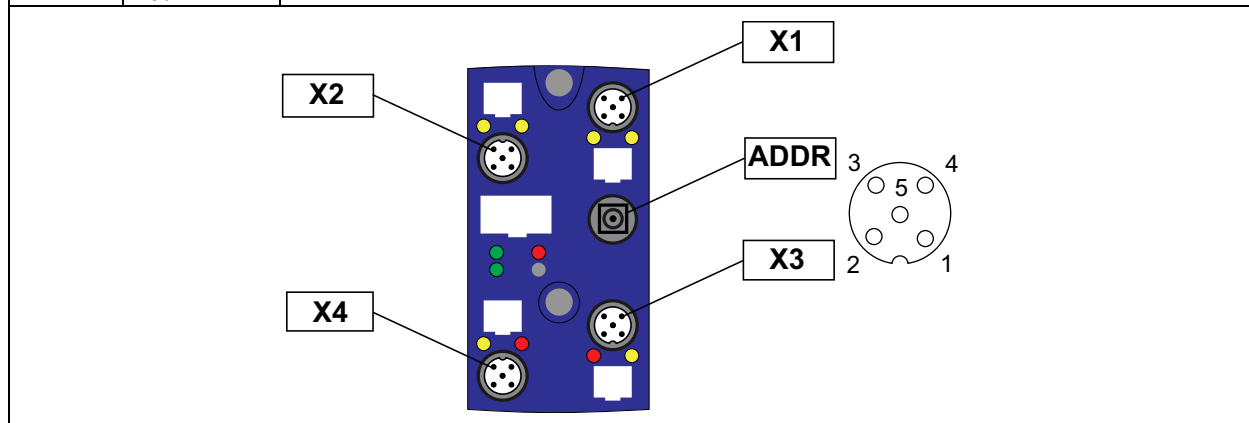
<sup>(2)</sup> time for setpoint step change from 0 ... 100%

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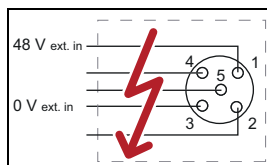
## Pin assignment

Signal name	Explanation
Ix	digital input x
CW Mx	Direction of rotation of motor x
Error Mx	Indicating error at motor x (error = high impedance; no error = 0 V)
Speed Mx	Speed of motor x
48 V <sub>ext out</sub>	Power supply, out of external voltage, positive pole (AUX, actuator supply)
0 V <sub>ext out</sub>	Power supply, out of external voltage, negative pole (AUX, actuator supply)
ASi+, ASi-	connection to ASi bus
24 V <sub>out of ASi</sub>	Power supply, out of ASi, positive pole (sensor supply)
0 V <sub>out of ASi</sub>	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 <sub>out of ASi</sub>	I2	0 V <sub>out of ASi</sub>	I1	n.c.
	X2	I3/I4	input 3, 4	24 V <sub>out of ASi</sub>	I4	0 V <sub>out of ASi</sub>	I3	n.c.
	X3 <sup>(1)</sup>	M1/ERR1	motor 1	48 V <sub>ext out</sub>	CW M1	0 V <sub>ext out</sub>	Error M1 (0: 0 V; 1: high impedance)	Speed M1
	X4 <sup>(1)</sup>	M2/ERR2	motor 2	48 V <sub>ext out</sub>	CW M2	0 V <sub>ext out</sub>	Error M2 (0: 0 V; 1: high impedance)	Speed M2
	ADDR (protection cap)	connection for ASi-5 addressing plug						



(1)



### Notice

Incorrect wiring at the motor sockets can cause a device defect.

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

### Accessories:

- ASi substructure module for 4-channel module in 45 mm-housing (art. no. BW2349)
- ASi substructure module (CNOMO) for 4-channel module in 45 mm-housing (art. no. BW2350)
- Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)
- Passive Distributor AUX, 16A/20A, profile cable branch, depth 19 mm, IP67 (art. no. BWU3306)
- Passive Distributor AUX, 16A/20A, infeed module, depth 19 mm, IP67 (art. no. BWU3307)
- Passive Distributor AUX, 16A/20A to 4 x spring type terminals 2,5 mm<sup>2</sup>, depth 29 mm, IP20 (art. no. BW3348)
- AUX 48 V profile cable, EPDM, gray, 2 wires, 2.5 mm<sup>2</sup>, 100 m (art. no. BW4243)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4708)
- It is recommended to use pre-assembled cables to connect the motors to the module.