ASi-5 motor module for motorized rollers Interroll EC5000 AI

ASi-5 motor module for motorized rollers, 2M/4I

New standard ASi-5

suitable for
2 x 24 V motorized rollers Interroll EC5000 AI with 20 W/35 W

Cyclic writing of speed and ramps possible

4 x digital inputs for sensor connection

Protection category IP67

(figure similar)

Figure	Drive [1]	Number of drives	Line protection fuse [2]	Inputs digital	Input voltage (sensor supply) [3]	Output voltage (actuator supply) [4]	Connection	ASi connection [5]	Article No.
	Interroll (EC5000 AI, 24V, 20W/35W)	2	yes (5 AT)	4	out of ASi	out of AUX	4 x M12 sockets, 5 poles	ASi profile cable	**BWU4246**

(1) **Interroll (EC5000 AI, 24V, 20W/35W):**
Motor module to control 24 V motorized rollers Interroll type EC5000 AI with 20W or 35W power.

(2) **yes, separately for each motor, 5 A (slow-blow fuse):**
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.

(3) **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.

(4) **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.

(5) **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 M8 socket.

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Article no.		BWU4246
General data		
Motorized rollers		2 x Interroll (EC5000 AI, 24V, 20 W/35 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		24 V_{DC} (18 … 30 V)
Max. current consumption		at 20 W: 2,8 A continuously, 6,0 A peak
		at 35 W: 4,8 A continuously, 11,0 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
Power supply of attached sensors	up to +40 °C	120 mA (1)
	at +55 °C	80 mA (1)
	at +70 °C	40 mA (1)
Switching threshold		U_{in}<5 V (low) U_{in}>10 V (high)
Output		
Number (digital)		2
Number (analog)		2 (depending)
Power supply		out of AUX (galvanic separation)
Overload voltage tolerated by reaction (AUX)		35 V-resistant brake resistor compatible
Max. output current		10 mA per output
Supply of motors		out of AUX
		per motor: 1,4 A continuously at 20 W per motor: 2,4 A continuously at 35 W
Max. current for motor supply	up to +40 °C	per motor: 2,4 A continuously (2)
	at +55 °C	per motor: 1,7 A continuously (2)
	at +70 °C	per motor: 1,0 A continuously (2)
Line protection fuse		yes, separately for each motor, 5,0 AT, at 10 A (200%) release between 1 s and 120 s, fuse UL certified (3)
Display		
LED ASI (green)		on: ASi voltage on off: no ASi voltage
LED FLT/FAULT (red)		on: no data exchange flashing: peripheral fault (4) off: data exchange ok
LED AUX (green)		on: 24 V DC AUX off: no 24 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: motor M1, M2 is signaling fault condition (4)

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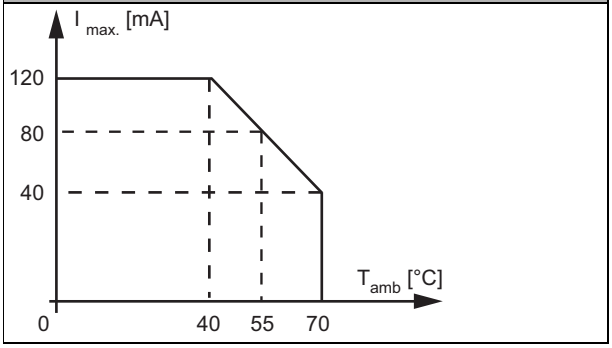
Article no.	BWU4246
Environment	
Applied standards	EN 61000-6-2, EN 61000-6-4, EN 60529
Operating altitude	max. 2000 m
Operating temperature	-30 °C … +55 °C) (1) (2) (up to max. +70 °C) (5)
Storage temperature	-25 °C ... +85 °C
Housing	plastic, for DIN rail mounting
Protection category	IP67
Tolerable loading referring to humidity	according to EN 61131-2
Max. tolerable shock load	30*g*, 11 ms, acc. EN 61131-2
Max. tolerable vibration stress	5 ... 8 Hz 50 mm_{pp}/8 ... 500 Hz 6*g*, acc. EN 61131-2
Isolation voltage	≥ 500 V
Weight	200 g
Dimensions (W / H / D in mm)	45 / 80 / 38 (without substructure module)

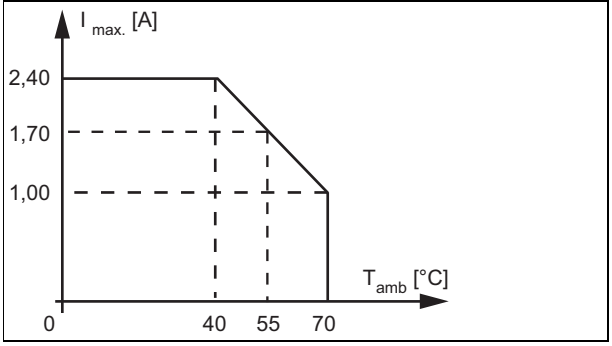
(1)

BWU4246
Derating of power supply of attached sensors



(2)

BWU4246
Derating current for motor supply



(3) 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.
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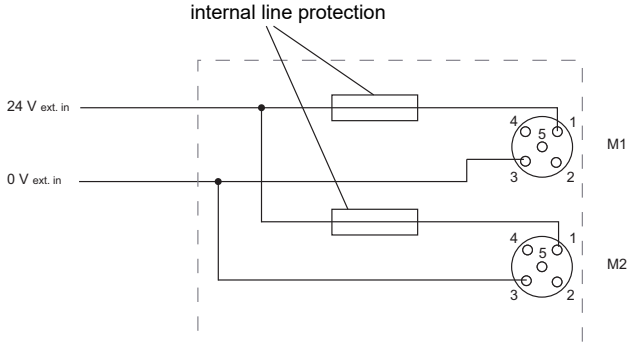
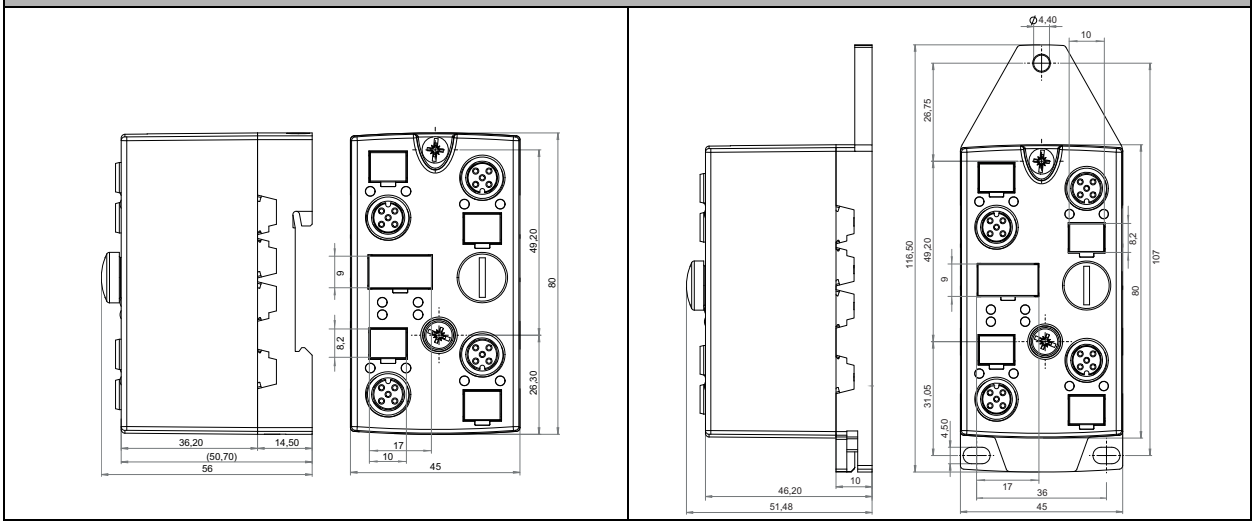


(4) **see table "Peripheral fault indication".**

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

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
BWU4246	•	•	•	•

Programming (ASi bit assignment)

Article no.	Byte	bit							
		D7	D6	D5	D4	D3	D2	D1	D0
		input							
BWU4246	0	Fuse M2	Fuse M1	Error M2 (1)	Error M1 (1)	I4	I3	I2	I1
	1	reserved	Tempera-ture Error	Voltage Error	reserved			Error M2 (1)	Error M1 (1)
	2	AUX- voltage (mV), high byte, INT16							
	3	AUX- voltage (mV), low byte, INT16							

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

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Article no.	Byte	bit							
		D7	D6	D5	D4	D3	D2	D1	D0
		output							
BWU4246	0	Speed M1 (1)(speed motor 1) (- 100 ... 0 ... 100 percent), SINT8							
	1	Speed M2 (1) (speed motor 2) (- 100 ... 0 ... 100 percent), SINT8							
	2	ramp M1 (0 ... 25,5 s), INT8 (2)							
	3	ramp M2 (0 ... 25,5 s), INT8 (2)							

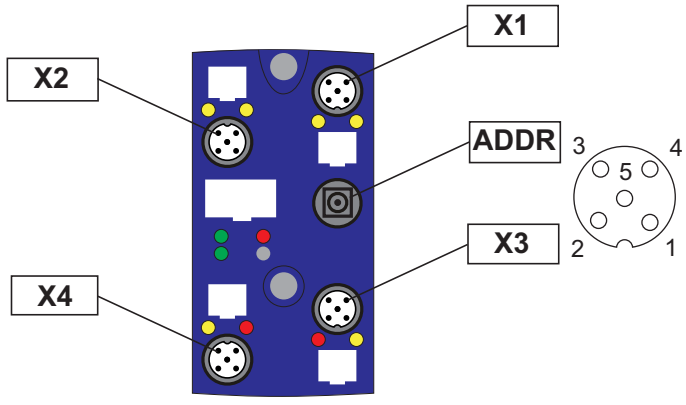
(1) The motor ports can be deactivated individually using the software ASIMON360 (BW2916) or ASi Control Tools360 (BW2902).

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

Pin assignment

Signal name	Explanation
Ix	digital input x
CW Mx (clockwise)	Direction of rotation of motor x (CW = 15 V, CCW = 0V)
Error Mx	Indicating error at motor x (error = 0 V; no error = 15 V)
Speed Mx	Speed of motor 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)
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**
BWU4246	**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	M1/ ERR1	motor 1	24 $V_{ext\ out}$	CW M1 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	Error M1 (0: 0 V; 1: high Z)	Speed M1
	X4	M2/ ERR2	motor 2	24 $V_{ext\ out}$	CW M2 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	Error M2 (0: 0 V; 1: high Z)	Speed M2
	ADDR (dummy plug)	connection for ASi addressing device						



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.**