

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.

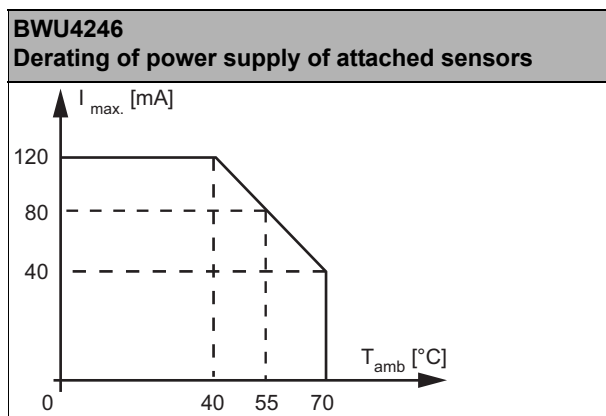
ASi-5 motor module for motorized rollers Interroll EC5000 AI

| | | |
|--|--------------|---|
| 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 of drives | | 2 |
| 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 ... 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: motor M1, M2 is signaling fault condition ⁽⁴⁾ |

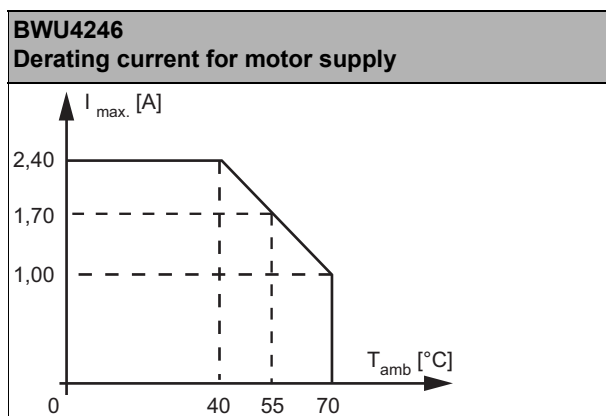
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| | |
|---|---|
| Article no. | BWU4246 |
| Environment | |
| Applied standards | EN 61000-6-2, EN 61000-6-4, EN 60529 |
| Operating altitude | max. 2000 m |
| Operating temperature | -30 °C ... +55 °C) ^{(1) (2)} (up to max. +70 °C) ⁽⁵⁾ |
| Storage 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 | 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)

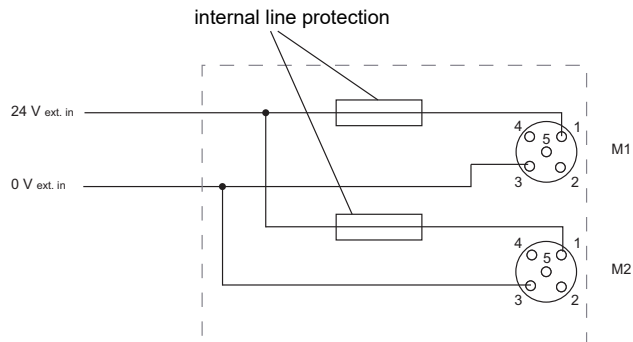


(2)



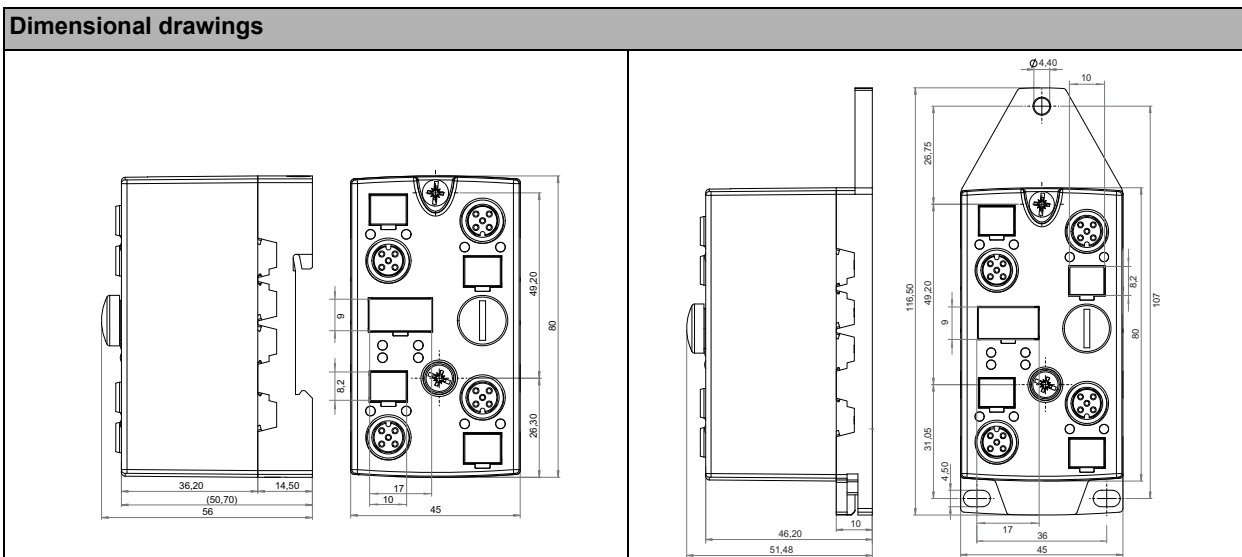
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(3) In the motor module UL approved fuses are placed before each of the motor supply connections. A short circuit in the motor causes this fuse to blow, protecting the connection cable between the module and motor. After blowing the fuse the module 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. 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.



(4) see table "Peripheral fault indication".

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



| 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 | 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).

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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), 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⁾ | | | | | | | |

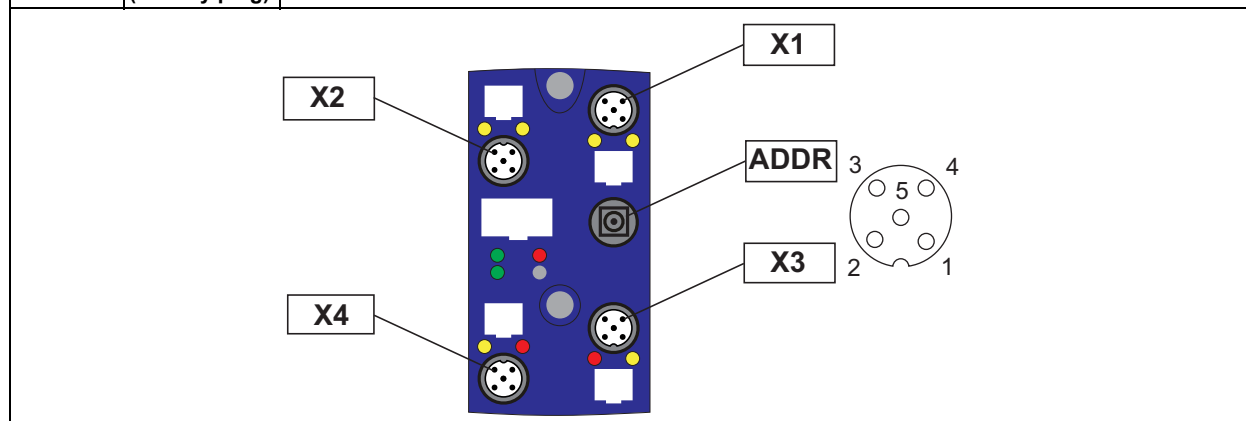
(1) The motor ports can be deactivated individually using the software ASIMON360 (BW2916) or ASi Control Tools360 (BW2902).

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

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.