

ASi-5 cable duct motor module for 24 V motorized rollers Itoh Denki

ASi-5 cable duct motor module for 24 V motorized rollers, IP54, M8, 2M/4I

- ASi and AUX per profile cable



(figure similar)

New standard ASi-5

Suitable for


2 x 24 V motorized rollers Itoh Denki PM500XE/XP, PM605XE/XP

Cyclic writing of speed and ramps possible

4 x digital inputs for sensor connection

Protection category IP54



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.
	Itoh Denki	2	yes, separately for each motor, 3,5 A (slow-blow fuse)	4	out of ASi	out of AUX	2 x M8 cable sockets, straight, 5 poles, 2 x M8 cable sockets, straight, 4 poles	ASi profile cable	BWU4739

(1) **Drive:**

Under certain circumstances also suitable for control of motorized rollers from other manufacturers with the same technical data. Please compare the manufacturer's specifications with the current values and the pin assignment of the motor module.

(2) **Line protection 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 not exchangeable fuse the module is no longer functional and the module 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.

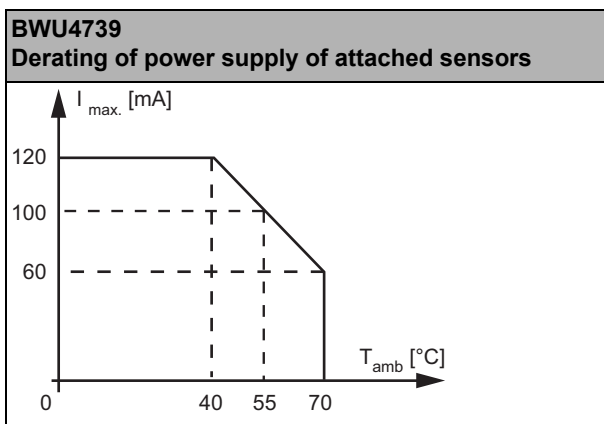
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Article no.		BWU4739
General data		
Motorized rollers		2 x Itoh Denki (PM500XE/XP, PM605XE/XP)
Connection		
ASi/AUX connection		profile cable and piercing technology
Periphery connection		M: 2 x M8 cable sockets, straight, 5 poles I: 2 x M8 cable sockets, straight, 4 poles
Cable(L in m)		M1, M2: 0,4 m I1/I2, I3/I4: 0,06 m max. allowed tensile strain 10 N
ASi		
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
Max. current consumption without sensor/ actuator supply		80 mA
AUX		
Voltage		24 V (18 ... 30 V)
Max. current consumption		6 A continuously, 11,0 A peak
Input		
Number		4 x sensor inputs
Power supply		out of ASi
Power supply of attached sensors	up to +40 °C	120 mA ⁽¹⁾
	at +55 °C	80 mA ⁽¹⁾
	at +70 °C	60 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 chopper compatible
Max. current for motor supply	up to +40 °C	per motor: 3 A continuously ⁽²⁾
	at +55 °C	per motor: 3 A continuously ⁽²⁾
	at +70 °C	per motor: 2,2 A continuously ⁽²⁾
Line protection fuse		yes, separately for each motor, 3,5 AT, at 7 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 and no motor fuse has tripped off: no 24 V _{DC} AUX and at least one motor fuse has tripped
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 of motor M1, M2 is blown ⁽⁴⁾

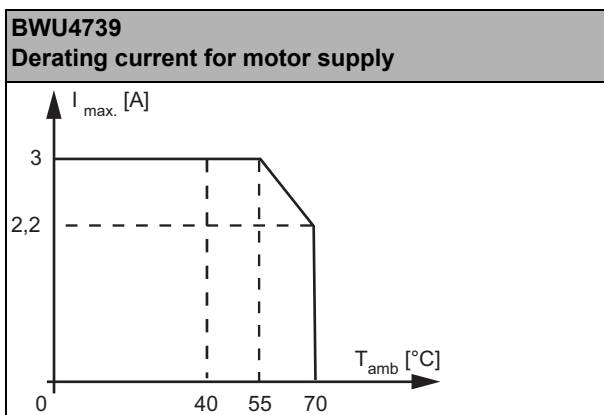
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Article no.	BWU4739
Environment	
Applied standards	EN 61000-6-2, EN 61000-6-4, EN 60529 EN 61131-2
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	yes ⁽⁵⁾
Operating altitude	max. 2000 m
Operating temperature	-30 °C ... +70 °C ^{(1) (2)}
Storage temperature	-25 °C ... +85 °C
Housing	plastic, for screw mounting, suitable for cable ducts (≥19 mm installation depth)
Pollution degree	2
Protection category	IP54
Tolerable loading referring to humidity	according to EN 61131-2
Max. tolerable shock load	according to EN 61131-2
Max. tolerable vibration stress	according to EN 61131-2
Isolation voltage	≥ 500 V
Weight	ca. 230 g
Dimensions (W / H / D in mm)	130 / 60 / 18

(1)



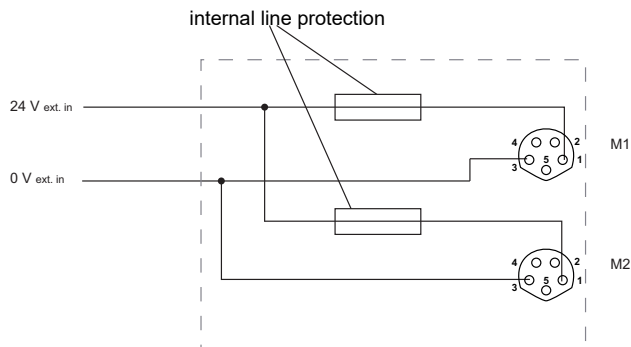
(2)



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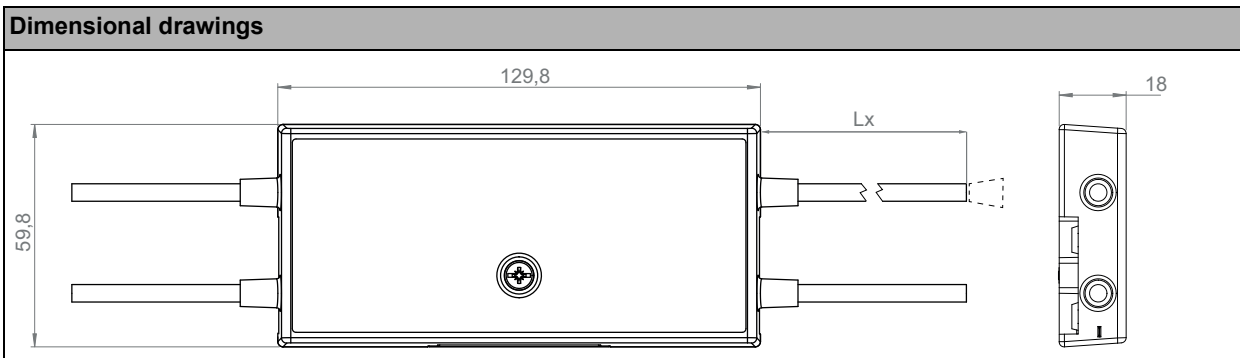
(3) In the motor module UL approved fuses are placed before each of the motor supply connections. A short circuit in the motor causes this fuse to blow, protecting the connection cable between the module and motor. After blowing the not exchangeable fuse the module is no longer functional and the module 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) The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.



Article no.	Peripheral fault indication			
	Overload output	AUX voltage missing	Overload sensor supply	at least 1 motor fuse is blown
BWU4739	•	•	•	•

Programming (ASi bit assignment)

Article no.	Byte	bit							
		D7	D6	D5	D4	D3	D2	D1	D0
BWU4739	0	Fuse M2	Fuse M1	reserved		I4	I3	I2	I1
	1	reserved	Temperature Error	Voltage Error	reserved				
	2	AUX voltage (mV), high byte, UINT16							
	3	AUX voltage (mV), low byte, UINT16							

Article no.	Byte	bit							
		D7	D6	D5	D4	D3	D2	D1	D0
BWU4739	output								
	0	Speed M1 ⁽¹⁾ (speed motor 1) (- 100 ... 0 ... 100%), INT8							
	1	Speed M2 ⁽¹⁾ (speed motor 2) (- 100 ... 0 ... 100%), INT8							
	2	ramp M1 (0 ... 25,5 s), UINT8 ⁽²⁾							
	3	ramp M2 (0 ... 25,5 s), UINT8 ⁽²⁾							

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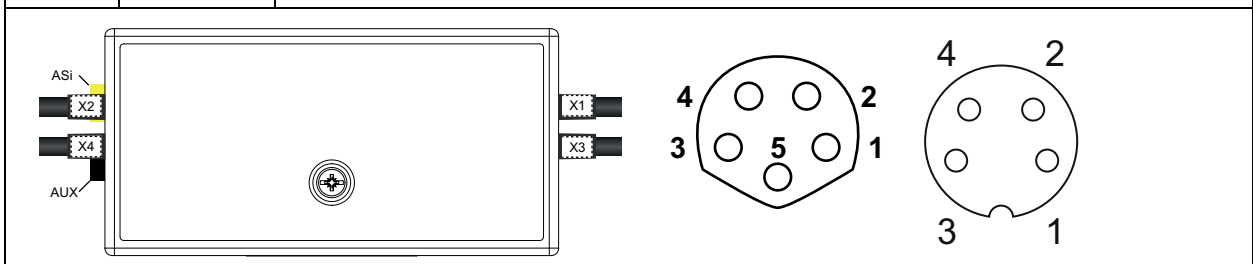
- (1) The motor ports can be deactivated individually using the software ASIMON360 (BW2916) or ASi Control Tools360 (BW2902).
 (2) Time for setpoint step by $\pm 100\%$ (acceleration, deceleration)

Pin assignment

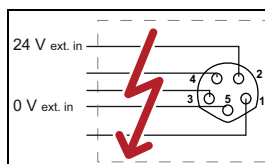
Signal name	Explanation
Ix	digital input x
CW Mx (clockwise)	direction of rotation of motor x
Speed Mx	speed of motor x
24 V _{ext out}	power supply, out of external voltage, positive pole (AUX, actuator supply)
0 V _{ext out}	power supply, out of external voltage, negative pole (AUX, actuator supply)
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.	M8 connection	Name	Function	Pin1	Pin2	Pin3	Pin4	Pin5
BWU4739	X1	I3/I4	inputs 3, 4	24 V _{out of ASi}	I4	0 V _{out of ASi}	I3	–
	X2	I1/I2	inputs 1, 2	24 V _{out of ASi}	I2	0 V _{out of ASi}	I1	–
	X3 ⁽¹⁾	M2	motor 2	24 V _{ext out}	CW M2	0 V _{ext out}	Start/Stop M2	Speed M2
	X4 ⁽¹⁾	M1	motor 1	24 V _{ext out}	CW M1	0 V _{ext out}	Start/Stop M1	Speed M1



(1)



Notice

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

Accessories:

- ASi Substructure Module in IP67 for cable duct ASi motor modules (art. no. BW4749)
- Magnetic holders for substructure Modules (art. no. BW4779)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)