

## ASi-3 motor module for two 24 V motorized rollers Itoh Denki (PM500XE/XP, PM605XE/XP)

with 4 digital and 2 analog outputs for motor control

Mixed input/output module

Speed setting of ASi parameter

Protection category IP67



(figure similar)



Figure	Drive <sup>(1)</sup>	Number of drives	Line protection fuse <sup>(2)</sup>	Inputs digital	Outputs digital	Input voltage (sensor supply) <sup>(3)</sup>	Output voltage (actuator supply) <sup>(4)</sup>	Connection	ASi connection <sup>(5)</sup>	ASi address	Article No.
	Itoh Denki	2	yes, separately for each motor, 3,5 A (slow-blow fuse)	2	–	out of ASi	out of AUX	4 x M12 sockets, 5 poles	ASi profile cable	1 AB address	<b>BWU2715</b>
	Itoh Denki	2	yes, separately for each motor, 3,5 A (slow-blow fuse)	2	–	out of ASi	out of AUX	4 x M12 sockets, 5 poles	ASi profile cable	1 AB address	<b>BWU3804</b>

**(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.

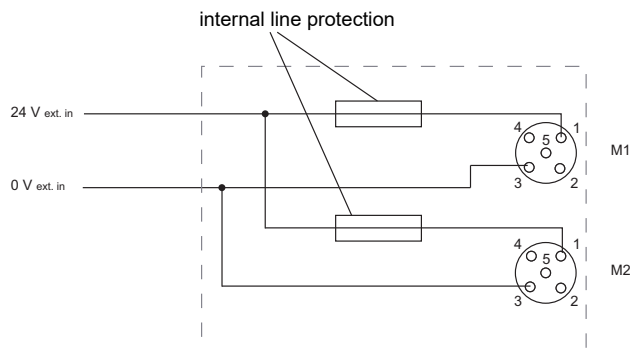
**(5) ASi connection:**

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.

Article no.	BWU2715	BWU3804
<b>General data</b>		
Motorized rollers	2 x Itoh Denki (PM500XE/XP, PM605XE/XP)	
<b>Connection</b>		
ASi/AUX connection	profile cable and piercing technology	
Periphery connection	M12	
<b>ASi</b>		
Profile	S-7.A.7, ID1 = 7 (fixed)	
Address	1 AB address	
Required Master profile	≥M4	
As of ASi specification	3	
Voltage	30 V <sub>DC</sub> (18 ... 31,6 V)	
Max. current consumption	200 mA	
<b>AUX</b>		
Voltage	24 V <sub>DC</sub> (18 ... 30 V)	
Max. current consumption	6 A continuously, 11 A peak	
<b>Inputs</b>		
Number	2	
Power supply	out of ASi	
Sensor supply	short-circuit and overload protected according to EN 61131-2	
Power supply of attached sensors	120 mA	
Switching threshold	U <sub>in</sub> < 5 V (low) U <sub>in</sub> > 10 V (high)	
<b>Drive</b>		
Number	2	
Power supply	out of AUX (galvanic separation)	
Actuator supply	short-circuit and overload protected according to EN 61131-2	
Overvoltage tolerated by reaction	35 V-resistant brake chopper compatible	
Max. output current	10 mA per pin	
Supply of motors	out of AUX, 4 A continuously, 5,5 A max.	
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 <sup>(1)</sup>	
<b>Display</b>		
LED ASi (green)	on: ASi voltage on off: no ASi voltage	
LED FLT/FAULT (red)	on: no data exchange flashing: AUX voltage missing, overload output, overload sensor supply or at least 1 motor fuse is blown	
LED AUX (green)	on: 24 V DC AUX off: no 24 V DC AUX	
LEDs I1, I2 (yellow)	state of inputs I1, I2	
LEDs M1, M2 (yellow)	state of outputs M1 (O1), M2 (O3)	

Article no.	BWU2715	BWU3804
<b>Environment</b>		
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 61131-2 EN 60529	
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	no <sup>(2)</sup>	
Operating altitude	max. 2000 m	
Operating temperature	-30°C ... +70°C <sup>(3)</sup>	
Storage temperature	-25°C ... +85°C	
Housing	plastic, for DIN rail mounting	
Pollution Degree	2	
Protection category	IP67	
Tolerable loading referring to humidity	according to EN 61131-2	
Isolation voltage	≥ 500 V	
Weight	100 g	
Dimensions (W / H / D in mm)	45 / 80 / 42	

- (1) 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.



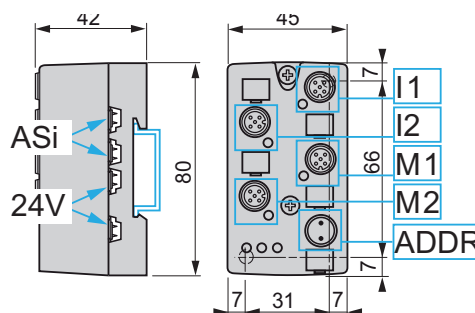
- (2) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.  
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.
- (3) Temperature range up to -30°C from Ident.No. ≥16380

## Configuration analog-value

BWU2715				
ASi parameter			Analog-value Pin 5	
P2	P1	P0	fast= 1	slow = 0
0	0	0	1,5 V	0 V
0	0	1	3,5 V	1,5 V
0	1	0	4,5 V	2,5 V
0	1	1	5,5 V	2,5 V
1	0	0	6,5 V	3,5 V
1	0	1	7,5 V	3,5 V
1	1	0	8,5 V	4,5 V
1	1	1	10 V	5,5 V

BWU3804				
ASi parameter			Analog-value Pin 5	
P2	P1	P0	fast= 1	slow = 0
0	0	0	2,5 V	1,5 V
0	0	1	3,5 V	1,5 V
0	1	0	4,5 V	2,5 V
0	1	1	5,5 V	3,5 V
1	0	0	6,5 V	4,5 V
1	0	1	7,5 V	5,5 V
1	1	0	8,5 V	6,5 V
1	1	1	10 V	7,5 V

Bit assignment BWU2715, BWU3804		
Data bit		Function
DI0	I1	Input I1
DI1	I2	Input I2
DI2	I3	not used
DI3	I4	not used
DO0	O1	Motor 1: <i>start / stop</i>
DO1	internal	Motor 1+2: <i>fast= 1/ slow= 0</i>
DO2	O3	Motor 2: <i>start / stop</i>
DO3	O2, O4	Motor 1+2: <i>direction</i>



## Pin assignment

Signal name	Explanation
I <sub>x</sub>	Digital input x
24 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)
24 V <sub>ext in</sub>	Input voltage, positive pole (AUX+)
0 V <sub>ext in</sub>	Input voltage, negative pole (AUX-)
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 BWU2715, BWU3804							
Article no.	M12 connection	Name	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
BWU2715 BWU3804	X1	I 1 (input 1)	24 V <sub>out</sub> of ASi	n.c.	0 V <sub>out</sub> of ASi	I 1	n.c.
	X2	I 2 (input 2)	24 V <sub>out</sub> of ASi	n.c.	0 V <sub>out</sub> of ASi	I 2	n.c.
	X3	M 1 (motor 1)	24 V <sub>ext</sub> in	O 2 (0: 0V; 1: 24V)	0 V <sub>ext</sub> in	O 1 (0: 0V; 1: 24V)	analog value <sup>(1)</sup>
	X4	M 2 (motor 2)	24 V <sub>ext</sub> in	O 4 (0: 0V; 1: 24V)	0 V <sub>ext</sub> in	O 3 (0: 0V; 1: 24V)	analog value <sup>(1)</sup>
	ADDR (protection cap)	connection for ASi-3 addressing plug					

<sup>(1)</sup> BWU3804: alternative configuration of the analog values.

### 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)
- Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)
- It is recommended to use pre-assembled cables to connect the motors to the module.