

# AS-i 3.0 motor module

## AS-i 3.0 motor module for two 24 V motorized rollers Itoh Denki (PM500ME/XE/XP, PM605ME/XE/XP)

with 4 binary and 2 analog outputs

Mixed input/output slave

Speed setting of AS-i parameter

Protection category IP67



(figure similar)



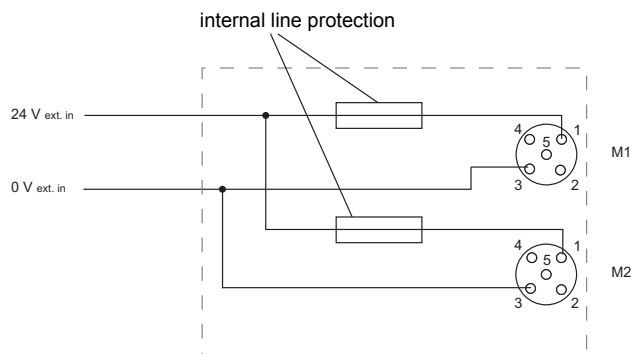
The BWU2715 is a control module for up to 2 roller drives. The module uses an AS-i AB slave for transmitting rotary information. The speed is defined using AS-i parameters.

Up to 2 motors and 2 sensors can be connected to the module. The motors are powered by 24V<sub>ext</sub> and the sensors by AS-i. The module is 35V (AUX) fixed and brake resistor compatible.

Article no.	BWU2715
<b>General data</b>	
Motorized rollers	2 x Itoh Denki (PM500ME/XE/XP, PM605ME/XE/XP)
<b>Connection</b>	
AS-i/AUX connection	profile cable and piercing
Periphery connection	M12
<b>AS-i</b>	
Profile	S-7.A.7, ID1 = 7 (fixed)
Address	1 AB slave
Required Master profile	≥M4
As of AS-i specification	3.0
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	Sensor inputs: out of AS-i
Power supply of attached sensors	120 mA
Switching threshold	U <sub>in</sub> < 5 V (low) U <sub>in</sub> > 10 V (high)
<b>Outputs</b>	
Number (digital)	4
Number (analog)	2
Power supply	out of AUX (galvanic separation)
Overvoltage tolerated by reaction	35 V-resistant brake resistor compatible
Max. output current	10 mA each
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>Article no.</b>	<b>BWU2715</b>
<b>Display</b>	
LED ASI (green)	on: AS-i voltage on off: no AS-i 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)
<b>Environment</b>	
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529
Operating altitude	max. 2000 m
Operating temperature	-30°C ... +70°C <sup>(2)</sup>
Storage temperature	-25°C ... +85°C
Housing	plastic, for DIN rail mounting
Protection category	IP67
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 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.

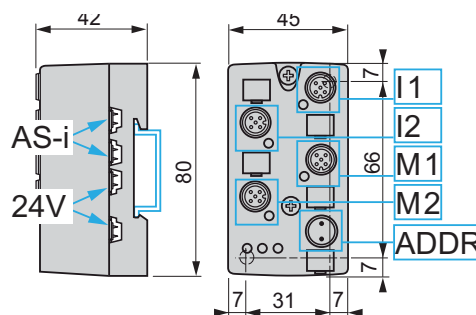


(2) Temperature range up to -30°C from Ident.No. ≥16380

## Configuration analog-value

AS-i 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

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

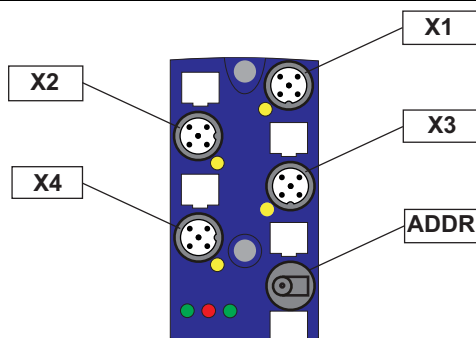


## Pin assignment

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-)
AS-i+, AS-i-	connection to AS-i bus
24 V <sub>out of AS-i</sub>	Power supply, out of AS-i, positive pole (sensor supply)
0 V <sub>out of AS-i</sub>	Power supply, out of AS-i, negative pole (sensor supply)
n.c.	not connected

## Connections

Article no.	M12 connection	Name	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
BWU2715	X1	I 1 (input 1)	24 V <sub>out of AS-i</sub>	n.c.	0 V <sub>out of AS-i</sub>	I 1	n.c.
	X2	I 2 (input 2)	24 V <sub>out of AS-i</sub>	n.c.	0 V <sub>out of AS-i</sub>	I 2	n.c.
	X3	M 1 (motor 1)	24 V <sub>ext in</sub>	O 2 (0: 0V; 1: 24V)	0 V <sub>ext in</sub>	O 1 (0: 0V; 1: 24V)	analog value
	X4	M 2 (motor 2)	24 V <sub>ext in</sub>	O 4 (0: 0V; 1: 24V)	0 V <sub>ext in</sub>	O 3 (0: 0V; 1: 24V)	analog value
	ADDR (dummy plug)	connection for AS-i addressing device					



## Accessories:

- AS-i substructure module for 4-channel module in 45 mm-housing (article no. BW2349)
- AS-i 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.