

# ASi Cable Duct Motor Modules for 24 V Motorized Rollers

## ASi Cable Duct Motor Modules for two 24 V Motorized Rollers, IP54, 2M/2E

- ASi and AUX via profile cable



(Figure similar)

### Suitable for:

- 2 x 24 V motorized rollers Interroll (EC310 or EC5000 AI with 20 W/35 W)
- 2 x 24 V motorized rollers Itoh Denki (PM500XC/XK, PM605XC/XK)
- 2 x 24 V motorized rollers Rulmecca (RDR BL-2 or RDR BL-3)

Flat design,  
optimized for use in cable channels

Speed setting via ASi parameters



Figure	Drive <sup>(1)</sup>	Number of drives	Line protection fuse <sup>(2)</sup>	Flat design, montage in cable duct possible	Inputs digital	Input voltage (sensor supply) <sup>(3)</sup>	Output voltage (actuator supply) <sup>(4)</sup>	Connection	ASi connection <sup>(5)</sup>	Article No.
	Interroll, Itoh Denki, RULMECA	2	yes, separately for each motor, 4,5 A (slow-blow fuse)	yes	2	out of ASi	out of AUX	2 x M8 snap-in cable sockets, straight, 5 poles + 2 x M8 cable sockets, straight, 4 poles	ASi profile cable	<b>BWU3290</b>
	Interroll, Itoh Denki, RULMECA	2	yes, separately for each motor, 4,5 A (slow-blow fuse)	yes	2	out of ASi	out of AUX	2 x M8 snap-in cable sockets, straight, 5 poles + 2 x M8 cable sockets, straight, 4 poles	ASi profile cable	<b>BWU4224</b>
	Interroll, Itoh Denki, RULMECA	2	yes, separately for each motor, 4,5 A (slow-blow fuse)	yes	2	out of ASi	out of AUX	2 x M8 snap-in cable sockets, straight, 5 poles + 2 x M12 cable sockets, straight, 5 poles	ASi profile cable	<b>BW3409</b>

**(1) Interroll, Itoh Denki, RULMECA:**

Motor module to control 24 V motorized rollers Interroll (Typ EC310 or EC5000 AI, 24V, 20W/35W), Itoh Denki (PM500XC/XK, PM605XC/XK) or RULMECA (Typ RDR BL-2 or RDR BL-3).

**(2) yes, separately for each motor, 4,5 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 Cable Duct Motor Modules for 24 V Motorized Rollers

Article No.	BWU3290		BW4224	
<b>General data</b>				
Roller drives	2 x Interroll (EC310 or EC5000 AI, 24 V, 20 W/35 W <sup>(1)</sup> ) 2 x Itoh Denki (PM500XC/XK, PM605XC/XK <sup>(1)</sup> ) 2 x RULMECA (RDR BL-2 or RDR BL-3 <sup>(1)</sup> ) <sup>(2)</sup>			
<b>Connection</b>				
ASi/AUX connection	profile cable and piercing			
Periphery connection	M: 2 x M8 snap-in cable sockets, straight, 5 poles I: 2 x M8 cable sockets, straight, 4 poles			
Cable	M1, M2: 0,4 m I1, I2: 0,06 m		M1, M2: 1 m I1, I2: 1m	
	passive distributors: 0,15 m			
	max. allowed tensile strain 10 N			
<b>ASi</b>				
Profile	S-7.A.7, ID1 = 7 (fixed)			
Address	1 AB address			
Required Master profile	≥M4			
As of ASi specification	3.0			
Operating voltage	30 V (18 ... 31.6 V)			
Max. current consumption	200 mA			
Max. current consumption without sensor/ actuator supply	80 mA			
<b>AUX</b>				
Operating voltage	24 V (18 ... 30 V)			
Max. current consumption	up to +40 °C	6 A continuously, 11 A peak <sup>(3)</sup>		
	at +55 °C	4,4 A continuously, 8 A peak <sup>(3)</sup>		
<b>Input</b>				
Number	2 x sensor inputs + 2 x motor fault inputs			
Power supply	sensor inputs: out of ASi motor fault inputs: out of AUX			
Sensor supply	short-circuit and overload protected according to EN 61131-2			
Power supply of attached sensors	up to +30 °C	120 mA <sup>(4)</sup>		
	at +40 °C	100 mA <sup>(4)</sup>		
	at +50 °C	60 mA <sup>(4)</sup>		
	at +55 °C	40 mA <sup>(4)</sup>		
Switching threshold	$U_{in} < 5 \text{ V}$ (low) $U_{in} > 15 \text{ V}$ (high)			
<b>Output</b>				
Number of drives	2			
Power supply	out of AUX (galvanic separation)			
Overvoltage tolerated by reaction (AUX)	35 V resistant brake resistor compatible			
Max. output current	up to +50 °C	10 mA per output, $\Sigma$ (out) 40 mA <sup>(5)</sup>		
	at +55 °C	10 mA per output, $\Sigma$ (out) 25 mA <sup>(5)</sup>		
Motor supply	up to +40 °C	out of AUX, 3 A continuously, 5,5 A max. <sup>(3)</sup>		
	at +55 °C	out of AUX, 2,2 A continuously, 4 A max. <sup>(3)</sup>		
Line protection fuse	yes, separately for each motor, 4,5 A (slow-blow fuse) <sup>(6)</sup> , at 9 A (200%) release between 1 s and 120 s, fuse UL certified <sup>(7)</sup>			

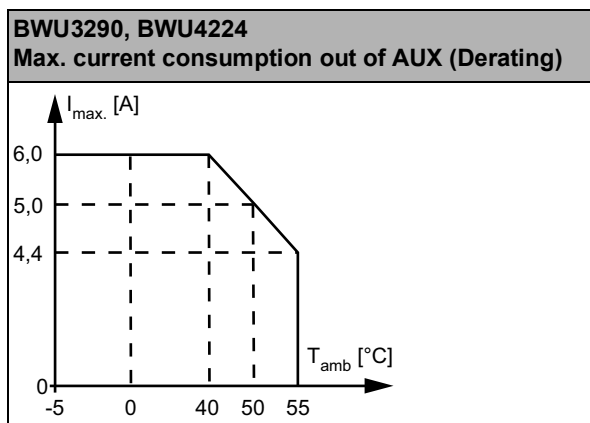
# ASi Cable Duct Motor Modules for 24 V Motorized Rollers

Article No.	BWU3290	BW4224
<b>Display</b>		
LED I1 ...Ix (yellow)	state of inputs I1, I2	
LED M1, M2 (yellow)	state of outputs M1 (O1), M2 (O3)	
LED ASI (green)	on: ASi voltage on off: no ASi voltage	
LED AUX (green)	on: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX	
LED FLT/FAULT (red)	on: address 0 or offline flashing: AUX voltage is missing, overload output, an output is short circuited, at least one motor fuse has blown or overload sensor off: online	
<b>UL-specifications (UL 61010-1 and UL 61010-2-201)</b>		
External protection	an isolated source with a secondary open circuit voltage of ≤30 V <sub>DC</sub> with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.	
<b>Environment</b>		
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529 EN 61131-2	
Can be used in passively safe paths up to SIL3/PLe	yes <sup>(8)</sup>	no <sup>(9)</sup>
Operating altitude	max. 2000 m	
Ambient temperature	-5 °C ... +40 °C (up to +55 °C) <sup>(3)</sup> <sup>(4)</sup> <sup>(5)</sup>	
	If the cables are fixed installed, an operating temperature up to -20 °C ... +40 °C is permissible <sup>(3)</sup> <sup>(4)</sup> <sup>(5)</sup>	
	no condensing allowed	
Storage temperature	-25 °C ... +85 °C	
Housing	plastic, 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	
Weight	module: 200 g passive distributor: 75 g	
Dimensions (W / H / D) in mm	module: 90 / 60 / 18 passive distributor: 60 / 45 / 19	

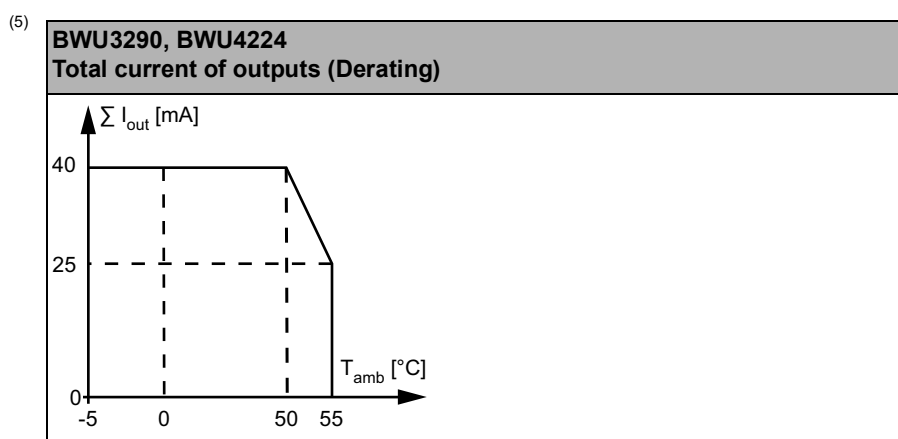
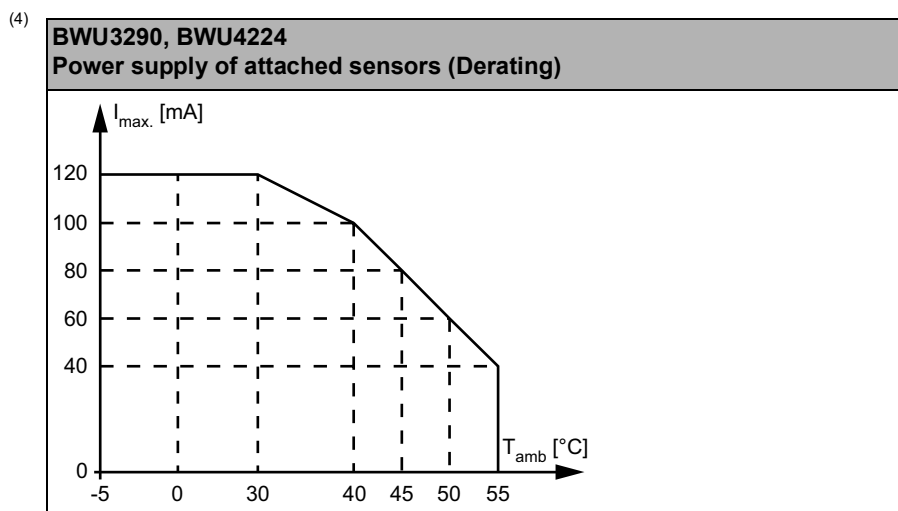
(1) Interroll (EC5000 AI, 24 V, 20 W/35 W), Itoh Denki (PM500XC/XK, PM605XC/XK), RULMECA (RDR BL-3) from Ident. No. ≥18335 (BWU3290), from Ident. No. ≥18338 (BWU4224)

(2) suitable for transmission rates 24:1, 36:1, 49:1, 64:1, 96:1 (not suitable for transmission rates 12:1, 16:1)

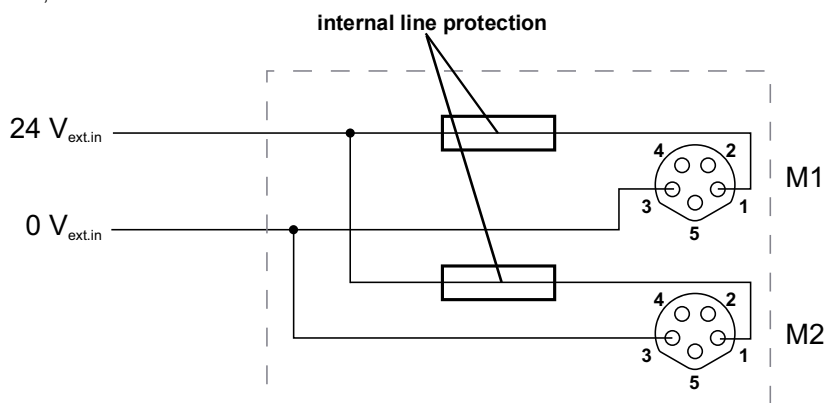
(3)



# ASi Cable Duct Motor Modules for 24 V Motorized Rollers



- (6) 4,5 A (slow-blow fuse) from Ident No.  $\geq 18335$  (BWU3290), from Ident No.  $\geq 18338$  (BWU4224);  
3,5 A (slow-blow fuse) for Ident No.  $\leq 18335$  (BWU3290), for Ident No.  $\leq 18338$  (BWU4224)
- (7) 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.



- (8) BWU3290 from Ident. No.  $\geq 18473$ ; The module is suitable for use in passively safe paths because an exclusion of errors can be assumed for the connection of the two potentials, ASi and AUX.
- (9) The module is not suitable for use in passively safe paths because an exclusion of errors cannot be assumed for the connection of the two potentials, ASi and AUX.

# ASi Cable Duct Motor Modules for 24 V Motorized Rollers

<b>Article No.</b>	<b>BW3409</b>	
<b>General data</b>		
Roller drives	2 x Interroll (EC310 or EC5000 AI, 24 V, 20 W/35 W <sup>(1)</sup> ) 2 x Itoh Denki (PM500XC/XK, PM605XC/XK <sup>(1)</sup> ) 2 x RULMECA (RDR BL-2 or RDR BL-3 <sup>(1)(2)</sup> )	
<b>Connection</b>		
ASi/AUX connection	profile cable and piercing	
Periphery connection	M: 2 x M8 snap-in cable sockets, straight, 5 poles I: 2 x M12 cable sockets, straight, 5 poles	
Cable	M1, M2: 0,6 m I1, I2: 1 m	
	passive distributors: 0,15 m	
	max. allowed tensile strain 10 N	
<b>ASi</b>		
Profile	S-7.A.7, ID1 = 7 (fixed)	
Address	1 AB address	
Required Master profile	≥M4	
As of ASi specification	3.0	
Operating voltage	30 V (18 ... 31.6 V)	
Max. current consumption	200 mA	
Max. current consumption without sensor/ actuator supply	80 mA	
<b>AUX</b>		
Operating voltage	24 V (18 ... 30 V)	
Max. current consumption	up to +40 °C	6 A continuously, 11 A peak <sup>(3)</sup>
	at +55 °C	4,4 A continuously, 8 A peak <sup>(3)</sup>
<b>Input</b>		
Number	2 x sensor inputs + 2 x motor fault inputs	
Power supply	sensor inputs: out of ASi motor fault inputs: out of AUX	
Sensor supply	short-circuit and overload protected according to EN 61131-2	
Power supply of attached sensors	up to +30 °C	120 mA <sup>(4)</sup>
	at +40 °C	100 mA <sup>(4)</sup>
	at +50 °C	60 mA <sup>(4)</sup>
	at +55 °C	40 mA <sup>(4)</sup>
Switching threshold	U <sub>in</sub> < 5 V (low) U <sub>in</sub> > 15 V (high)	
<b>Output</b>		
Number of drives	2	
Power supply	out of AUX (galvanic separation)	
Overvoltage tolerated by reaction (AUX)	35 V resistant brake resistor compatible	
Max. output current	up to +50 °C	10 mA per output, ∑ (out) 40 mA <sup>(5)</sup>
	at +55 °C	10 mA per output, ∑ (out) 25 mA <sup>(5)</sup>
Motor supply	up to +40 °C	out of AUX, 3 A continuously, 5,5 A max. <sup>(3)</sup>
	at +55 °C	out of AUX, 2,2 A continuously, 4 A max <sup>(3)</sup>
Line protection fuse	yes, separately for each motor, 4,5 A (slow-blow fuse) <sup>(6)</sup> , at 9 A (200%) release between 1 s and 120 s, fuse UL certified <sup>(7)</sup>	

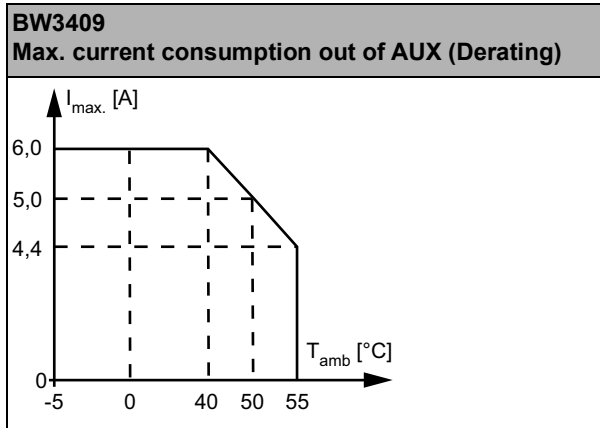
# ASi Cable Duct Motor Modules for 24 V Motorized Rollers

<b>Article No.</b>	<b>BW3409</b>
<b>Display</b>	
LED I1 ...Ix (yellow)	state of inputs I1, I2
LED M1, M2 (yellow)	state of outputs M1 (O1), M2 (O3)
LED ASI (green)	on: ASi voltage on off: no ASi voltage
LED AUX (green)	on: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX
LED FLT/FAULT (red)	on: address 0 or offline flashing: AUX voltage is missing, overload output, an output is short circuited, at least one motor fuse has blown or overload sensor off: online
<b>UL-specifications (UL 61010-1 and UL 61010-2-201)</b>	
External protection	an isolated source with a secondary open circuit voltage of $\leq 30$ V <sub>DC</sub> with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.
<b>Environment</b>	
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 61131-2 EN 60529
Can be used in passively safe paths up to SIL3/PLe	no <sup>(8)</sup>
Operating altitude	max. 2000 m
Ambient temperature	-5 °C ... +40 °C (up to max. +55 °C) <sup>(3) (4) (5)</sup> If the cables are fixed installed, an operating temperature up to -20 °C ... +40 °C is permissible <sup>(3) (4) (5)</sup> no condensing allowed
Storage temperature	-25 °C ... +85 °C
Housing	plastic, screw mounting suitable for cable ducts (installation depth $\geq 19$ mm)
Pollution Degree	2
Protection category	IP54
Tolerable loading referring to humidity	according to EN 61131-2
Weight	module: 200 g passive distributor: 75 g
Dimensions (W / H / D) in mm	module: 90 / 60 / 18 passive distributor: 60 /45 /19

(1) Interroll (EC5000 AI, 24 V, 20 W/35 W), Itoh Denki (PM500XC/XK, PM605XC/XK), RULMECA (RDR BL-3) from Ident. No.  $\geq 18336$  (BW3409).

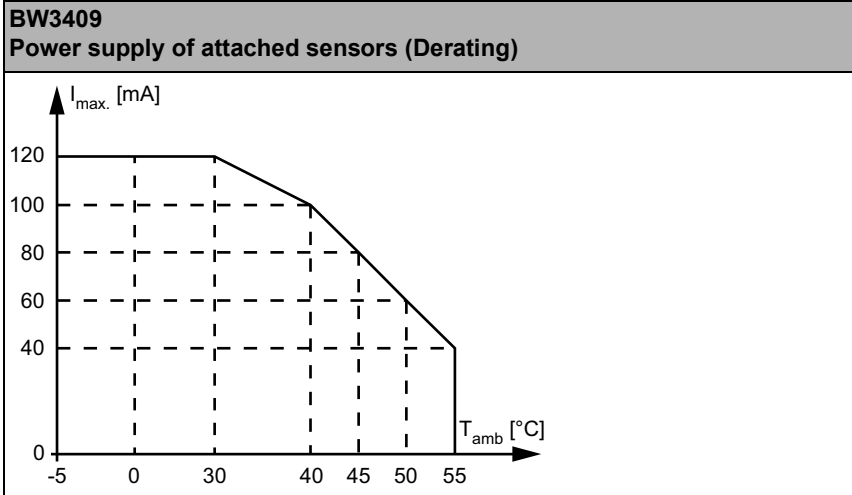
(2) suitable for transmission rates 24:1, 36:1, 49:1, 64:1, 96:1 (not suitable for transmission rates 12:1, 16:1)

(3)

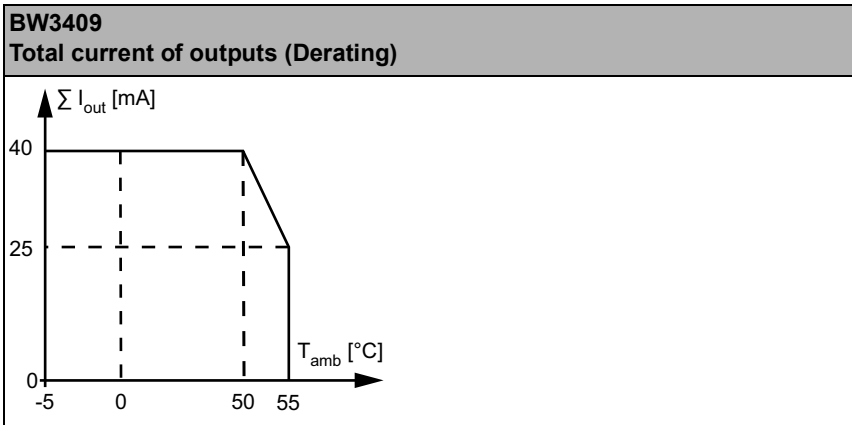


# ASi Cable Duct Motor Modules for 24 V Motorized Rollers

(4)

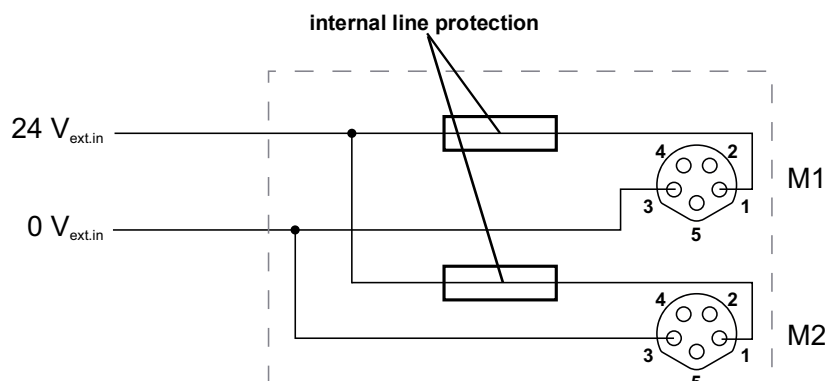


(5)



- (6) 4,5 A (slow-blow fuse) from Ident No. ≥18336 (BWU3409);  
3,5 A (slow-blow fuse) for Ident No. ≤18336 (BWU3409);

- (7) 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.



- (8) The module is not suitable for use in passively safe paths because an exclusion of errors cannot be assumed for the connection of the two potentials, ASi and AUX.

# ASi Cable Duct Motor Modules for 24 V Motorized Rollers

Configuration analog value BWU3290, BW3409, BWU4224				
ASi parameters				analog value Pin 5
P2	P1	P0	O1/O3	
0	0	0	0	0 V
			1	2,3 V
0	0	1	0	0 V
			1	3,4 V
0	1	0	0	0 V
			1	4,5 V
0	1	1	0	0 V
			1	5,6 V
1	0	0	0	0 V
			1	6,7 V
1	0	1	0	0 V
			1	7,8 V
1	1	0	0	0 V
			1	8,9 V
1	1	1	0	0 V
			1	10 V

## Bit assignment BWU3290, BW3409, BWU4224

Data bit		Function
DI3	I4	state (motor fault) motor 2
DI2	I3	state (motor fault) motor 1
DI1	I2	input I2
DI0	I1	input I1
DO3	O4	direction of rotation motor 2
DO2	O3	start/stop motor 2
DO1	O2	direction of rotation motor 1
DO0	O1	start/stop motor 1



# ASi Cable Duct Motor Modules for 24 V Motorized Rollers

**BWU3290, BWU4224**

M8-Connection	Name / Number	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
	M1 (motor 1)	24 V <sub>ext out</sub>	O2 (0: 0 V; 1: 24 V)	0 V <sub>ext out</sub>	I3 (0: 0 V; 1: 24 V)	analog value O1
	M2 (motor 2)	24 V <sub>ext out</sub>	O4 (0: 0 V; 1: 24 V)	0 V <sub>ext out</sub>	I4 (0: 0 V; 1: 24 V)	analog value O3
	I1	24 V <sub>out of ASi</sub>	n.c.	0 V <sub>out of ASi</sub>	I1	n.c.
	I2	24 V <sub>out of ASi</sub>	n.c.	0 V <sub>out of ASi</sub>	I2	n.c.
<b>ADDR (protection cap)</b>		connection for ASi-3 addressing plug				

1 + (brown)  
 - (blue) ASi and AUX via profile cable  
 2 + (brown)  
 - (blue)

**BW3409**

M8/M12-Connection	Name / Number	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
<b>M8, 5 poles</b> 	M1 (Motor 1)	24 V <sub>ext out</sub>	O2 (0: 0 V; 1: 24 V)	0 V <sub>ext out</sub>	I3 (0: 0 V; 1: 24 V)	analog value O1
	M2 (Motor 2)	24 V <sub>ext out</sub>	O4 (0: 0 V; 1: 24 V)	0 V <sub>ext out</sub>	I4 (0: 0 V; 1: 24 V)	analog value O3
<b>M12, 5 poles</b> 	I1	24 V <sub>out of ASi</sub>	n.c.	0 V <sub>out of ASi</sub>	I1	n.c.
	I2	24 V <sub>out of ASi</sub>	n.c.	0 V <sub>out of ASi</sub>	I2	n.c.
<b>ADDR (protection cap)</b>		connection for ASi-3 addressing plug				

1 + (brown)  
 - (blue) ASi and AUX via profile cable  
 2 + (brown)  
 - (blue)

## ASi Cable Duct Motor Modules for 24 V Motorized Rollers



### Accessories:

- ASi-5/ASi-3 Address Programming Device (art. no. BW4708)