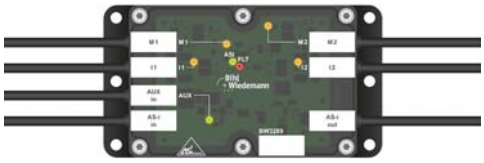
Cable Duct ASi Motor Modules

Cable Duct ASi-3 Motor Modules for two 24 V Motorized Rollers Interroll (EC310) resp. RULMECA (RDR BL-2)

- **ASi and AUX viaM8 connectors**
- **ASi and AUX via profile cable**



Flat design, optimized for use in cable channels

Inputs and Outputs in one module

Speed setting via ASi parameters

(Figure similar)

Figure	Drive [1]	Number of drives	Line protection fuse [2]	Flat design, montage in cable duct possible	Inputs digital	Outputs digital	Outputs analog	Input voltage (sensor supply) [3]	Output voltage (actuator supply) [4]	Connection	ASi connection [5]	Article No.
	Interroll, RULMECA	2	yes	yes	4	2	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	**BWU3290**
	Interroll, RULMECA	2	yes	yes	4	2	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	**BWU4224**
	Interroll, RULMECA	2	yes	yes	4	2	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	**BW3409**
	Interroll, RULMECA	2	yes	yes	4	2	2	out of ASi	out of AUX	2 x M8 cable sockets, straight, 5 poles + 2 x M12 cable sockets, straight, 5 poles	ASi profile cable	**BWU3813**

Cable Duct ASi Motor Modules

Figure	Drive [1]	Number of drives	Line protection fuse [2]	Flat design, montage in cable duct possible	Inputs digital	Outputs digital	Outputs analog	Input voltage (sensor supply) [3]	Output voltage (actuator supply) [4]	Connection	ASi connection [5]	Article No.
	Interroll, RULMECA	2	yes	yes	4	2	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 + 1 x M8 cable plug, straight, 5 poles + 1 x M8 cable plug, straight, 4 poles + 1 x M8 cable socket, straight, 4 poles	ASi using M8	**BW3289**

(1) **Interroll (EC310), RULMECA (RDR BL-2):**
Motor module to control 24 V motorized rollers Interroll Typ EC310 or RULMECA Typ RDR BL-2.

(2) **yes, separately for each motor, 3,5 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.

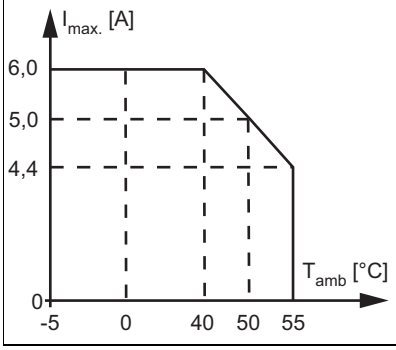
(5) **ASi connection:**
The connection to ASi as well to AUX (auxiliary 24 V power) is made via yellow resp. black ASi profile cable with piercing technology or via M8 socket.

Article No.		BWU3290	BWU4224	BW3289
General data				
Roller drives		2 x Interroll (EC310) or 2 x RULMECA (RDR BL-2)		
Connection				
ASi/AUX connection		profile cable and piercing		AUX_{in}: 1 x M8 cable plug, straight, 5 poles ASi_{in}: 1 x M8 cable plug, straight, 4 poles ASi_{out}: 1 x M8 cable socket, straight, 4 poles
Periphery connection		motors: 2 x M8 snap-in cable sockets, straight, 5 poles sensors: 2 x M8 cable sockets, straight, 4 poles		
ASi				
Profile		S-7.A.7, ID1 = 7 (fixed)		
Address		1 AB slave		
Required Master profile		≥M4		
As of ASi specification		3.0		
Operating voltage		30 V (18 … 31.6 V)		
Max. current consumption		200 mA		
AUX				
Operating voltage		24 V (18 … 30V)		
Max. current consumption	up to +40 °C	6 A continuously, 11 A peak [1]		
	at +55 °C	4,4 A continuously, 8 A peak [1]		

Article No.		BWU3290	BWU4224	BW3289
Input				
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		100 mA (2)		
Switching threshold		U_{in} < 5 V (low) U_{in} > 15 V (high)		
Output				
Number (digital)		2		
Number (analog)		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 (3)		
	at +55 °C	10 mA per output, ∑ (out) 25 mA (3)		
Motor supply	up to +40 °C	out of AUX, 3 A continuously, 5,5 A max. (1)		
	at +55 °C	out of AUX, 2,2 A continuously, 4 A max (1)		
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 (4)		
Display				
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_{DC} AUX off: no 24 V_{DC} AUX		
LED FLT/FAULT (red)		on: slave address 0 or slave offline flashing: AUX voltage is missing, overload output, an output is short circuited, at least one motor fuse has blown or overload sensor off: slave online		
UL-specifications (UL 61010-1 and UL 61010-2-201)				
External protection		an isolated source with a secondary open circuit voltage of ≤30 V_{DC} with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.		
Environment				
Applied standards		EN 61000-6-2 EN 61000-6-4 EN60529		
Passive safety (up to PLe/SIL 3)		yes (5)	no (7)	
Operating altitude		max. 2000 m		
Ambient temperature		-5 °C ... +55 °C (1) (2) (3) (6)		
		no condensing allowed		
Storage temperature		-25 °C ... +85 °C		
Housing		plastic, screw mounting		
Pollution Degree		2		
Protection category		IP54		
Tolerable loading referring to humidity		according to EN 61131-2		
Weight		module: 200 g passive distributor: 75 g		module: 200 g
Dimensions (W / H / D) in mm		module: 90 / 60 / 18 passive distributor: 60 /45 /19		module: 90 / 60 / 18

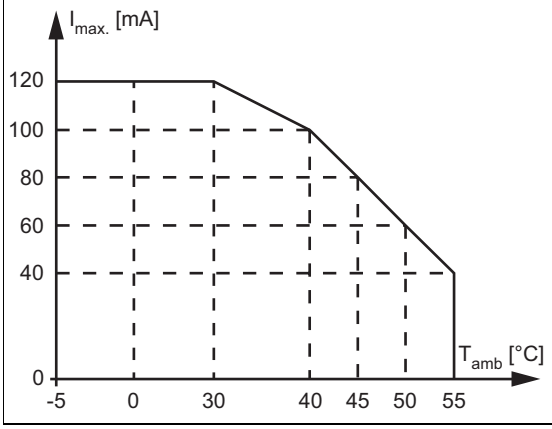
(1)

BW3289, BWU3290, BWU4224
Max. current consumption out of AUX (Derating)



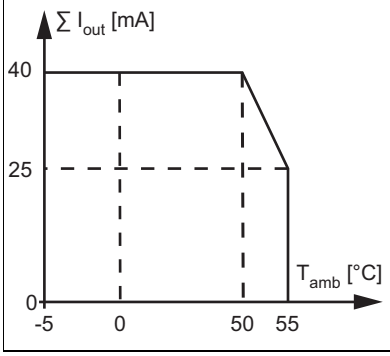
(2)

BW3289, BWU3290, BWU4224
Power supply of attached sensors (Derating)

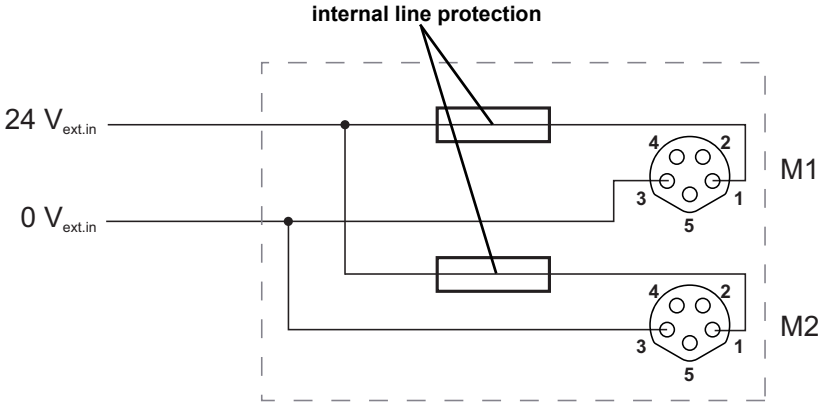


(3)

BW3289, BWU3290, BWU4224
Total current of outputs (Derating)



(4) 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.



(5) BWU3290 from Ident. No. 18473; Exclusion of errors for the connection of the two ASi and AUX potentials can be assumed in the module. Passive safety for the application can only be achieved if this is ensured for all components used.

(6) If the cables are fixed installed, an operating temperature up to -20 °C ... +55 °C is permissible.

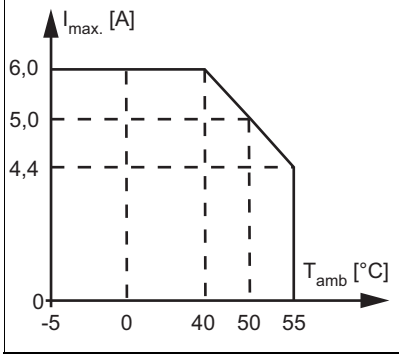
(7) Exclusion of errors for the connection of the two ASi and AUX potentials cannot be assumed in the module. It is not possible to achieve passive safety for the application with this module.

Article No.		BW3409	BWU3813
General data			
Roller drives		2 x Interroll (EC310) or 2 x RULMECA (RDR BL-2)	
Connection			
ASi/AUX connection		profile cable and piercing	
Periphery connection		motors: 2 x M8 snap-in cable sockets, straight, 5 poles sensors: 2 x M12 cable sockets, straight, 5 poles	motors: 2 x M8 cable sockets, straight, 5 poles sensors: 2 x M12 cable sockets, straight, 5 poles
ASi			
Profile		S-7.A.7, ID1 = 7 (fixed)	
Address		1 AB slave	
Required Master profile		≥M4	
As of ASi specification		3.0	
Operating voltage		30 V (18 … 31.6 V)	
Max. current consumption		200 mA	
AUX			
Operating voltage		24 V (18 … 30V)	
Max. current consumption	up to +40 °C	6 A continuously, 11 A peak (1)	
	at +55 °C	4,4 A continuously, 8 A peak (1)	
Input			
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 (2)	
	at +40 °C	100 mA (2)	
	at +55 °C	40 mA (2)	
Switching threshold		U_{in} < 5 V (low) U_{in} > 15 V (high)	

Article No.		BW3409	BWU3813
Output			
Number (digital)		2	
Number (analog)		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 (3)	
	at +55 °C	10 mA per output, ∑ (out) 25 mA (3)	
Motor supply	up to +40 °C	out of AUX, 3 A continuously, 5,5 A max. (1)	
	at +55 °C	out of AUX, 2,2 A continuously, 4 A max (1)	
Line protection fuse		yes, separately for each motor, 3,5 A (slow blow fuse), at 7 A (200%) release between 1 s and 120 s, fuse UL certified (4)	
Display			
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_{DC} AUX off: no 24 V_{DC} AUX	
LED FLT/FAULT (red)		on: slave address 0 or slave offline flashing: AUX voltage is missing, overload output, an output is short circuited, at least one motor fuse has blown or overload sensor off: slave online	
UL-specifications (UL 61010-1 and UL 61010-2-201)			
External protection		–	an isolated source with a secondary open circuit voltage of ≤30 V_{DC} with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.
Environment			
Applied standards		EN 61000-6-2 EN 61000-6-4 EN 61131-2 EN60529	
Passive safety (up to PLe/SIL 3)		no (5)	
Operating altitude		max. 2000 m	
Ambient temperature		-5 °C ... +55 °C (1) (2) (3) (6)	
		no condensing allowed	
Storage temperature		-25 °C ... +85 °C	
Housing		plastic, screw mounting suitable for cable ducts (installation depth ≥ 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	

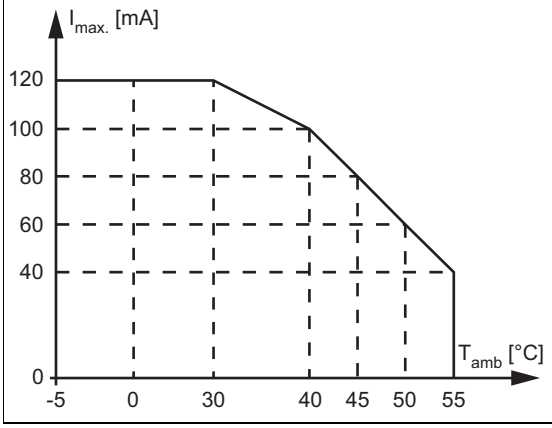
(1)

BW3409, BWU3813
Max. current consumption out of AUX (Derating)



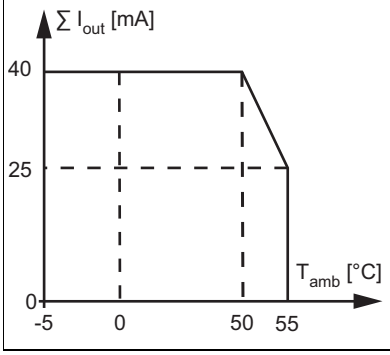
(2)

BW3409, BWU3813
Power supply of attached sensors (Derating)

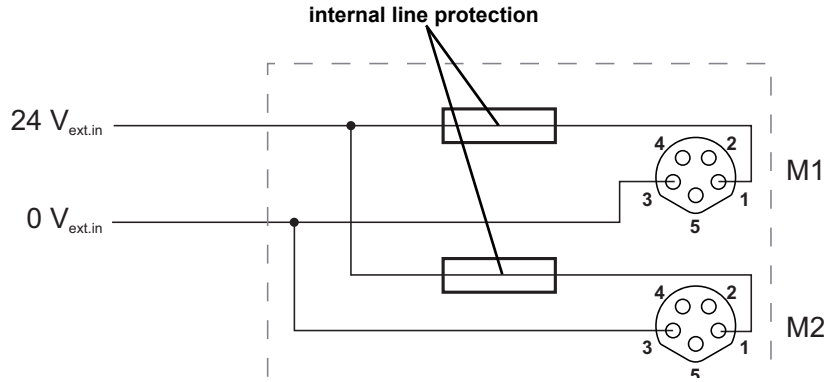


(3)

BW3409, BWU3813
Total current of outputs (Derating)



(4) 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.



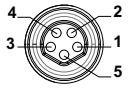
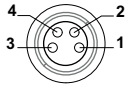
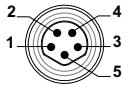
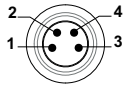
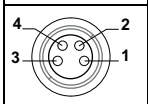
(5) Exclusion of errors for the connection of the two ASi and AUX potentials cannot be assumed in the module. It is not possible to achieve passive safety for the application with this module.

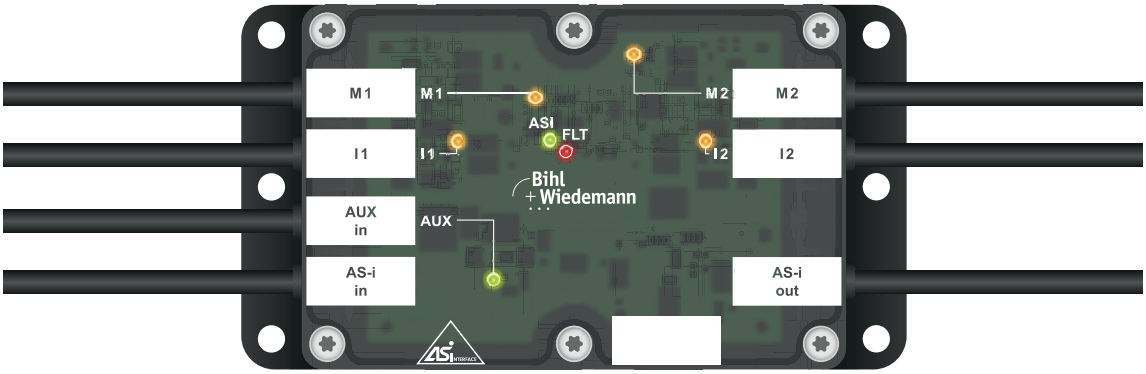
(6) If the cables are fixed installed, an operating temperature up to -20 °C ... +55 °C is permissible.

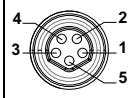
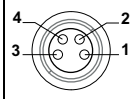
Configuration analog value BW3289, BWU3290, BW3409, BWU3813, BWU4224				
ASi parameters				analog value Pin 5
P2	P1	P0	O1/O3	
0	0	0	0	0 V
			1	2,3 V
0	0	1	0	0 V
			1	3,4 V
0	1	0	0	0 V
			1	4,5 V
0	1	1	0	0 V
			1	5,6 V
1	0	0	0	0 V
			1	6,7 V
1	0	1	0	0 V
			1	7,8 V
1	1	0	0	0 V
			1	8,9 V
1	1	1	0	0 V
			1	10 V

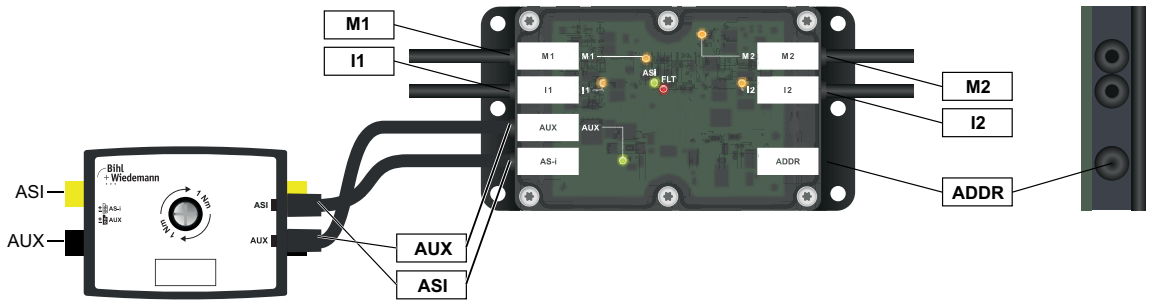
Bit assignment BW3289, BWU3290, BW3409, BWU3813, BWU4224

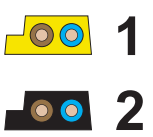
Data bit		Function
DI3	I4	state (motor fault) motor 2
DI2	I3	state (motor fault) motor 1
DI1	I2	input I2
DI0	I1	input I1
DO3	O4	direction of rotation motor 2
DO2	O3	start/stop motor 2
DO1	O2	direction of rotation motor 1
DO0	O1	start/stop motor 1

Connections M8 BW3289			Pins				
Connection	**Name / Number**	**Cable length**	**1**	**2**	**3**	**4**	**5**
	M1 (motor 1)	41,5 cm	24 $V_{ext\ out}$	O2 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	I3 (0: 0 V; 1: 24 V)	analog value O1
	M2 (motor 2)			O4 (0: 0 V; 1: 24 V)		I4 (0: 0 V; 1: 24 V)	analog value O3
	I1	7,5 cm	24 $V_{out\ of\ ASi}$	n.c.	0 $V_{out\ of\ ASi}$	I1	n.c.
	I2			n.c.		I2	
	AUX_{in}	11,5 cm	24 $V_{ext\ in}$	24 $V_{ext\ in}$	0 $V_{ext\ in}$	0 $V_{ext\ in}$	n.c.
	ASi_{in}	10 cm	ASi+	ASi+	ASi-	ASi-	-
	ASi_{out}						



Connections M8 BWU3290			Pins				
Connection	**Name / Number**	**Cable length**	**1**	**2**	**3**	**4**	**5**
	M1 (motor 1)	41,5 cm	24 $V_{ext\ out}$	O2 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	I3 (0: 0 V; 1: 24 V)	analog value O1
	M2 (motor 2)			O4 (0: 0 V; 1: 24 V)		I4 (0: 0 V; 1: 24 V)	analog value O3
	I1	7,5 cm	24 $V_{out\ of\ ASi}$	n.c.	0 $V_{out\ of\ ASi}$	I1	n.c.
	I2			n.c.		I2	
ADDR (dummy plug)		connection for ASi addressing device					

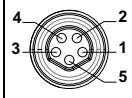
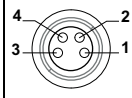


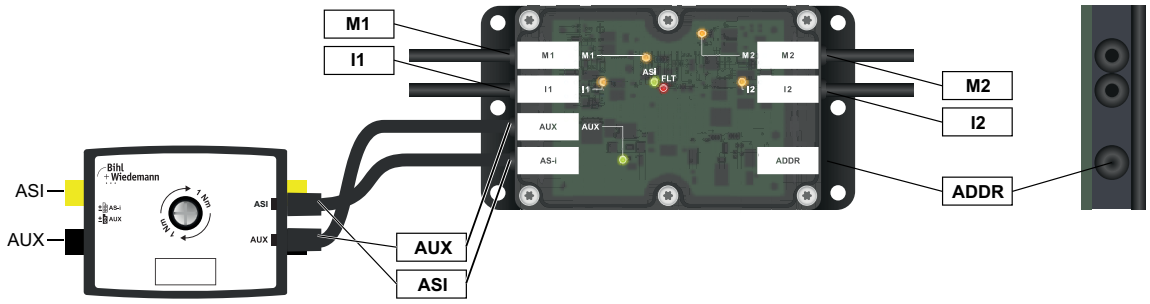


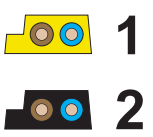
\+ (brown)
– (blue)

\+ (brown)
– (blue)

ASi and AUX via profile cable

Connections M8 BWU4224			Pins				
Connection	**Name / Number**	**Cable length**	**1**	**2**	**3**	**4**	**5**
	M1 (motor 1)	100 cm	24 $V_{ext\ out}$	O2 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	I3 (0: 0 V; 1: 24 V)	analog value O1
	M2 (motor 2)			O4 (0: 0 V; 1: 24 V)		I4 (0: 0 V; 1: 24 V)	analog value O3
	I1	100 cm	24 $V_{out\ of\ ASi}$	n.c.	0 $V_{out\ of\ ASi}$	I1	n.c.
	I2			n.c.		I2	
ADDR (dummy plug)		connection for ASi addressing device					

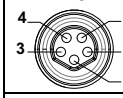


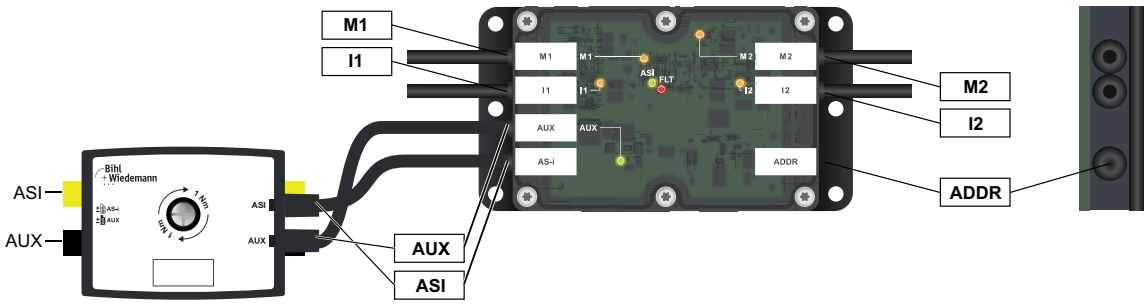


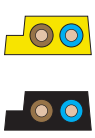
\+ (brown)
– (blue)

\+ (brown)
– (blue)

ASi and AUX via profile cable

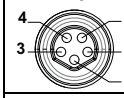
Connections BW3409							
Connection	**Name / Number**	**cable length**	**Pins**				
			1	**2**	**3**	**4**	**5**
M8, 5 poles 	**M1 (Motor 1)**	60 cm	24 $V_{ext\ out}$	O2 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	I3 (0: 0 V; 1: 24 V)	analog value O1
	M2 (Motor 2)			O4 (0: 0 V; 1: 24 V)		I4 (0: 0 V; 1: 24 V)	analog value O3
M12, 5 poles 	**I1**	100 cm	24 $V_{out\ of\ ASi}$	I1	0 $V_{out\ of\ ASi}$	I1	n.c.
	I2			I2		I2	
ADDR (dummy plug)		connection for ASi addressing device					

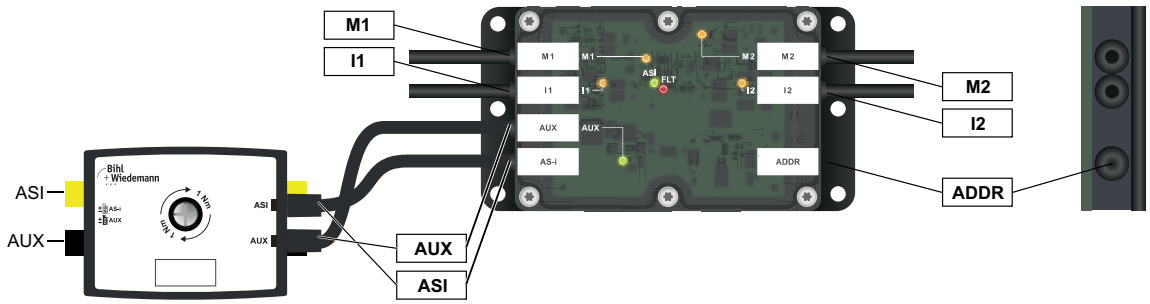


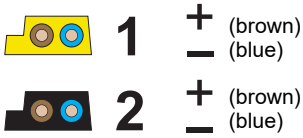

1 + (brown)
− (blue)

2 + (brown)
− (blue)

ASi and AUX via profile cable

Connections BWU3813							
Connection	**Name / Number**	**cable length**	**Pins**				
			1	**2**	**3**	**4**	**5**
M8, 5 poles 	**M1 (Motor 1)**	60 cm	24 $V_{ext\ out}$	O2 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	I3 (0: 0 V; 1: 24 V)	analog value O1
	M2 (Motor 2)	60 cm	24 $V_{ext\ out}$	O4 (0: 0 V; 1: 24 V)	0 $V_{ext\ out}$	I4 (0: 0 V; 1: 24 V)	analog value O3
M12, 5 poles 	**I1**	100 cm	24 $V_{out\ of\ ASi}$	n.c.	0 $V_{out\ of\ ASi}$	I1	n.c.
	I2	100 cm	24 $V_{out\ of\ ASi}$	n.c.	0 $V_{out\ of\ ASi}$	I2	n.c.
ADDR (dummy plug)		connection for ASi addressing device					





\+ (brown)
– (blue)

\+ (brown)
– (blue)

ASi and AUX via profile cable

Accessories:

- **for BW3289: passive distributor (article no. BW3276)**