

## AS-i 3.0 motor modules for two 24 V motorized rollers

e.g.

Interroll (EC200, EC300, EC310) or  
 RULMECA (RDR BL-2) or  
 Itoh Denki (PM500ME/XE/XP, PM605ME/XE/XP)

### 2 slaves in one module

- 1 Single Slave with
  - 2 analog outputs 0 ... 10 V
  - 2 digital outputs
  - 2 digital inputs
- 1 AB-Slave with
  - 4 digital inputs
  - 4 digital outputs



(Figure similar)

### Mixed input and output slave



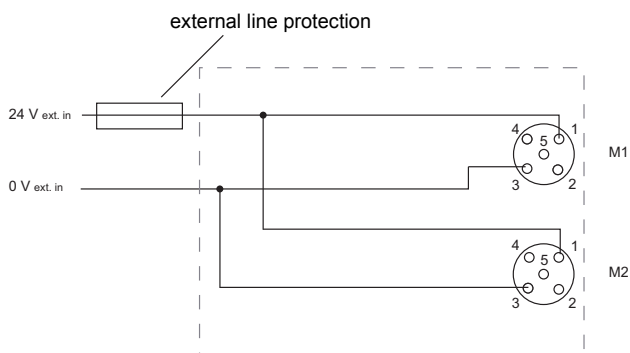
Figure	Drive <sup>(1)</sup>	Number of drives	Line protection fuse <sup>(2)</sup>	Inputs digital	Outputs digital	Outputs analog	Input voltage (sensor supply) <sup>(3)</sup>	Output voltage (actuator supply) <sup>(4)</sup>	Connection	AS-i connection <sup>(5)</sup>	Article No.
	Interroll, RULMECA	2	yes	4	2	2	out of AS-i	out of AUX	6 x M12 sockets, 5 poles	AS-i profile cable	<b>BWU2766</b>
	Interroll, RULMECA	2	no	4	2	2	out of AS-i	out of AUX	6 x M12 sockets, 5 poles	AS-i profile cable	<b>BWU2478</b>
	Interroll, RULMECA	2	no	4	2	2	out of AS-i	out of AUX	6 x M12 sockets, 5 poles	AS-i using M12	BWU2959

- (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 AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, inputs shall not be connected to earth or to external potential.
- (4) **Output voltage (actuator supply):**  
 Outputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, outputs shall not be connected to earth or to external potential.
- (5) **AS-i connection:**  
 The connection to AS-i as well to AUX (auxiliary 24 V power) is made via yellow resp. black AS-i profile cable with piercing technology or via M8 socket.

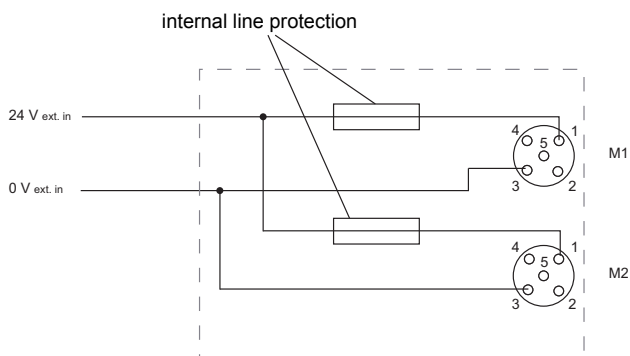
Article no.	BWU2959	BWU2478	BWU2766
<b>General data</b>			
Motorized rollers type	2 x Interroll (EC310) or 2 x RULMECA (RDR BL-2) or 2 x Itoh Denki (PM500ME/XE/XP, PM605ME/XE/XP)	2 x Interroll (EC200, EC300, EC310) or 2 x RULMECA (RDR BL-2) or 2 x Itoh Denki (PM500ME/XE/XP, PM605ME/XE/XP)	
<b>Connection</b>			
AS-i / AUX connection	M12	profile cable and piercing	
Periphery connection	M12		
<b>AS-i</b>			
Profile	digital slave S-7.A.7, ID1=7 analog slave S-7.5.5, ID1=F		
Address	1 AB slave + 1 single slave		
Required Master profile	≥M4		
As of AS-i specification	3.0		
Operating voltage	30 V (18 ... 31.6 V)		
Max. current consumption	200 mA		
<b>AUX</b>			
Voltage	24 V (18 ... 30 V)		
Max. current consumption	6 A continuously, 11 A peak		
<b>Input</b>			
Number	4		
Power supply	sensor inputs: out of AS-i		
Power supply of attached sensors	< 100 mA (sum)		
Switching threshold	U <sub>in</sub> < 5 V (low), U <sub>in</sub> > 10 V (high)		
<b>Output</b>			
Number (digital)	4		
Number (analog)	2		
Power supply	out of AUX (galvanic separation)		
Overload voltage tolerated by reaction (AUX)	35 V-resistant brake resistor compatible		
Max. output current	500 mA per digital output, 10 mA per analog output		
Supply of motors	out of AUX, 3 A continuously, 5.5 A max.		
Line protection fuse	no <sup>(1)</sup>	yes, separately for each motor, 3.5 AT, at 7 A (200%) release between 1 s and 120 s, fuse UL certified <sup>(2)</sup>	
<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 sensor supply	on: no data exchange flashing: AUX voltage missing, overload sensor supply or at least 1 motor fuse is blown	
LED AUX (red/green)	green: AUX voltage OK red: AUX voltage < 18 V		
LEDs I1 ...I4 (yellow)	state of inputs I1 ... I4		
LEDs M1, M2 (yellow)	state of outputs M1 (O1), M2 (O3)		

Article no.	BWU2959	BWU2478	BWU2766
<b>Environment</b>			
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529		
Operating altitude	max. 2000 m		
Operating temperature	0 °C ... +55 °C		
Storage temperature	-25 °C ... +85 °C		
Housing	plastic, for screw mounting		
Pollution degree	2		
Protection category	IP67		
Isolation voltage	≥500 V		
Weight	200 g		
Dimensions (W / H / D in mm)	60 / 151 / 36,5	60 / 151 / 31	

- (1) The motor module is designed to supply the 24 V directly to the motor. At high currents or surges as they occur for example at braking, the module will not be damaged. The cable protection should be realized outside the motor module with additional measures.



- (2) 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.





## Rotary switch position

		Rotary switch SEL2													
		0	1	2	3	4	5	6	7	8	9	A	B	C	D
rotary switch SEL1	0	analog slave + digital slave active													
	1	values of analog slave for voltage and ramp													
	2	digital slave active only analog slave outputs = 0 V													
	3														
	4														
	5														
	6														
	7	digital slave active only Selection of preset voltages via SEL1 and SEL2: SEL1 = Motor 1, SEL2 = Motor 2 (for values of voltage see installation instructions)													
	8														
	9														
	A														
	B														
	C														
	D														
	E														
	F														

## 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)
GND	ground earth
n.c.	not connected

Connections							
Article no.	M12 Connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU2478 BWU2766	X1	I1 (input 1)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I1	n.c.
	X2	I2 (input 2)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I2	n.c.
	X3	I3 (input 3)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I3	n.c.
	X4	I4 (input 4)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I4	n.c.
	X5	M1 (motor 1)	24 V <sub>ext</sub> out	rotating direction	0 V <sub>ext</sub> out	start output / disturbance input	analog output 0 ... 10 V
	X6	M2 (motor 2)	24 V <sub>ext</sub> out	rotating direction	0 V <sub>ext</sub> out	start output / disturbance input	analog output 0 ... 10 V
	X7	ADDR (dummy plug)	connection for AS-i addressing device				
	SEL1	rotary switch 1	selection of operating mode				
SEL2	rotary switch 2						

Connections							
Article no.	M12 Connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU2959	X1	I1 (input 1)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I1	n.c.
	X2	I2 (input 2)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I2	n.c.
	X3	I3 (input 3)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I3	n.c.
	X4	I4 (input 4)	24 V <sub>out</sub> of AS-i	n.c.	0 V <sub>out</sub> of AS-i	I4	n.c.
	X5	M1 (motor 1)	24 V <sub>ext</sub> out	rotating direction	0 V <sub>ext</sub> out	start output / disturbance input	analog output 0 ... 10 V
	X6	M2 (motor 2)	24 V <sub>ext</sub> out	rotating direction	0 V <sub>ext</sub> out	start output / disturbance input	analog output 0 ... 10 V
	X7	ASI / AUX	AS-i+	0 V <sub>ext</sub> in	AS-i-	24 V <sub>ext</sub> in	-
	SEL1	rotary switch 1	selection of operating mode				
SEL2	rotary switch 2						

### Accessories:

- AS-i substructure module (CNOMO) for 8-channel module in 60 mm-housing (article no. BW2351)

- Passive Distributor AS-i/24 V to 1 x M12, 2 m line (article no. BW3246)
- Protection caps for unused M12 sockets (article no. BW2368)
- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- It is recommended to use pre-assembled cables to connect the motors to the module.