

# ASi-5 Motor Module for Rockwell PF525, IP67, M12, 1M/4I/2O

## ASi-5 Motor Module for Rockwell PowerFlex 525 frequency inverter


Cyclic writing of speed and ramps possible

4 x M12 connectors

High protection class IP67



(figure similar)

Figure	Type	Drive <sup>(1)</sup>	Number of drives	Inputs digital	Outputs digital	Input voltage (sensor supply) <sup>(2)</sup>	Output voltage (actuator supply) <sup>(3)</sup>	ASi connection <sup>(4)</sup>	ASi address <sup>(5)</sup>	Art. no.
	IP67, 4 x M12, ASi-5	Rockwell PF525	1	4	2	out of ASi	out of AUX	ASi profile cable	1 ASi-5 adresse	<b>BWU4369</b>

- (1) **Drive:**  
"Rockwell PF525": Motor module to control geared motors with frequency inverters.
- (2) **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.
- (3) **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
- (4) **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 M12 socket (in IP20 via clamps).
- (5) **ASi address:** AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), single address (max. 31 single addresses/ASi network) ASi-5 address (max. 62 ASi-5 addresses/ASi network), mixed use allowed (upon request, ASi nodes are available with specific ASi address profiles).

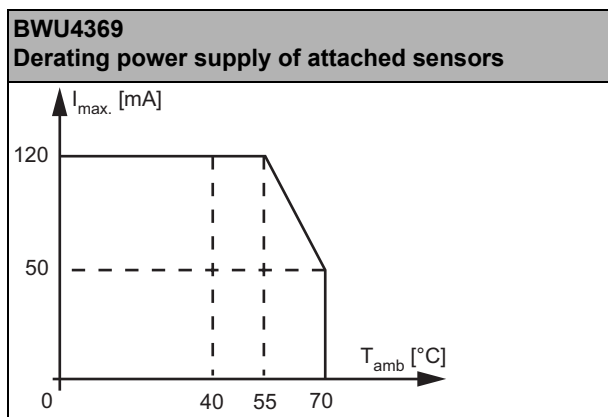
# ASi-5 Motor Module for Rockwell PF525, IP67, M12, 1M/4I/2O

<b>Article no.</b>		<b>BWU4369</b>
<b>Connection</b>		
ASi / AUX connection		profile cable and piercing
Periphery connection		M12, Y wiring
<b>ASi</b>		
Address		1 ASi-5 address
Required Master profile		≥M5
Since ASi specification		5
ASi process data width		6 byte
Operating voltage		30 V (18 ... 31,6 V)
Max. current consumption		210 mA
Max. current consumption without sensor/ actuator supply		65 mA
<b>AUX</b>		
Voltage		24 V (18 ... 30 V)
Max. current consumption		3 A
<b>Input</b>		
Number		4
Power supply		out of ASi
Sensor supply		short-circuit and overload protected according to EN 61131-2
Power supply of attached sensors	up to +40 °C	120 mA <sup>(1)</sup>
	at +55 °C	
	at +70 °C	50 mA <sup>(1)</sup>
Switching threshold		< 5 V (low), > 15 V (high)
<b>Output</b>		
Number		2
Power supply		out of AUX
Output		short-circuit and overload protected according to EN 61131-2
Max. output current	up to +40 °C	1 A per output, $\Sigma(\text{Out})$ 3 A <sup>(2)</sup>
	at +55 °C	
	at +70 °C	0,5 A per output, $\Sigma(\text{Out})$ 1,5 A <sup>(2)</sup>
<b>RS 485 interface</b>		
Number		1
Interface		RS 485
Baud rates		9600 Bit/s
Power supply		out of AUX
Fuse		short-circuit and overload protected according to EN 61131-2
Max. current	up to +40 °C	1 A per motor, $\Sigma(\text{Out})$ 3 A <sup>(2)</sup>
	at +55 °C	
	at +70 °C	0,5 A per motor, $\Sigma(\text{Out})$ 1,5 <sup>(2)</sup>
<b>Visualization</b>		
LED ASI (green)		on: ASi voltage flashing: ASi voltage on, but peripheral fault <sup>(3)</sup> or address 0 off: no ASi voltage
LED FLT (red)		on: Slave offline flashing: peripheral fault <sup>(3)</sup> off: Slave online
LED AUX (green)		on: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX
LEDs I1 ... In (yellow)		state of inputs I1 ... I4
LEDs O1, O2 (yellow)		state of outputs O1, O2
LED M1 (yellow)		RS 485 communication active

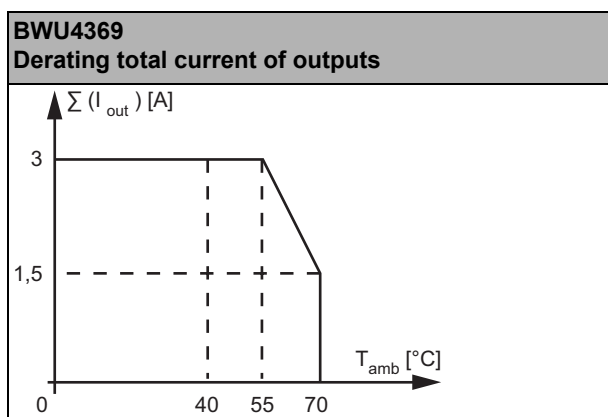
# ASi-5 Motor Module for Rockwell PF525, IP67, M12, 1M/4I/2O

<b>Article no.</b>	<b>BWU4369</b>
<b>Environment</b>	
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529
Passive safety (up to PLe/SIL 3)	yes <sup>(4)</sup>
Operating altitude	max. 2000 m
Ambient operating temperature	-30 °C ... +55 °C (up to max. +70 °C) <sup>(1) (2) (5)</sup>
Storage temperature	-25 °C ... +85 °C
Housing	plastic, for DIN rail mounting or for screw mounting <sup>(6)</sup>
Protection category	IP67 <sup>(7)</sup>
Pollution Degree	2
Tolerable loading referring to humidity	according to EN 61131-2
Max. tolerable shock load	30g, 11 ms, acc. EN 61131-2
Max. tolerable vibration stress	5 ... 8 Hz 50 mm <sub>pp</sub> /8 ... 500 Hz 6g, acc. EN 61131-2
Isolation voltage	≥500 V
Weight	100 g
Dimensions (B / H / T in mm)	45 / 80 / 56

(1)



(2)



(3) **See table "Peripheral fault indication"**

(4) 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.

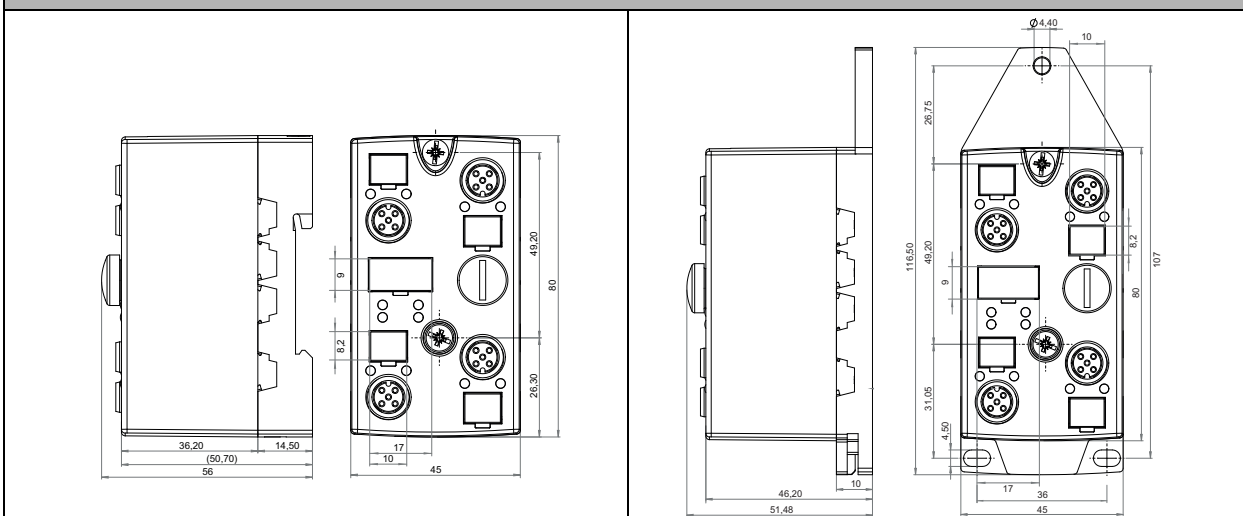
(5) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada

(6) Depending on substructure module (see accessories). The substructure module is not included in the scope of delivery.

(7) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps fulfilling the same protection category.

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## Dimensional drawings



## UL-specifications (UL508)

### BWU4369

External protection	An isolated source with a secondary open circuit voltage of $\leq 30 V_{DC}$ with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.
In general	UL mark does not provide UL certification for any functional safety rating or aspects of the above devices.

Article no.	Peripheral fault indication				
	Overload sensor supply	Output short circuited	AUX voltage missing	Communication error	Motor error
BWU4369	•	•	•	•	•

## Programming (Bit-setting of ASi process data image)

Article no.	Byte	Bit								
		D7	D6	D5	D4	D3	D2	D1	D0	
BWU4369	<b>Digital input data</b>									
	0	reserved					I4	I3	I2	I1
	1	motor ready	motor running	at reference	direction of rotation	motor error	reserved			
	2	actual speed, high byte (0 ... 100%, resolution 0,01%), UINT16								
	3	actual speed, low byte (0 ... 100%, resolution 0,01%), UINT16								
	4	actual current (mA), high byte, UINT16								
5	actual current (mA), low byte, UINT16									

Article no.	Byte	Bit								
		D7	D6	D5	D4	D3	D2	D1	D0	
BWU4369	<b>Digital output data</b>									
	0	reserved						O2	O1	
	1	enable	start/stop	direction of rotation	brake	reset	free wheel	reserved		
	2	speed setpoint, high byte (0 ... 100%, resolution 0,01%), UINT16								
	3	speed setpoint, low byte (0 ... 100%, resolution 0,01%), UINT16								
	4	ramp (ms), high byte, UINT16								
5	ramp (ms), low byte, UINT16									

# ASi-5 Motor Module for Rockwell PF525, IP67, M12, 1M/4I/2O

## Pin assignment

Signal name	Explanation
I <sub>x</sub>	Digital input x
O <sub>x</sub>	Digital output x
RS 485 TX +	Communication with motor, positive pole (labeling on motor RX +)
RS 485 TX -	Communication with motor, negative pole (labeling on motor RX -)
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 network, positive potential
ASi-	ASi network, negative potential
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

Article no.	M12 Connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5	
BWU4369	X1	I1/I2	24 V <sub>out of ASi</sub>	I2	0 V <sub>out of ASi</sub>	I1	n.c.	
	X2	I3/I4	24 V <sub>out of ASi</sub>	I4	0 V <sub>out of ASi</sub>	I3	n.c.	
	X3	O1/O2	0 V <sub>ext out</sub>	O2	0 V <sub>ext out</sub>	O1	n.c.	
	X4	M1 (motor)	24 V <sub>ext out</sub>	RS 485 TX -	0 V <sub>ext out</sub>	RS 485 TX +	n.c.	
	ADDR (dummy plug)	connection for ASi addressing device						

## Accessories:

- ASi substructure module for 4-channel module in 45 mm-housing (art. no. BW2349)
- ASi substructure module (CNOMO) 4-channel module in 45 mm-housing (art. no. BW2350)
- Protection caps for unused M12 sockets (art. no. BW2368)
- Protection cap for ASi-5 addressing sockets, IP67, M12 (article no. BW4056)
- ASi-5/ASi-3 Address Programming Device (article no. BW4925)
- It is recommended to use pre-assembled cables to connect the power source with the module.