

ASi-5 Motor Module for SEW MOVIMOT, IP67, M12, 4E/2A

ASi-5 Motor Module for SEW MOVIMOT

Cyclic writing of speed and ramps possible

4 x M12 connectors

High protection class IP67

Suitable for option with plug connector AVT1



(figure similar)



Figure	Type	Drive ⁽¹⁾	Number of drives	Inputs digital	Outputs digital	Input voltage (sensor supply) ⁽²⁾	Output voltage (actuator supply) ⁽³⁾	ASi connection ⁽⁴⁾	ASi address ⁽⁵⁾	Art. no.
	IP67, 4 x M12, ASi-5	SEW MOVIMOT	1	4	2	out of ASi	out of AUX	ASi profile cable	1 ASi-5 address	BWU4068

(1) **Drive:**

"SEW MOVIMOT®": 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 addresses (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).

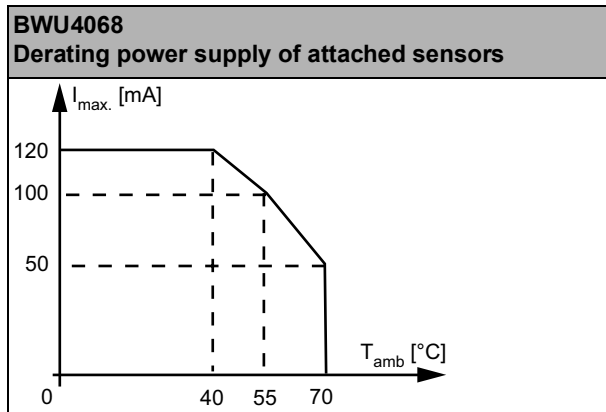
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Article no.		BWU4068
Connection		
ASi / AUX connection		profile cable and piercing
Periphery connection		M12, Y wiring
ASi		
Address		1 ASi-5 address
Required Master profile		≥M5
Since ASi specification		5
Operating voltage		30 V (18 ... 31,6 V)
Max. current consumption		185 mA
Max. current consumption without sensor/ actuator supply		65 mA
Process data width		5 or 7 bytes
AUX		
Voltage		24 V (18 ... 30 V)
Max. current consumption		2 A
Input		
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 ⁽¹⁾
	at +55 °C	100 mA ⁽¹⁾
	at +70 °C	50 mA ⁽¹⁾
Switching threshold		< 5 V (low), > 15 V (high)
Output		
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	max. 1 A per output, $\Sigma(\text{Out})$ 1 A, $\Sigma(\text{Out}+\text{Motor})$ 2 A ⁽²⁾
	at +55 °C	max. 0,75 A per output, $\Sigma(\text{Out})$ 0,75 A, $\Sigma(\text{Out}+\text{Motor})$ 1,75 A ⁽²⁾
	at +70 °C	max. 0,5 A per output, $\Sigma(\text{Out})$ 0,5 A, $\Sigma(\text{Out}+\text{Motor})$ 1 A ⁽²⁾
SEW Movimot Port		
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 port, $\Sigma(\text{Out}+\text{Motor})$ 2 A ⁽²⁾
	at +55 °C	1 A per port, $\Sigma(\text{Out}+\text{Motor})$ 1,75 A ⁽²⁾
	at +70 °C	0,5 A per port, $\Sigma(\text{Out}+\text{Motor})$ 1 A ⁽²⁾
Visualization		
LED ASi (green)		on: ASi voltage flashing: ASi voltage on, but peripheral fault ⁽³⁾ or address 0 off: no ASi voltage
LED FLT (red)		on: ASi node offline flashing: peripheral fault ⁽³⁾ off: ASi node online
LED AUX (green)		on: 24 V _{DC} AUX off: no 24 V _{DC} AUX
LEDs I1 ... I4 (yellow)		state of inputs I1 ... I4
LEDs O1, O2 (yellow)		state of outputs O1, O2
LED M1 (yellow)		RS 485 communication active

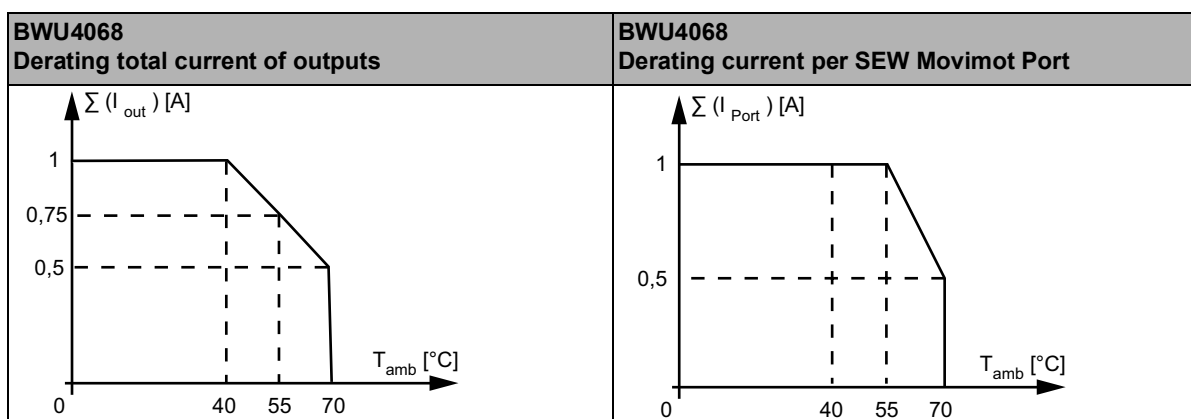
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Article no.	BWU4068
Environment	
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	yes ⁽⁴⁾
Operating altitude	max. 2000 m
Ambient operating temperature	-30 °C ... +55 °C (up to max. +70 °C) ^{(1) (2) (5)}
Storage temperature	-25 °C ... +85 °C
Housing	plastic, for DIN rail mounting
Protection category	IP67 ⁽⁶⁾
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 _{pp} /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"

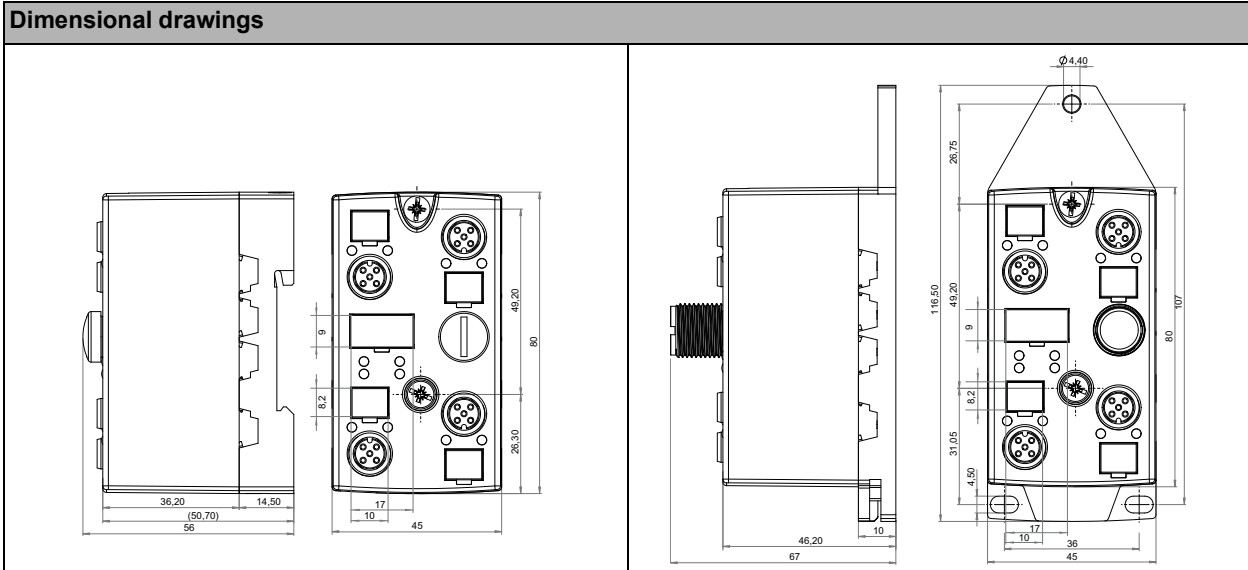
(4) The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

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

(6) 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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UL-specifications (UL508)	
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	Movimot Communication Error	Movimot Status Error
BWU4068	•	•	•	•	•

Programming (Bit-setting of ASi process data image)

Article no.	Byte	Bit							
		D7	D6	D5	D4	D3	D2	D1	D0
BWU4068	Digital input data								
	0	—	—	—	—	I4	I3	I2	I1
	SEW MOVIMOT process input data PI1 ⁽¹⁾ status word 1								
	1	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
	2	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	SEW MOVIMOT process input data PI2 ⁽¹⁾ output current								
	3	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
	4	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	SEW MOVIMOT process input data PI3 ⁽¹⁾ status word 2								
	5	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
	6	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

⁽¹⁾ For further detailed information, please refer to the SEW MOVIMOT documentation.

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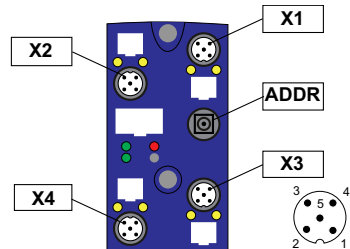
Article no.	Byte	Bit							
		D7	D6	D5	D4	D3	D2	D1	D0
BWU4068	Digital output data								
	0	–	–	–	–	–	–	O2	O1
	SEW MOVIMOT process output data PO1 ⁽¹⁾ control word								
	1	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
	2	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	SEW MOVIMOT process output data PO2 ⁽¹⁾ speed [%]								
	3	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
	4	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	SEW MOVIMOT process output data PO3 (only for 3-word protocol) ⁽¹⁾ ramp								
	5	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
	6	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

⁽¹⁾ For further detailed information, please refer to the SEW MOVIMOT documentation.

Pin assignment

Signal name	Explanation
Ix	Digital input x
Ox	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 _{ext out}	Power supply, out of external voltage, positive pole (AUX, actuator supply)
0 V _{ext out}	Power supply, out of external voltage, negative pole (AUX, actuator supply)
24 V _{ext in}	Input voltage, positive pole (AUX+)
0 V _{ext in}	Input voltage, negative pole (AUX-)
ASi+	ASi network, positive potential
ASi-	ASi network, negative potential
24 V _{out of ASi}	Power supply, out of ASi, positive pole (sensor supply)
0 V _{out of ASi}	Power supply, out of ASi, negative pole (sensor supply)
n.c.	not connected

Connections							
Article no.	M12 Connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU4068	X1	I1/I2	24 V _{out of ASi}	I2	0 V _{out of ASi}	I1	n.c.
	X2	I3/I4	24 V _{out of ASi}	I4	0 V _{out of ASi}	I3	n.c.
	X3	O1/O2	0 V _{ext out}	O2	0 V _{ext out}	O1	n.c.
	X4	M1 (motor)	24 V _{ext out}	RS 485 TX -	0 V _{ext out}	RS 485 TX +	n.c.
	ADDR (protection cap)	connection for ASi-5 addressing plug					



Notice:

- The RS 485 bus address must be set directly on SEW MOVIMOT. For further detailed information, please refer to the SEW MOVIMOT documentation.

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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)
- Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)
- It is recommended to use pre-assembled cables to connect the power source with the module e.g.:
 - Connction cable for SEW MOVIMOT AVT1, M12 cable plug, straight, 4 poles, A coded to M12 cabel socket, straight, B coded, cable length 2 m (art. no. BW4215)
 - Connection cable for SEW frequency inverters (art. no. BW2799)