

# ASi Modules for SEW Frequency Inverter, IP67, M12, 1M/2I

## ASi Modules for SEW Frequency Inverter

Easy triggering of fixed frequencies



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	SEW MOVIMOT	1	2	–	out of ASi	–	ASi profile cable	1 single address	<b>BWU2912</b>
	IP67, 4 x M12	SEW MOVIMOT	1	2	–	out of AUX	–	ASi using M12	1 single address	<b>BWU2956</b>

- (1) **Drive:**  
"SEW MOVIMOT®": Motor module to control 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:** 1 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), mixed use allowed.  
For modules with two ASi nodes the second ASi node is turned off as long as the first ASi node is addressed to address "0".  
Upon request, ASi nodes are available with specific ASi address profiles.

Article no.	BWU2912	BWU2956
<b>Interface</b>		
Interface	RS 485	
Baud rates	9600 Bit/s	
<b>Connection</b>		
ASi / AUX connection	profile cable and piercing technology	M12 <sup>(3)</sup>
Periphery connection	M12	
<b>ASi</b>		
Profile	S-7.F.E (ID1=1 fixed)	
Address	1 single address	
Required Master profile	≥M3	
Since ASi specification	2.1	
Operating voltage	30 V (18 ... 31,6 V)	
Max. current consumption	165 mA	

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Article no.	BWU2912	BWU2956
<b>AUX</b>		
Voltage	24 V (18 ... 30 V)	
Max. current consumption	1 A	
<b>Input</b>		
Number	2	
power supply	out of ASi	out of AUX
Sensor supply	short-circuit and overload protected according to EN 61131-2	
Supply of attached sensors	120 mA	
Switching threshold	< 5 V (low) > 15 V (high)	
<b>Drive</b>		
Number	1	
Power supply	out of AUX	
Interface	RS 485	
Max. output current	$\Sigma$ (Motor) $\leq 1$ A	
<b>Visualization</b>		
LED I1, I2 (yellow)	state of input I1, I2	
LED M1 (yellow)	RS 485 communication active	
LED ASI (green)	on: ASi voltage flashing: ASi voltage on, but peripheral fault <sup>(1)</sup> or address 0 off: no ASi voltage	
LED AUX (green)	on: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX	
LED FLT (red)	on: ASi node offline flashing: peripheral fault <sup>(1)</sup> off: ASi node online	
<b>Environment</b>		
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 <sup>(2)</sup>	no <sup>(4)</sup>
Operating altitude	max. 2000 m	
Ambient operating temperature	-30 °C ... +55 °C	
Storage temperature	-40 °C ... +85 °C	
Housing	plastic, for DIN rail mounting	plastic, for screw mounting
Protection category	IP67	
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	$\geq 500$ V	
Weight	100 g	
Dimensions (B / H / T in mm)	45 / 80 / 42	45 / 116,5 / 47,5

<sup>(1)</sup> See table "Peripheral fault indication"

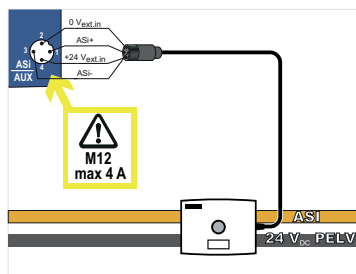
<sup>(2)</sup> BWU2912 from Ident. No. 16982; the module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

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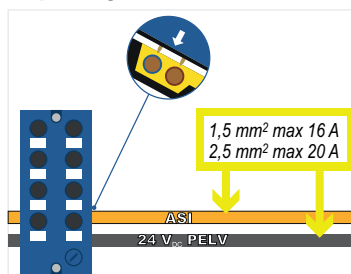
**(3) Line protection:**

If the module is supplied via a M12 connection with A or B coding, it may only be used with a current load of max. 4 A per pin in acc. with IEC 61076-2-101 and IEC 61076-2-109. A fused tap is recommended. There is no such limitation for modules supplied via piercing contacts.

**Connection to ASi and AUX via M12**



**via piercing contacts**



**(4) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.**

If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.

Article no.	Peripheral fault indication		
	Overload sensor supply	error in the inverter	communication error with the inverter
BWU2912	•	•	•
BWU2956	•	•	•

UL-specifications (UL508)	
BWU2912, BWU2956	
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.	Operating mode <sup>(1)</sup>	
	1 ramp with 14 speeds	2 ramps with 6 speeds each
BWU2912	•	• <sup>(2)</sup>
BWU2956	-	-

<sup>(1)</sup> The ramps can be switched during operation.

<sup>(2)</sup> BWU2912 from Ident.No.  $\geq 16859$

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## Pin assignment

Signal name	Explanation
Ix	Digital input 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	
BWU2912	X1	I1 (input 1)	24 V <sub>out of ASi</sub>	n.c.	0 V <sub>out of ASi</sub>	I1	n.c.	
	X2	I2 (input 2)	24 V <sub>out of ASi</sub>	n.c.	0 V <sub>out of ASi</sub>	I2	n.c.	
	X3	no connection (protection cap)						
	X4	M1 (motor)	24 V <sub>ext out</sub>	RS 485 TX -	0 V <sub>ext out</sub>	RS 485 TX +	n.c.	
	ADDR (protection cap)	connection for ASi-3 addressing plug						

Connections								
Article no.	M12 Connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5	
BWU2956	X1	I1	24 V <sub>ext out</sub>	n.c.	0 V <sub>ext out</sub>	I1	n.c.	
	X2	I2	24 V <sub>ext out</sub>	n.c.	0 V <sub>ext out</sub>	I2	n.c.	
	X3	no connection (protection cap)						
	X4	M1	24 V <sub>ext out</sub>	RS 485 TX -	0 V <sub>ext out</sub>	RS 485 TX +	n.c.	
	X5	ASi	ASi+	0 V <sub>ext in</sub>	ASi-	24 V <sub>ext in</sub>	-	

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## Notice:

- The RS 485 bus address must be set directly on MOVIMOT. For further detailed information, please refer to the MOVIMOT documentation.
- The tap of the external 24V<sub>ext</sub> has to be protected via a resetting fuse.

## 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)
- Passive Distributor ASi/24 V to M12, 2 m line (article no. BW1974)
- Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)
- Passive Distributor ASi/AUX to 2 x M12 socket, internal protection via changeable 4 A slow-blow fuses (article no. BWU3087)
- 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.:
  - Connection cable for SEW MOVIMOT AVT1, M12 cable plug, straight, 4 poles, A coded to M12 cable socket, straight, B coded, cable length 2 m (art. no. BW4215)
  - Connection cable for SEW frequency inverters (art. no. BW2799)