

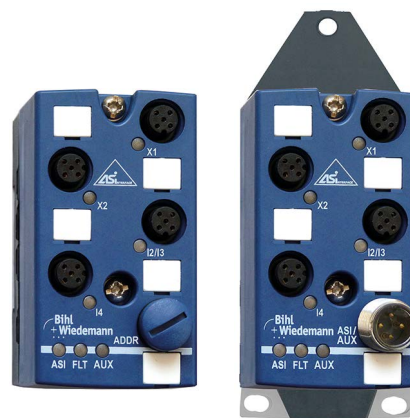
## ASi Motor Module, IP67, M12 for Lenze Smart motor, 4I/3O

1 AB slave

ASi/AUX via profile cable or M12

2 x M12 connections compatible with Lenze Smart Motor

2 x M12 connections for up to 3 additional sensors



(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	Lenze Smart Motor	1	4	3 x electronic	out of AUX	out of AUX	ASi profile cable	1 AB slave	<b>BWU3115</b>
	IP67, 4 x M12	Lenze Smart Motor	1	4	3 x electronic	out of ASi	out of ASi	ASi profile cable	1 AB slave	<b>BWU3886</b>
	IP67, 4 x M12	Lenze Smart Motor	1	4	3 x electronic	out of AUX	out of AUX	ASi via M12	1 AB slave	<b>BWU3181</b>

**(1) Drive**

**Lenze Smart Motor:** Motor module to control Lenze Smart motors and to control additional sensors.

**(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.

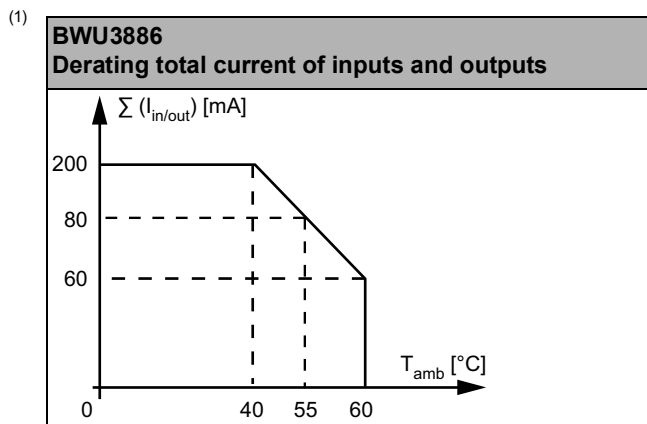
**(3) Output voltage (actuator supply):** outputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, outputs shall not be connected to earth or to external potential.

**(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 Slave (max. 62 AB Slaves/ASi network), 2 AB Slaves (max. 31 modules with 2 AB Slaves), Single Slaves (max. 31 Single Slaves/ASi network), mixed use allowed. For modules with two slaves the second slave is turned off as long as the first slave is addressed to address "0". Upon request, slaves are available with specific ASi Slave profiles.

Article No.	BWU3886		BWU3115		BWU3181	
<b>General data</b>						
Device type	input / output					
<b>Connection</b>						
ASi/AUX connection	profile cable and piercing				M12 <sup>(7)</sup>	
Periphery connection	M12					
<b>ASi</b>						
Profile	S-7.A.E, ID1= 7 (default)					
Address	1 AB slave					
Required Master profile	≥M4					
As of ASi specification	3					
Operating voltage	30 V (18 ... 31.6 V)					
Max. current consumption	245 mA				35 mA	
Max. current consumption without sensor/ actuator supply	45 mA				35 mA	
<b>AUX</b>						
Operating voltage	-				24 V (18 ... 30 V)	
Max. current consumption	-				max. 2,5 A	
<b>Input</b>						
Number	4					
Power supply	out of ASi			out of AUX		
Power supply of attached sensors	up to +40 °C	200 mA, $\sum (In/Out) \leq 200 \text{ mA}^{(1)}$		max. 1 A		
	at +55 °C	80 mA, $\sum (In/Out) \leq 80 \text{ mA}^{(1)}$				
	at +60 °C	60 mA, $\sum (In/Out) \leq 60 \text{ mA}^{(1)}$				
Switching threshold	U < 5 V (low) U > 15 V (high)					
<b>Output</b>						
Number	3					
Power supply	up to +40 °C	200 mA, $\sum (In/Out) \leq 200 \text{ mA}^{(1)}$		out of AUX		
	at +55 °C	80 mA, $\sum (In/Out) \leq 80 \text{ mA}^{(1)}$				
	at +60 °C	60 mA, $\sum (In/Out) \leq 60 \text{ mA}^{(1)}$				
Max. output current	200 mA per output			max. 500 mA per output		
<b>Display</b>						
LED ASI (green)	on: ASi voltage on flashing: ASi voltage on, but peripheral fault <sup>(2)</sup> or address 0 off: no ASi voltage					
LED FLT/FAULT (red)	on: slave address 0 or slave offline flashing: peripheral fault <sup>(2)</sup> off: slave online					
LED AUX (green)	-		on: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX			
LED X1 (yellow)	state of outputs O1 / O2: at least 1 output of output pair is on					
LED X2 (yellow)	state of inputs/outputs I1 / O3: input <b>or</b> output is on					
LED I2/I3 (yellow)	state of inputs I2 / I3: at least 1 input of input pair is on					
LED I4 (yellow)	state of input I4					

Article No.	BWU3886	BWU3115	BWU3181
<b>Environment</b>			
Applied standards	EN 61000-2 EN 61000-3 EN 61131-2 EN 60529		
Can be used in passively safe paths up to SIL3/PLe	yes <sup>(3)</sup>	yes <sup>(6)</sup>	no <sup>(8)</sup>
Operating altitude	max. 2000 m		
Ambient temperature	-30 °C ... +55 °C (up to max. +70 °C) <sup>(4)</sup> <sup>(5)</sup>		
Storage temperature	-25 °C ... +85 °C		
Housing	plastic, for DIN rail mounting	plastic, for screw mounting	
Protection category	IP67		
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		
Insulation voltage	≥500 V		
Weight	100 g		
Dimensions (W / H / D) in mm	45 / 80 / 42		45 / 116,5 / 47,5



(2) See table "Peripheral fault indication"

(3) The module is suitable for use in passively safe paths as it has no connection to an AUX potential.

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

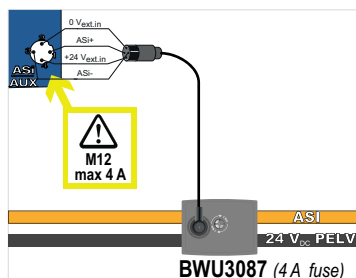
(5) Temperature range up to -30 °C from Ident.No. ≥16336 (BWU3115).

(6) BWU3115 from Ident. No. 18181; The module is suitable for use in passively safe paths because an exclusion of errors can be assumed for the connection of the two potentials, ASi and AUX.

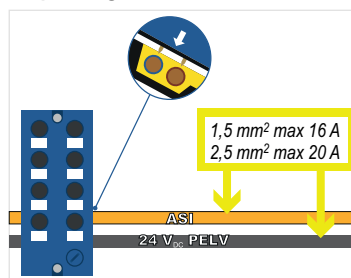
(7) **Line protection:**

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**



(8) The module is not suitable for use in passively safe paths because an exclusion of errors cannot be assumed for the connection of the two potentials, ASi and AUX.

Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU3115	•	•	•
BWU3181	•	•	•
BWU3886	•	•	-

UL-specifications (UL508) BWU3115, BWU3181, BWU3886	
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.

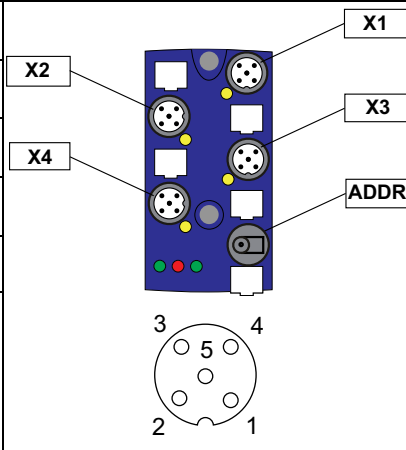
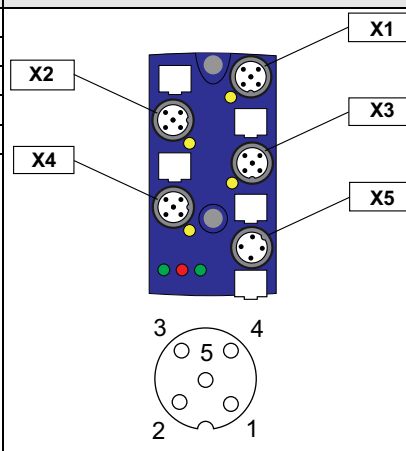
Programming	Parameter bit			
	P0	P1	P2	P3
BWU3115 / BWU3181 / BWU3886	0= off / 1= on (Watchdog)	0= on / 1= off (data input filter 128 $\mu$ s)	0= on / 1= off (synchronous I/O mode)	not used

### Pin assignment

Signal name	Explanation
I <sub>x</sub>	digital input x
O <sub>x</sub>	digital output x
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)
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>	connection to external 24 V power supply, positive pole (AUX, actuator supply)
0 V <sub>ext in</sub>	connection to external 24 V power supply, negative pole (AUX, actuator supply)
ASi +, ASi -	connection to ASi bus
n.c.	not connected

Connections							
Article no.	M12 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3115	X1	X1 <sup>(1)</sup>	n.c.	O2	0 V <sub>ext.out</sub>	O1	n.c.
	X2	X2 <sup>(2)</sup>	24 V <sub>ext.out</sub>	O3	0 V <sub>ext.out</sub>	I1	n.c.
	X3	I2/I3	24 V <sub>ext.out</sub>	I3	0 V <sub>ext.out</sub>	I2	n.c.
	X4	I4	24 V <sub>ext.out</sub>	n.c.	0 V <sub>ext.out</sub>	I4	n.c.
	ADDR (dummy plug)	connection for ASi addressing device					

Connections							
Article no.	M12 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3181	X1	X1 <sup>(1)</sup>	n.c.	O2	0 V <sub>ext.out</sub>	O1	n.c.
	X2	X2 <sup>(2)</sup>	24 V <sub>ext.out</sub>	O3	0 V <sub>ext.out</sub>	I1	n.c.
	X3	I2/I3	24 V <sub>ext.out</sub>	I3	0 V <sub>ext.out</sub>	I2	n.c.
	X4	I4	24 V <sub>ext.out</sub>	n.c.	0 V <sub>ext.out</sub>	I4	n.c.
	X5	ASI / AUX	ASI+	0 V <sub>ext.in</sub>	ASI-	24 V <sub>ext.in</sub>	-
BWU3886	X1	X1 <sup>(1)</sup>	n.c.	O2	0 V <sub>out of ASi</sub>	O1	n.c.
	X2	X2 <sup>(2)</sup>	24 V <sub>out of ASi</sub>	O3	0 V <sub>out of ASi</sub>	I1	n.c.
	X3	I2/I3	24 V <sub>out of ASi</sub>	I3	0 V <sub>out of ASi</sub>	I2	n.c.
	X4	I4	24 V <sub>out of ASi</sub>	n.c.	0 V <sub>out of ASi</sub>	I4	n.c.
	ADDR (dummy plug)	connection for ASi addressing device					



(1) 4 pole connection to X1 of Lenze Smart Motor  
 (2) 4 pole connection to X2 of Lenze Smart Motor

### Accessories:

- ASi substructure module for 4 channel module in 45 mm housing (art. no. BW2349)
- ASi substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BW2350)
- Protection caps for unused M12 sockets (art. no. BW2368)
- Passive Distributor ASi/AUX to 2 x M12 socket, internal protection via changeable 4 A slow-blow fuses (art. no. BWU3087)
- It is recommended to use pre-assembled cables to connect the power source with the module.