

**2 x 2 connectors for profile cable**

**2 color LEDs per output,  
state (yellow), overload (red)**

**Input power supply out of ASi**

**Output power supply out of AUX**

**2 A per output**

**Address profile S-7.F.F.E**

**ASi using M12**



(Figure similar)



Figure	Type	Inputs digital	Outputs digital	M12 connection <sup>(1)</sup>	Input voltage (sensor supply) <sup>(2)</sup>	Output voltage (actuator supply) <sup>(3)</sup>	ASi connection <sup>(4)</sup>	ASi address <sup>(5)</sup>	Max. output current	Art. no.
	IP67, 8 x M12	4	4 x electronic	Y-wiring	out of ASi	out of AUX, 2A per output	ASi using M12	1 single slave S-7.F.F.E	2 A per output	<b>BWU3895</b>

**Replacement, ASi Version 2:** single slaves (digital) are also working with the first generation ASi masters.

**(1) M12 wiring:**

**Single wiring:** 1 input or output per connection.

**Y wiring:** 2 inputs or outputs per connection.

**Mixed wiring:** 1 input and 1 output per connection.

**(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.

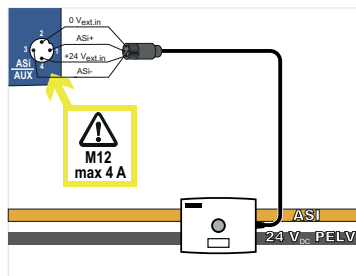
<b>Article No.</b>		<b>BWU3895</b>
<b>General data</b>		
Device type		input / output
<b>Connection</b>		
ASi/AUX Connection		M12 <sup>(1)</sup>
Periphery connection		M12, Y-wiring
Length of connector cable		unlimited <sup>(2)</sup>
<b>ASi</b>		
Profile		S-7.F.E (ID1=F default)
Address		1 single slave
Required Master profile		≥M0
As of ASi specification		2.0
Operating voltage		30 V (18 ... 31.6 V)
Max. current consumption		250 mA
Max. current consumption without sensor/ actuator supply		70 mA
<b>AUX</b>		
Operating voltage		24 V (18 ... 30 V)
Max. current consumption		4 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	180 mA <sup>(3)</sup>
	at +55 °C	160 mA <sup>(3)</sup>
	at +70 °C	120 mA <sup>(3)</sup>
Switching threshold		U < 5 V (low) U > 15 V (high)
<b>Output</b>		
Number		4
Power supply		out of AUX
Output		short-circuit and overload protected according to EN 61131
Max. output current	up to +40 °C	2 A per output, $\Sigma$ (Out) 4 A <sup>(4)</sup>
	at +55 °C	1,5 A per output, $\Sigma$ (Out) 4 A <sup>(4)</sup>
	at +70 °C	1 A per output, $\Sigma$ (Out) 3 A <sup>(4)</sup>
<b>Display</b>		
LED ASi (green)		on: ASi voltage on flashing: ASi voltage on, but peripheral fault <sup>(5)</sup> or address 0 off: no ASi voltage
LED FLT/FAULT (red)		on: slave address 0 or slave offline flashing: peripheral fault <sup>(5)</sup> off: slave online
LED AUX (green)		on: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX
LEDs I1 ... I4 (yellow)		state of inputs I1 ... I4
LEDs O1 ... O4 (yellow / red)		yellow: state of outputs O1 ... O4 red: overload

<b>Article No.</b>	<b>BWU3895</b>
<b>Environment</b>	
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529
Can be used in passively safe paths up to SIL3/PLe	no <sup>(6)</sup>
Operating altitude	max. 2000 m
Ambient temperature	-30 °C ... +55 °C <sup>(3) (4) (7)</sup> (up to max. +70 °C)
Storage temperature	-30 °C ... +85 °C
Housing	plastic, screw mounting
Pollution degree	2
Protection category	IP67 <sup>(8)</sup>
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
Insulation voltage	≥500 V
Weight	200 g
Dimensions (W / H / D) in mm	60 / 152 / 46

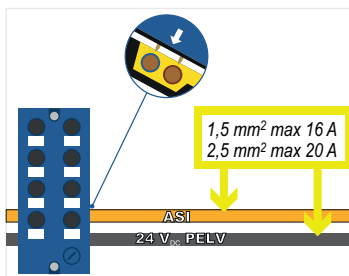
(1) **Line protection:**

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**

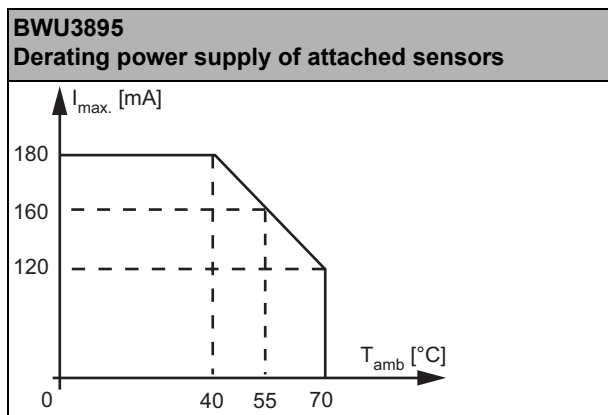


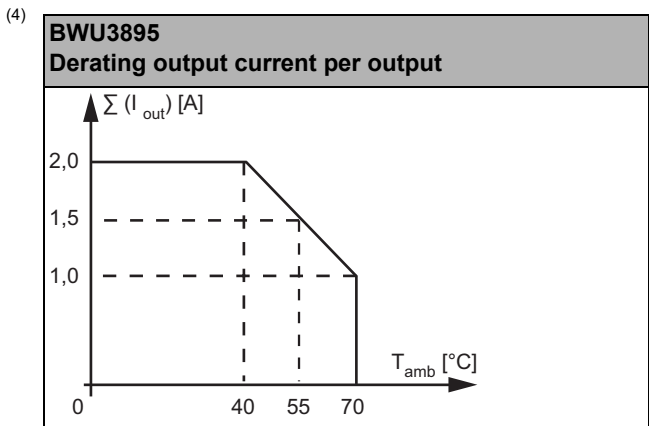
**via piercing contacts**



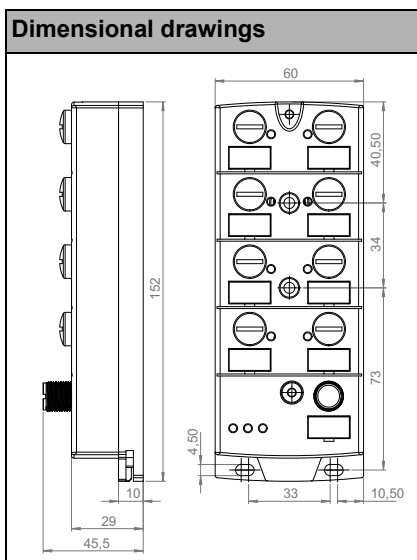
(2) Loop resistance ≤150 Ω

(3)





- (5) See table "Peripheral fault indication"
- (6) 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.
- (7) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada
- (8) Protection category IP67 can only be achieved if all open connections are sealed with suitable end caps (see accessories)



<b>UL-specifications (UL508)</b>	
<b>BWU3895</b>	
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
<b>BWU3895</b>	•	-	-

Programming	ASi bit assignment			
Bit	D3	D2	D1	D0
	input			
BWU3895	I4	I3	I2	I1
	output			
BWU3895	O4	O3	O2	O1

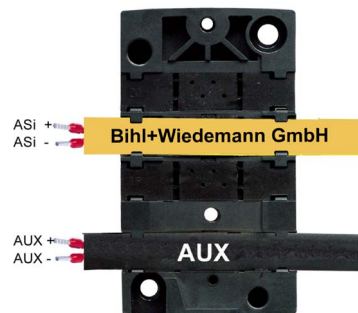
Programming	Parameter bits			
Bit	P3	P2	P1	P0
BWU3895	not used	0= on / 1= off (synchronous I/O mode)	0= on / 1= off (data input filter 128µs)	0= off / 1= on (Watchdog)

## Pin assignment

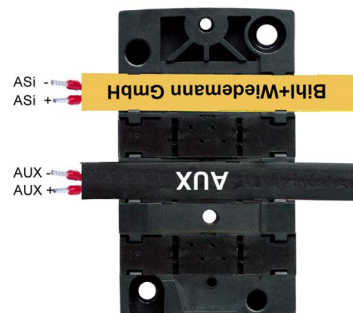
Signal name	Explanation
Ix	digital input x
Ox	digital output x
24V <sub>ext out</sub>	power supply, out of external voltage, positive pole (AUX)
0V <sub>ext out</sub>	power supply, out of external voltage, negative pole (AUX)
24V <sub>out of ASi</sub>	power supply, out of ASi, positive pole
0V <sub>out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

Connections							
Article no.	M12 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3895	X1	I1/I2	24 V <sub>ext out</sub>	I2	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	I3/I4	24 V <sub>ext out</sub>	I4	0 V <sub>ext out</sub>	I3	n.c.
	X4	I4	24 V <sub>ext out</sub>	n.c.	0 V <sub>ext out</sub>	I4	n.c.
	X5	O1/O2	0 V <sub>ext out</sub>	O2	0 V <sub>ext out</sub>	O1	n.c.
	X6	O2	0 V <sub>ext out</sub>	n.c.	0 V <sub>ext out</sub>	O2	n.c.
	X7	O3/O4	0 V <sub>ext out</sub>	O4	0 V <sub>ext out</sub>	O3	n.c.
	X8	O4	0 V <sub>ext out</sub>	n.c.	0 V <sub>ext out</sub>	O4	n.c.
	X9	ASi	ASi+	0 V <sub>ext in</sub>	ASi-	24 V <sub>ext in</sub>	-

## Mounting according to cable direction

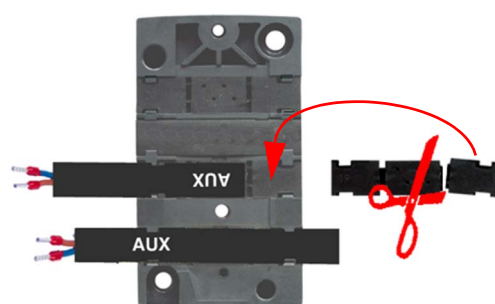
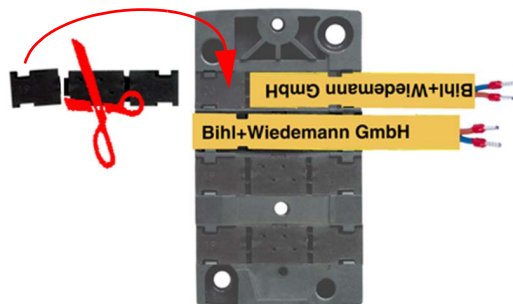
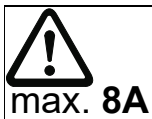


ordinary



turned

## Line termination with sealing profiles / as junction



### Accessories:

- Protection caps for unused M12 sockets (art. no. BW2368)
- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- 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.