Digital Modules AS-i, IP67, M12

2 x 2 connectors for profile cable

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

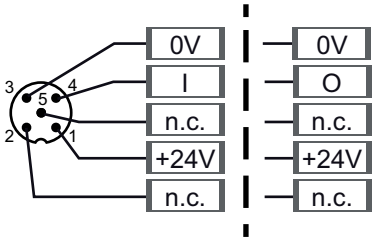
(Figure similar)

Figure	Type	Inputs digital	Outputs digital	M12 connection (1)	Input voltage (sensor supply) (2)	Output voltage (actuator supply) (3)	AS-i connection (4)	AS-i address (5)	Max. output current	Art. no.
	IP67, 4 x M12	4	2 x electronic, special AS-i bit assign-ment	Y	out of AS-i	out of AUX	AS-i profile cable	1 AB slave	1 A	**BWU3449**

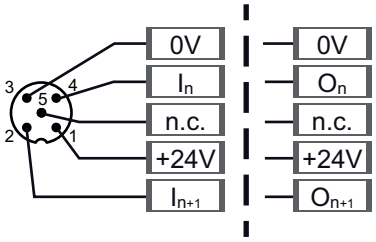
Replacement, AS-i Version 2.0: single slaves (digital) are also working with the first generation AS-i masters.

(1) **M12 wiring:** either as a single–wiring, Y–wiring or mixed-wiring.

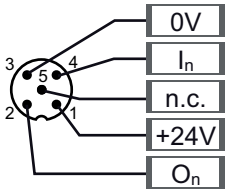
Single-wiring



Y-wiring



Mixed-wiring



(2) I**nput voltage (sensor supply):** inputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, inputs shall not be connected to earth or to external potential.

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

(4) **AS-i connection:** the connection to AS-i as well to AUX (auxiliary 24 V power) is made via yellow resp. black AS-i profile cable with piercing technology or via M12 socket (in IP20 via clamps).

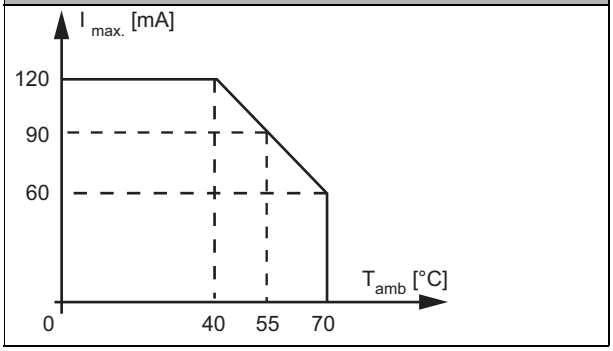
(5) **AS-i address:** 1 AB Slave (max. 62 AB Slaves/AS-i network), 2 AB Slaves (max. 31 modules with 2 AB Slaves), Single Slaves (max. 31 Single Slaves/AS-i network), mixed use allowed.
For modules with two slaves the second slave is turned off as long as the first slave is addressed to address "0".
Upon request, slaves are available with specific AS-i Slave profiles.

Article No.		BWU3449
General data		
Device type		input / output
Connection		
AS-i/AUX Connection		profile cable and piercing
Periphery connection		M12, Y wiring
AS-i		
Profile		S-7.A.7 (ID1=F fixed)
Address		1 AB slave
Required Master profile		≥M4
As of AS-i specification		3.0
Operating voltage		30 V (18 … 31.6 V)
Max. current consumption		165 mA
Max. current consumption without sensor/ actuator supply		45 mA
AUX		
Operating voltage		24 V (18 … 30 V)
Max. current consumption		2 A
Input		
Number		2
Power supply		out of AS-i
Power supply of attached sensors	up to +40 °C	120 mA (1)
	at +55 °C	90 mA (1)
	at +70 °C	60 mA (1)
Switching threshold		U<5 V (low) U>15 V (high)
Output		
Number		2
Power supply		out of AUX
Max. output current	up to +40 °C	1 A per output, ∑ (Out) 2 A (2)
	at +55 °C	1 A per output, ∑ (Out) 1,5 A (2)
	at +70 °C	1 A per output, ∑ (Out) 1 A (2)
Display		
LED ASI (green)		on: AS-i voltage on flashing: AS-i voltage on, but peripheral fault (3) or address 0 off: no AS-i voltage
LED FLT/FAULT (red)		on: slave address 0 or slave offline flashing: peripheral fault (3) off: slave online
LED AUX (green)		on: 24 V_{DC} AUX off: no 24 V_{DC} AUX
LEDs I1, I2 (yellow)		state of inputs I1 ... I2
LEDs O1, O2 (yellow/red)		yellow: state of outputs O1, O2 red: overload

Article No.	BWU3449
Environment	
Applied standards	EN 61000-2 EN 61000-3 EN 61131-2 EN 60529
Operating altitude	max. 2000 m
Ambient temperature	-30 °C … +55 °C (1) (2) (4) (up to max. +70 °C)
Storage temperature	-30 °C … +85 °C
Housing	plastic, for screw mounting
Protection category	IP67
Max. tolerable shock load	30*g*, 11 ms, acc. EN 61131-2
Max. tolerable vibration stress	5 ... 8 Hz 50 mm_{pp}/8 ... 500 Hz 6*g*, acc. EN 61131-2
Insulation voltage	≥500 V
Weight	100 g
Dimensions (W / H / D) in mm	45 / 80 / 42

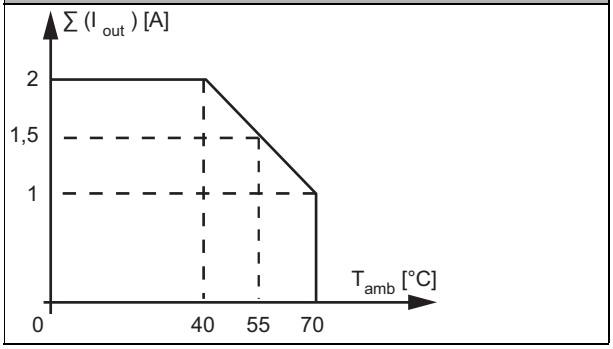
(1)

BWU3449
Derating of power supply of attached sensors



(2)

BWU3449
Derating total current of outputs



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

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

Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU3449	•	•	•

Programming	AS-i bit assignment			
Bit	**D0**	**D1**	**D2**	**D3**
	input			
BWU3449	I1	I2	–	–

Programming	AS-i bit assignment			
Bit	D0	D1	D2	D3
	output			
BWU3449	–	–	O3	O4

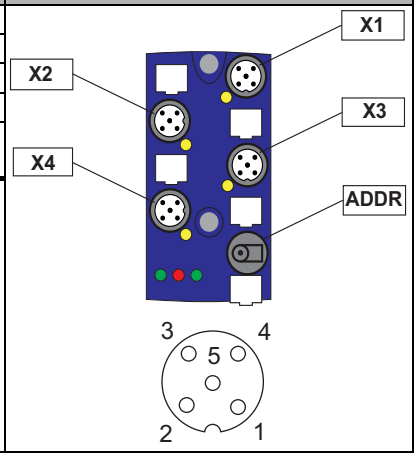
Programming	Parameter bits			
Bit	P0	P1	P2	P3
BWU3449	0= off / 1= on (Watchdog)	0= on / 1= off (data input filter 128µs)	0= on / 1= off (synchronous I/O mode)	not used

Pin assignment

Signal name	Explanation
Ix	digital input x
Ox	digital output x
$24V_{ext\ out}$	power supply, out of external voltage, positive pole (AUX, actuator supply)
$0V_{ext\ out}$	power supply, out of external voltage, negative pole (AUX, actuator supply)
$24V_{out\ of\ AS\text{-}i}$	power supply, out of AS-i, positive pole (sensor supply)
$0V_{out\ of\ AS\text{-}}$	power supply, out of AS-i, negative pole (sensor supply)
AS-i+, AS-i-	connection to AS-i bus
n.c. (not connected)	not connected

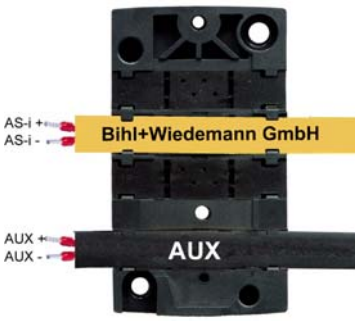
Connections

Article no.	M12 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3449	**X1**	I1	24 $V_{out\ of\ AS\text{-}i}$	I2	0 $V_{out\ of\ AS\text{-}i}$	I1	n.c.
	X2	O3	24 $V_{ext\ out}$	O4	0 $V_{ext\ out}$	O3	n.c.
	X3	I2	24 $V_{out\ of\ AS\text{-}i}$	n.c.	0 $V_{out\ of\ AS\text{-}i}$	I2	n.c.
	X4	O4	24 $V_{ext\ out}$	n.c.	0 $V_{ext\ out}$	O4	n.c.
	ADDR (dummy plug)	connection for AS-i addressing device					

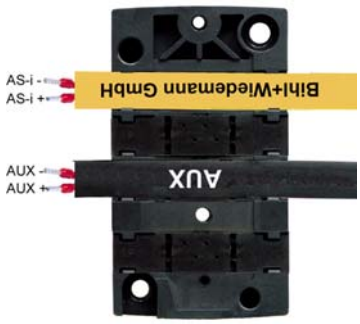


Mounting according to cable direction

IP67

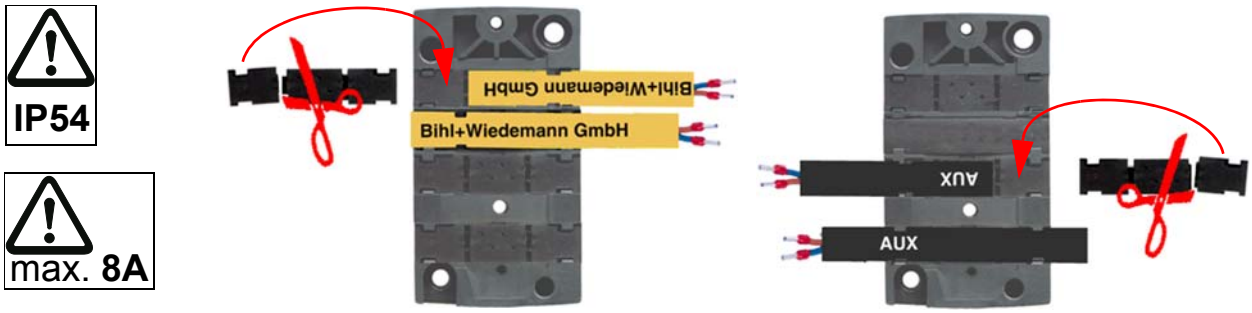


ordinary



turned

Line termination with sealing profiles / as junction



Accessories:

- **AS-i substructure module (CNOMO) for 8 channel module in 60 mm housing (art. no. BW2351)**
- **Protection caps for unused M12 sockets (art. no. BW2368)**
- **Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)**