

2 x 1-Channel Input Module

Impulse counter

High protection category IP67



(Figure similar)



## Article no. BWU3453 AS-i Counter Module, IP67, M12, 2 x 1-Channel Input Module

The AS-i Counter Module has 2 inputs for standard sensors.

The module counts impulses up- or downwards and gives the result as a 16 bit value (-32768 ... 32767) via AS-i. Upon reaching the upper (lower) limit the counter makes a roll-over and continues the counting.

The start value is -32768.

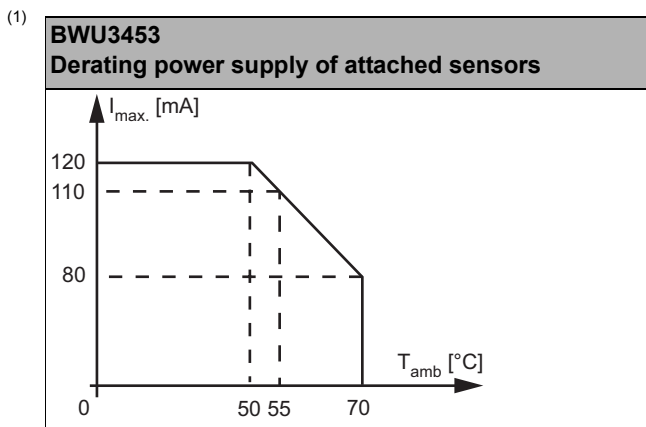
With the help of parameters the module can be set to start value (P0) as well as the counting direction can be defined (P3).

With parameter P1 and P2 can each of the 2 channels be turned off.

As long as the AS-i parameter P0=0 is set the counting is stopped and the counter keeps the start value.

<b>Article No.</b>	<b>BWU3453</b>	
<b>General data</b>		
Device type	input	
<b>Connection</b>		
AS-i/AUX connection	profile cable and piercing	
Periphery connection	M12	
<b>AS-i</b>		
Profile	S-7.3.D	
Address	1 single slave	
Required Master profile	≥M3	
As of AS-i specification	3.0	
Operating voltage	30 V <sub>DC</sub> (18 ... 31,6 V)	
Max. current consumption	165 mA	
Max. current consumption without sensor/ actuator supply	45 mA	
<b>Input</b>		
Number	2	
Counting rate	max. 4 kHz	
Range of value	impulse: -32768 ... 32767 dec. (start value: -32768)	
Power supply	out of AS-i	
Power supply of attached sensors	up to +50 °C	120 mA <sup>(1)</sup>
	at +55 °C	110 mA <sup>(1)</sup>
	at +70 °C	80 mA <sup>(1)</sup>

<b>Article No.</b>	<b>BWU3453</b>
<b>Display</b>	
LED AS-i (green)	on: AS-i voltage on flashing: AS-i voltage on, but peripheral fault <sup>(2)</sup> or address 0 off: no AS-i voltage
LED FAULT (red)	on: slave address 0 or slave offline flashing: peripheral fault <sup>(2)</sup> off: slave online
LED I1, I2 (yellow)	on: pulse input channel 1, 2 active
<b>Environment</b>	
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529
Operating altitude	max. 2000 m
Ambient temperature	-30 °C ... +55 °C (up to max. +70 °C) <sup>(1)</sup> <sup>(3)</sup>
Storage temperature	-30 °C ... +85 °C
Housing	plastic, for DIN rail 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



(2) See table "Peripheral fault indication"

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

Article no.	Peripheral fault indication		
	counter overflow/underflow	status input channel 1 or 2 invalid (low level)	frequency too high
BWU3453	-	•	-

### Programming (Bit-setting of AS-i parameters)

Bit	P0: Operation	P1: Channel 1	P2: Channel 2	P3: Counting direction
0	set to start value (-32768)	channel 1 off	channel 2 off	count downwards
1	normal operation	channel 1 on	channel 2 on	count upwards

## Pin assignment

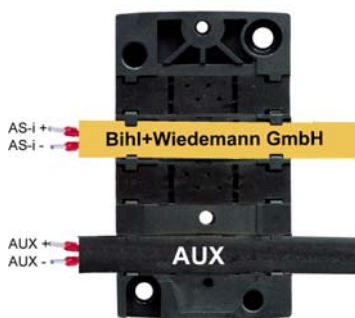
Signal name	Explanation
channel x +	counter input x
24V <sub>out</sub> of AS-i	power supply, out of AS-i, positive pole (sensor supply)
0V <sub>out</sub> of AS-i	power supply, out of AS-i, negative pole (sensor supply)
status input channel x	OK signal of sensor (high level = sensor OK, low level = sensor fault indication)
Shield	shield

Connections							
Article no.	M12 connection	Marking	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3453	X1	I1	24 V <sub>out</sub> of AS-i <sup>(1)</sup>	status input channel 1 <sup>(1)</sup>	0 V <sub>out</sub> of AS-i	channel 1 +, pulse input	shield
	X2	I2	24 V <sub>out</sub> of AS-i <sup>(1)</sup>	status input channel 2 <sup>(1)</sup>	0 V <sub>out</sub> of AS-i	channel 2 +, pulse input	shield
	X3		rotary switch (no function)				
	X4		not used				
	ADDR (dummy plug)		connection for AS-i addressing device				

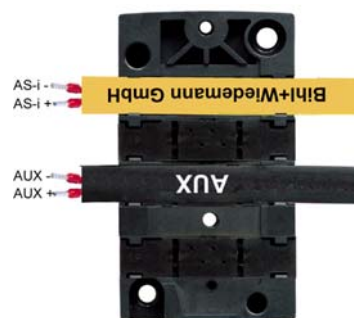
  

(1) To use sensors without status output Pin2 (status input) has to be bridged with Pin1 (24 V).

## Mounting according to cable direction

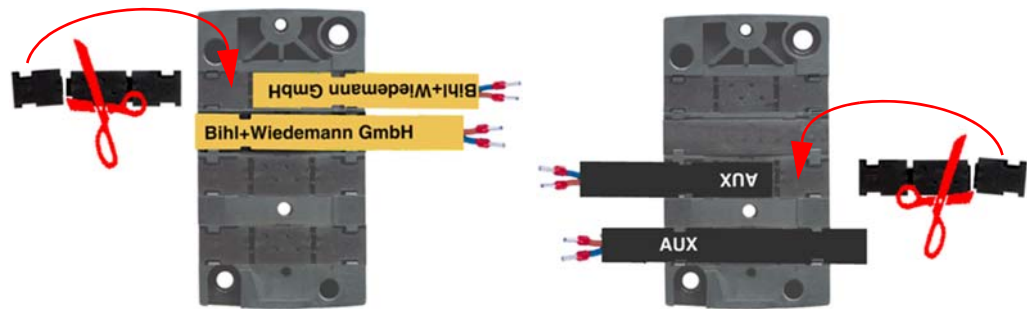


ordinary



turned

## Line termination with sealing profiles / as junction



### Accessories:

- AS-i substructure module for 4 channel module in 45 mm housing (art. no. BW2349)
- AS-i substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BW2350)
- Protection caps for unused M12 sockets (art. no. BW2368)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)