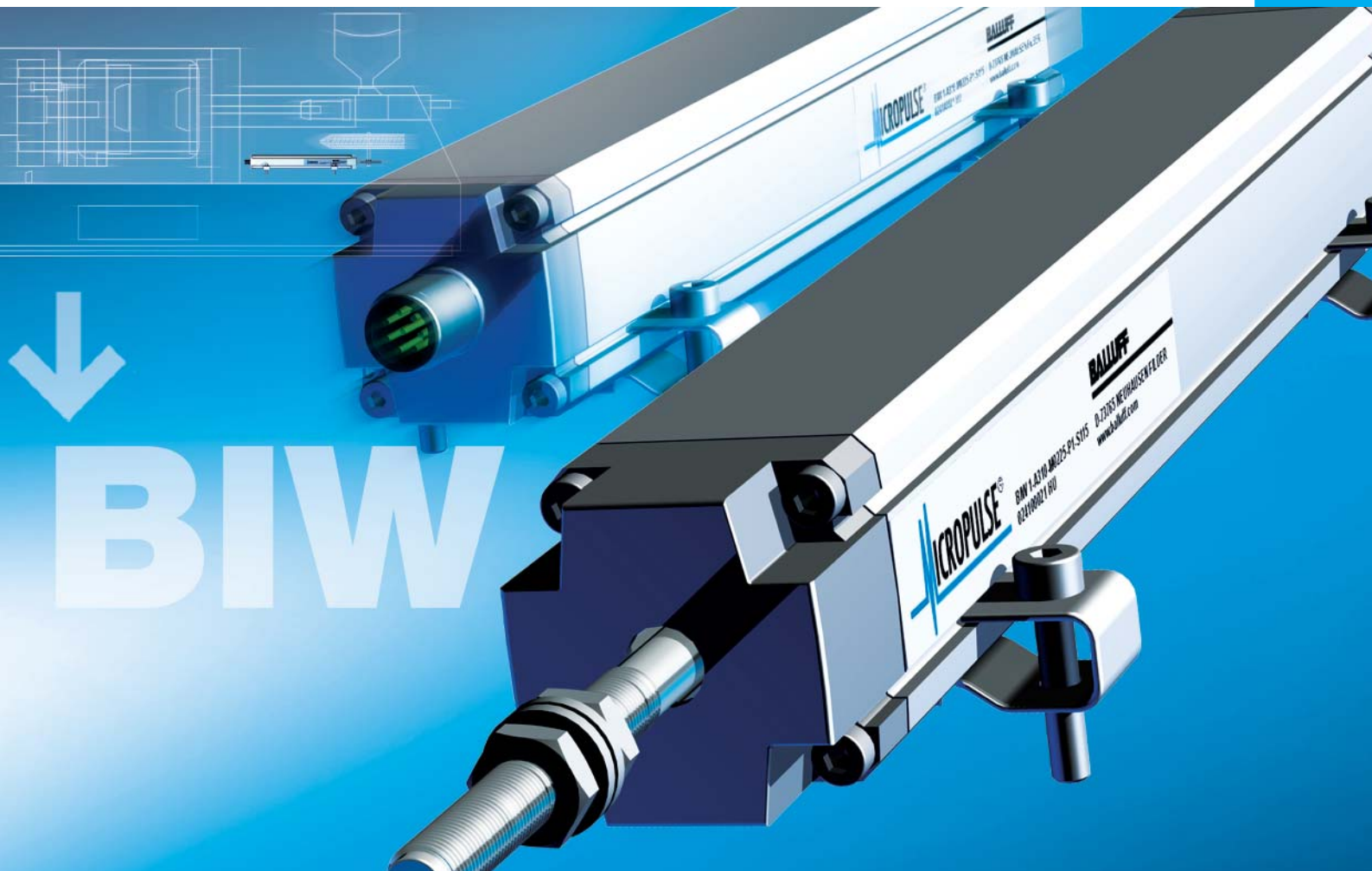


# BALLUFF

## Micropulse BIW

Inductive Linear Position Sensor

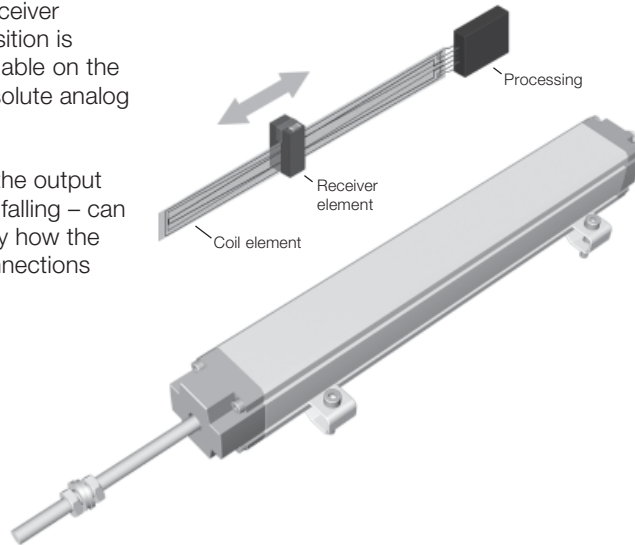


The BIW inductive linear position transducer is based on a new, patented principle of operation which detects the measured position without contact.

The BIW transducer contains a sender / receiver element and an oscillator protected by an extruded aluminum housing. The oscillator is attached to a sliding rod which is in turn attached to the moving member of the machine or equipment.

The oscillator is excited by the sender component at a sampling rate of 20 kHz and couples the current position signal into the receiver element. The position is immediately available on the output as an absolute analog value.

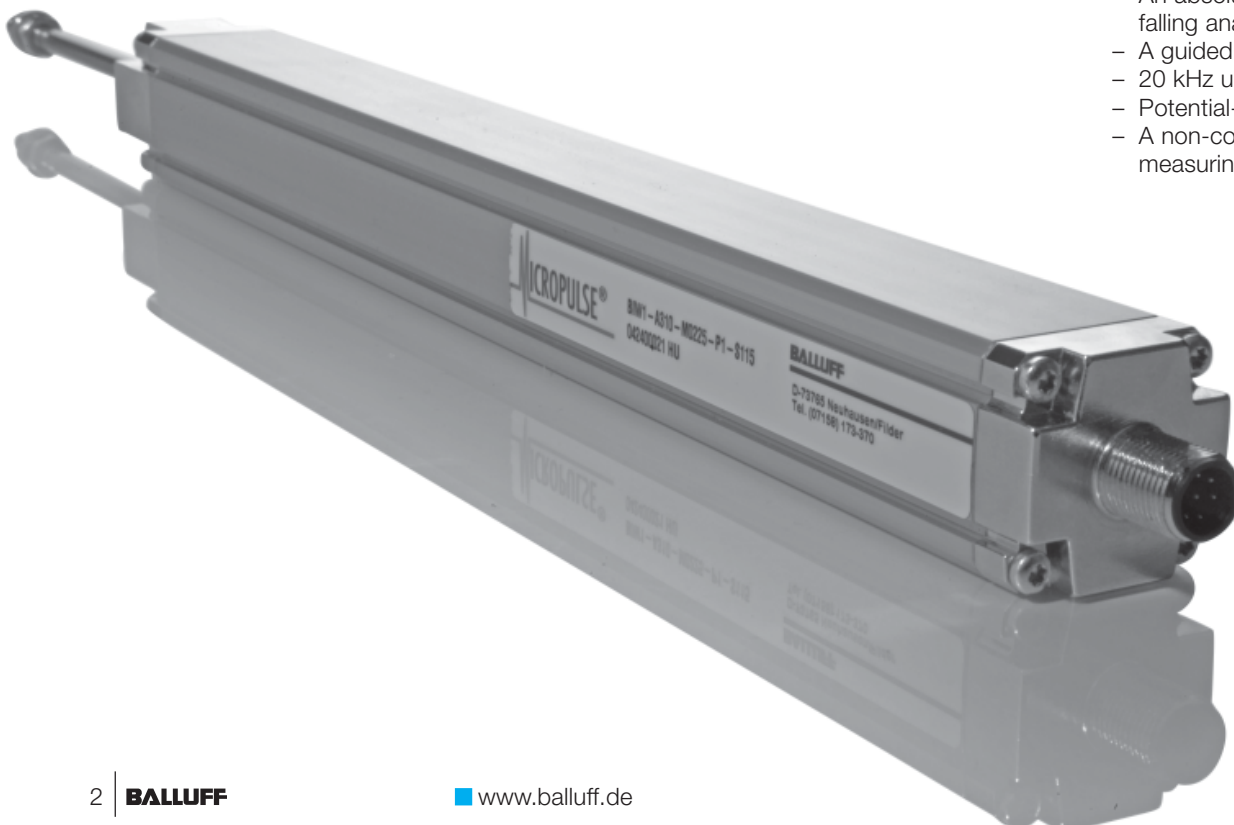
The direction of the output signal – rising or falling – can be determined by how the output slope connections are made.



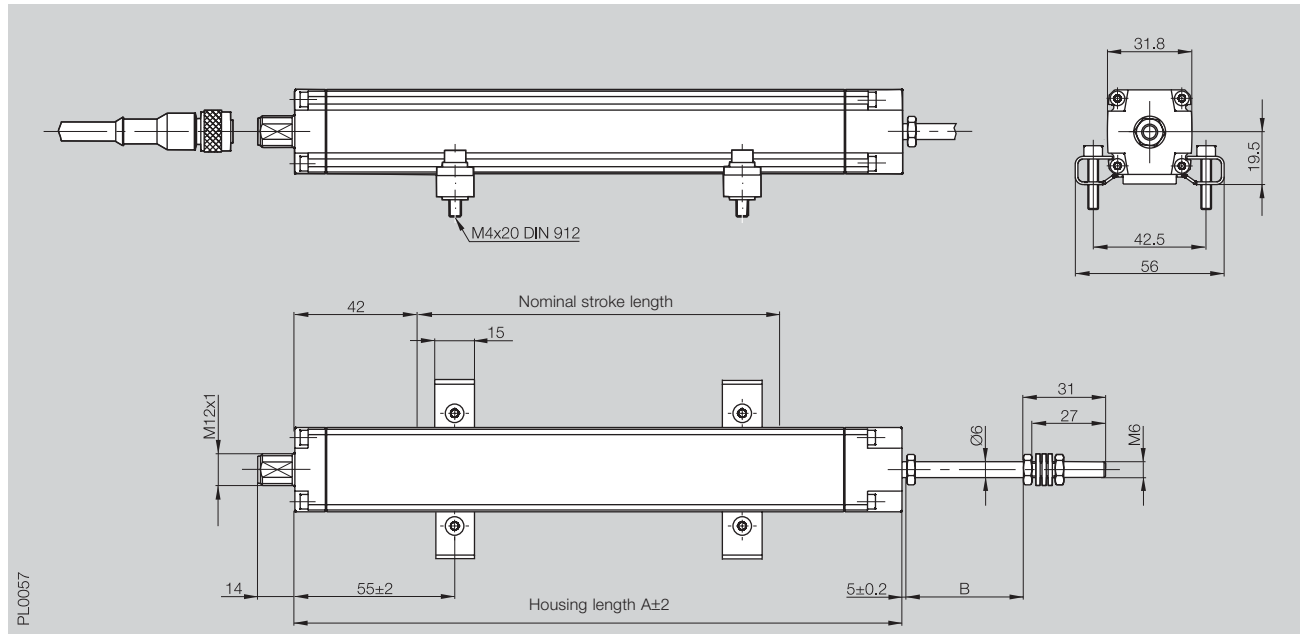
### Characteristics

BIW feature:

- High resolution and repeatability
- Resistance to shock, vibration and noise fields
- An absolute rising or falling analog output signal
- A guided sensor element
- 20 kHz update rate
- Potential-free
- A non-contacting measuring principle



Series	<b>BIW</b>
Output signal	analog
Transducer interface	<b>A/G</b>
Input interface	analog



Ordering code **BIW1-A/G310-M \_ \_ \_ -P1-S115**

Output signal A	0...+10 V																								
Output signal G	-10...+10 V																								
max. current load per output	6 mA																								
System resolution	5 µm																								
Repeatability	10 µm																								
Sampling rate	typ. 20 kHz																								
Supply voltage	18...30 V DC																								
No-load current	≤ 60 mA																								
Operating temperature	-20...+85 °C																								
Storage temperature	-40...+100 °C																								
Pin assignments	<table border="0"> <tr> <td>Pin 1</td> <td>YE</td> <td>Slope selector</td> </tr> <tr> <td>Pin 2</td> <td>GY</td> <td>0 V</td> </tr> <tr> <td>Pin 3</td> <td>PK</td> <td>reserved</td> </tr> <tr> <td>Pin 4</td> <td>RD</td> <td>Slope selector</td> </tr> <tr> <td>Pin 5</td> <td>GN</td> <td>0...+10 V or -10...+10 V</td> </tr> <tr> <td>Pin 6</td> <td>BU</td> <td>GND</td> </tr> <tr> <td>Pin 7</td> <td>BN</td> <td>+24 V DC</td> </tr> <tr> <td>Pin 8</td> <td>WH</td> <td>reserved</td> </tr> </table>	Pin 1	YE	Slope selector	Pin 2	GY	0 V	Pin 3	PK	reserved	Pin 4	RD	Slope selector	Pin 5	GN	0...+10 V or -10...+10 V	Pin 6	BU	GND	Pin 7	BN	+24 V DC	Pin 8	WH	reserved
Pin 1	YE	Slope selector																							
Pin 2	GY	0 V																							
Pin 3	PK	reserved																							
Pin 4	RD	Slope selector																							
Pin 5	GN	0...+10 V or -10...+10 V																							
Pin 6	BU	GND																							
Pin 7	BN	+24 V DC																							
Pin 8	WH	reserved																							
Shock load	100 g/2 ms																								
Vibration	12 g, 10...2000 Hz																								
Dielectric strength	500 V																								
Enclosure rating per IEC 60529	IP 54 (GND to housing)																								
Housing material	Anodized aluminum																								
Mounting	Mounting clamps																								
Connection type	Connector M12, 8-pin standard																								

Standard nominal strokes in mm	0075	0100	0130	0150	0225	0300	0360	0450	0500
Electrical stroke in mm	0085	0110	0140	0160	0235	0310	0370	0460	0510
Housing length A in mm	0175	0200	0230	0250	0325	0400	0460	0550	0600
Mechanical stroke B in mm	0085	0110	0140	0160	0235	0310	0370	0460	0510

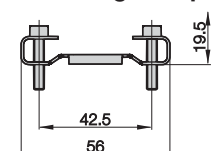
- Included:
- Transducer
  - User's guide
  - 2 Mounting clamps BIW-A-MF01-M-43

Ordering example:  
**BIW1- 310-M \_ \_ \_ -P1-S115**

**Data protocol**      **Standard nominal strokes [mm]**

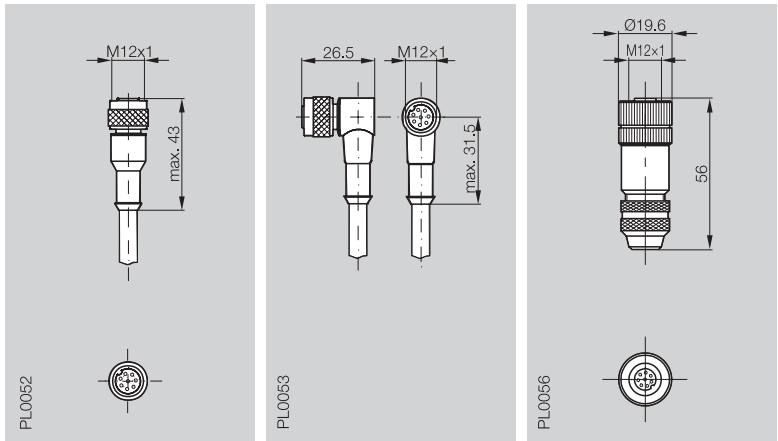
A 0...+10 V  
G -10...+10 V

### Mounting clamps



PL0058

Connectors/accessories for series	<b>BKS-S115-PU-</b> __ BIW-__-S115	<b>BKS-S116-PU-</b> __ BIW-__-S115	<b>BKS-S115-00</b> BIW-__-S115
Type	8-pin, Straight, female	8-pin, Right angle, female	8-pin, female

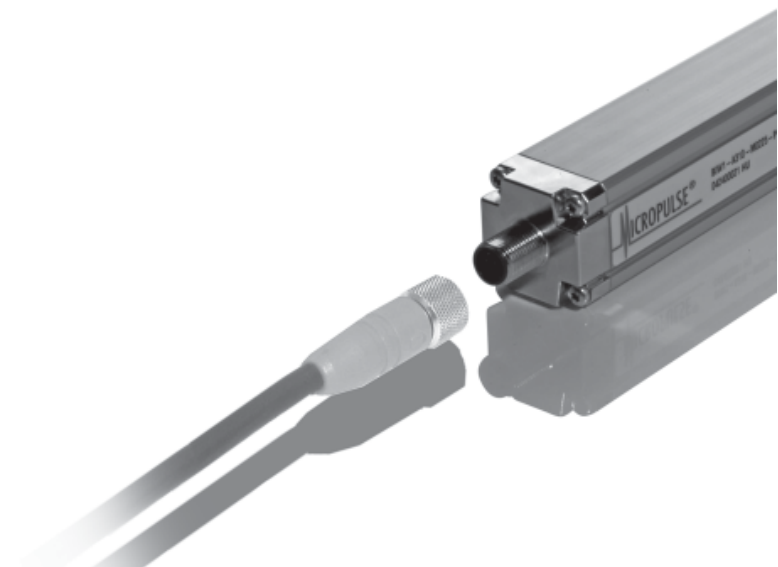


Ordering code	<b>BKS-S115-PU-</b> __	<b>BKS-S116-PU-</b> __	<b>BKS-S115-00</b>
Screw terminal			max. 0,75 mm <sup>2</sup>
Housing material	PUR	PUR	CuZn nickel plated
Contacts	CuZn	CuZn	CuZn
Contact finish	0,8 µm Au	0,8 µm Au	
Cable strain relief			PG 9
Cable diameter			6...8 mm
Enclosure rating per IEC 60529	IP 67	IP 67	IP 67 (when attached)
Knurled coupling ring	CuZn	CuZn	
Finish	2,5 µm Ni	2,5 µm Ni	
O-ring	Viton	Viton	Viton
Cable	Molded-on PUR		
No. of wires × conductor cross section	8×0,25 mm <sup>2</sup>		
Type	LIYY-CF11Y		
Conductor configuration	14 × 0,15 mm		
Outer diameter	6,6 ±0,2 mm		
Min. bending radius	dynamic 4 × D, static 3 × D		

Please indicate cable length in ordering code!  
 02 = Length 2 m; 05 = Length 5 m;  
 10 = Length 10 m; 15 = Length 15 m;  
 20 = Length 20 m; 25 = Length 25 m

Pin assignments	Pin	Color
	1	YE
	2	GY
	3	PK
	4	RD
	5	GN
	6	BU
View of female	8	WH

Adapter BKS-S115 to BKS-S32  
 Ordering code: BKS-S115/GS32-PU-00,2



See other transducers in the BTL main catalog, on the CD-ROM or online!

[www.balluff.de](http://www.balluff.de)

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