

Micropulse Transducers

Overview
Linear position sensing

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more added value

- Full-range assortment for greater flexibility
- Greater efficiency with optimized solutions
- Superior distance measurement technology for increased productivity



Balluff distance measurement – the right solution for you

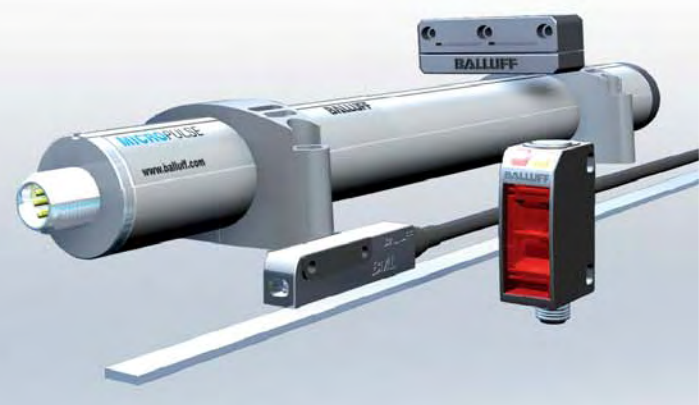
Balluff distance measurement offers efficient individual solutions that are adapted to your specific requirements.

Different working principles are available for distances from 1 to 48000 mm and resolutions from 1 to 100 μ m.

From position detection to distance measurement.

Fully exploit the benefits available. Choose the option that's right for you and increase your added value with superior Balluff distance measurement technology.

Robust industrial Balluff distance measurement technology is accurate, reliable, non-contact, wear-free and brings out the best from your machines.



Micropulse Transducers

Overview

Distance measurement



Series	Profile P	Profile PF	Profile A1	Profile BIW	Rod B, A, Z, Y	Rod compact	
Internal fitting version e.g. in hydraulic cylinders					■	■	
External fitting version e.g. on machine frames	■	■	■	■			
Filling level sensor e.g. device filling systems							
Special approvals							
Magnet	free/captive	free/captive	free	captive push rod	free or floating	free or floating	
Interfaces							
Analog voltage 0...10 V, 10...0 V, -10 V...+10 V	■	■	■	■	■	■	
Analog current 4...20 mA, 0...20 mA	■	■		■	■	■	
SSI	■				■	■	
SSI-SYNC	■				■	■	
CANopen	■				■	■	
DeviceNet	■						
PROFIBUS-DP	■				■		
Start/Stop pulse interface	■		■		■		
VARAN			■				
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Micropulse transducers BTL
Inductive linear position sensor BIW
 ... extremely robust and reliable

Distance Measurement

Summary

Magneto-inductive distance sensors



SMARTSENS



SMARTSENS

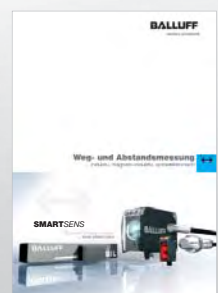


SMARTSENS

Magneto-inductive distance sensors BIL		Micro-BIL	BIL 60	BIL 160
Working range		0...10 mm	0...60 mm	0...160 mm
Resolution			±0.15 mm	±0.4 mm
Linearity		±0.3 mm	±1 mm	±2.4 mm
Repeat accuracy		±30 µm	±60 µm	±0.5 mm
Housing size		28x6.2x4.4 mm	95x15.2x15.2 mm	230x15.2x15.2 mm
Output	0...10 V	■	■	■
	4...20 mA	■	■	■
Special features	Mounted in T-slot			

➔ Magneto-inductive distance sensors BIL

... compact and absolute



Refer to our
Linear Position Sensing catalog
for more information on
BIL magneto-inductive position sensors
or visit our website at www.balluff.com

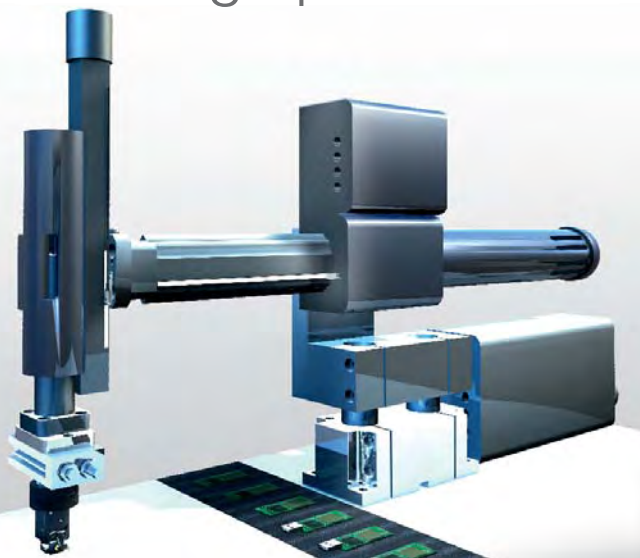
Distance Measurement

Overview
Magnetic linear encoder system



Magnetic linear encoder system BML	BML-S1A_-Q... digital	BML-S1A_-A... analog sin/cos, 1 V _{ss}	BML-S1F_-Q... digital	BML-S1F_-A... analog sin/cos, 1 V _{ss}	BML-S1B0-Q... digital	BML-S1E0-Q... digital	BML-S1C0-Q... digital
Resolution	1...10 µm	1...10 µm	1...10 µm	1...10 µm	5...50 µm	5...50 µm	100...2000 µm
System accuracy	±10 µm/ ±20 µm	±10 µm/ ±20 µm	±10 µm	±10 µm	±50 µm/ ±60 µm	±100 µm	±100 µm
Distance to tape	0.1... 0.35 mm	0.1... 0.35 mm	0.1... 0.35 mm	0.1... 0.35 mm	0.1...2 mm	0.1...2 mm	0.1...2 mm
Digital output signal RS422 (TTL)	■		■		■	■	
Digital output signal HTL (as operating voltage 10...30 V)					■	■	■
Analog output signal os (1 V _{ss})		■		■			
Linear tape up to 48 m	■	■	■	■	■	■	■
Rotary magnetic tape (magnetic ring) Ø 30...300 mm			■	■	■	■	■

➔ Magnetic linear encoder system BML ... high precision and extended lengths



Refer to our catalog
Magnetic Linear Encoder Systems BML
for more information
or visit our website at www.balluff.com

Distance Measurement

Overview

Inductive distance sensors

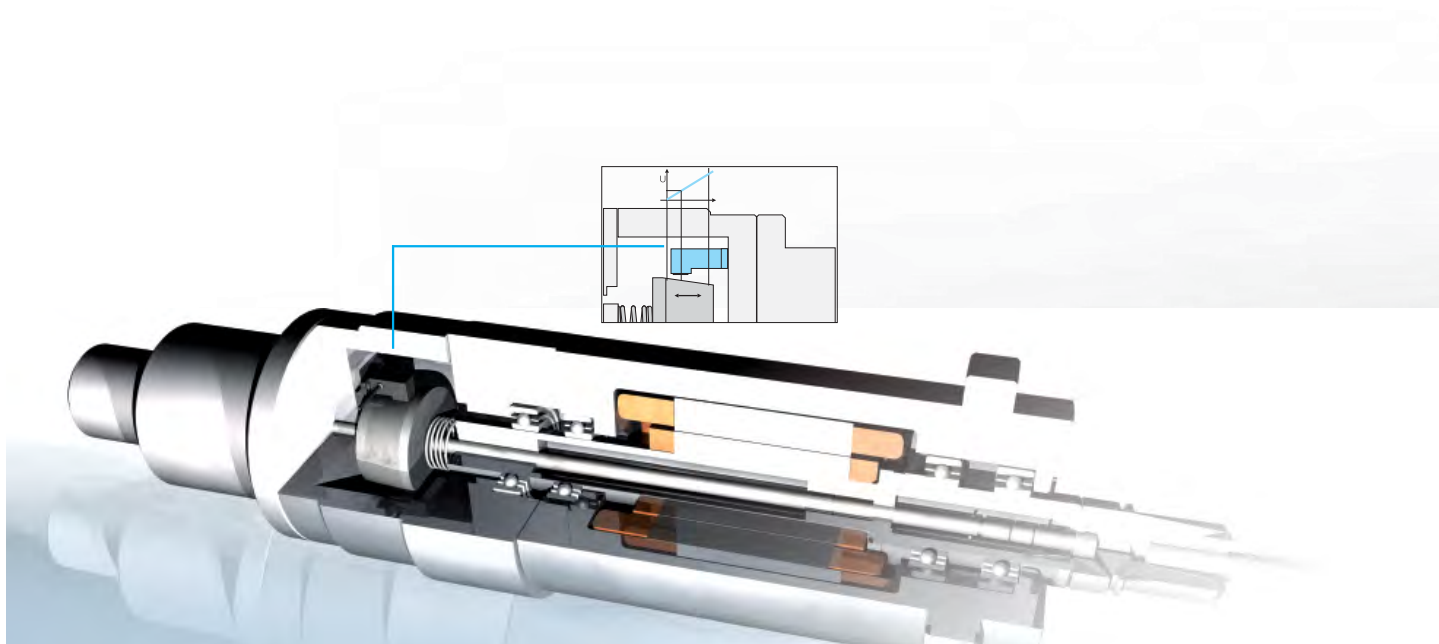


Inductive distance sensors BAW		BAW Ø 6.5 mm	BAW M12	BAW M18	BAW R03	BAW PG 36	BAW 80x80 mm
Linear range	Flush	0.5...2 mm	0.5...2 mm	1...5 mm	1...4 mm	0...20 mm	
	Not flush		1...4 mm	2...16 mm			0...50 mm
Housing size		Ø 6.5 mm	M12x1	M12x1	10x30x6 mm	PG 36	80x80 mm
Output	0...10 V	■	■	■	■	■	■
	0...20 mA		■	■			
	4...20 mA		■	■			
Connection	Connectors	■	■	■	■	■	■
	Cable	■	■	■	■		

Special features

Teachable
switching output

➔ Inductive distance sensors BAW ... for short strokes



Distance Measurement

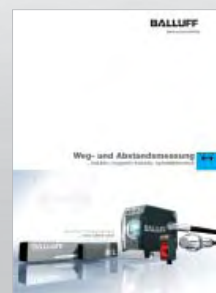
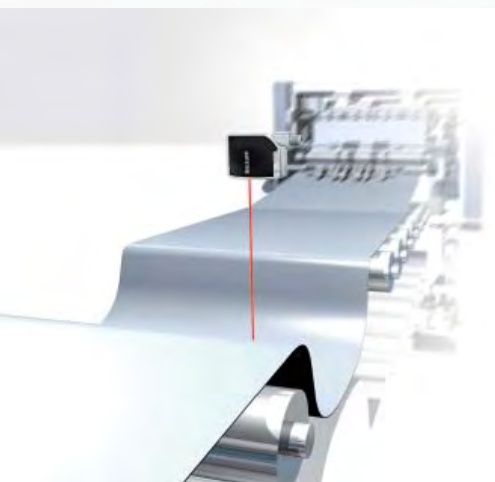
Overview
Photoelectric distance sensors



Photoelectric distance sensors BOD		BOD 6K	BOD 18K	BOD 26K	BOD 63M	BOD 66M
Distance sensor measuring range		20...80 mm	50...100 mm	45...85 mm 30...100 mm 80...300 mm	200...2000 mm 200...6000 mm	100...600 mm 200...2000 mm
Diffuse sensor measuring range with background suppression		20...80 mm		30...100 mm 80...300 mm	200...2000 mm 200...6000 mm	100...600 mm 200...2000 mm
Housing size		20 x 32 mm	M18x1	50 x 50 mm	90 x 70 mm	73 x 90 mm
Output	0...10 V	■	■	■	■	■
	4...20 mA			■	■	■
Connection	Connectors	■	■	■	■	■
	Cable	■	■	■	■	■
Special features		Teachable switching output		Teachable switching output, adjustable measuring range	Teachable switching output	Teachable switching output

➔ Photoelectric distance sensors BOD

... independent of material and color



Refer to our catalog Linear Position Sensing for more information on photoelectric distance sensors BOD or visit our website at www.balluff.com