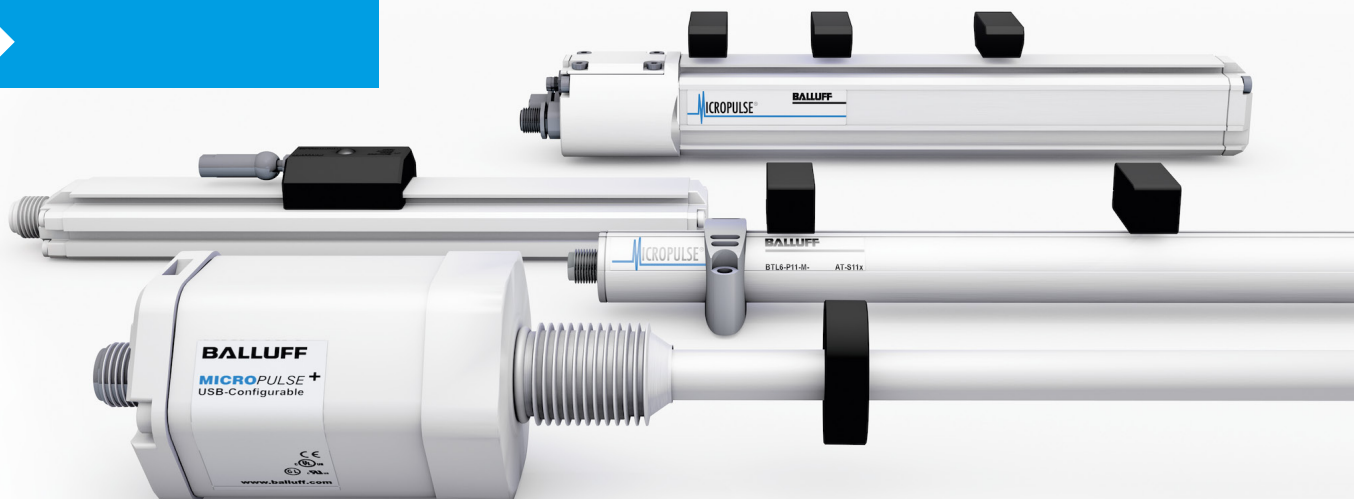# BALLUFF

sensors worldwide

Transducer with Real-Time Ethernet

Highly dynamic, synchronous and accurate

ICROPULSE BALLUFF

ICROPULSE BALLUFF
BTL6-P11-M-   AT-S11x

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USB-Configurable

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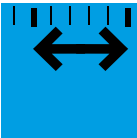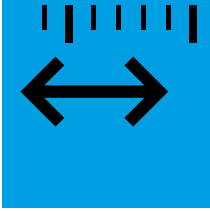
Transducer
with real-time Ethernet interfaces

Benefits
- Fast, accurate and absolute position and speed measurement
- Non-contact and wear-free, insensitive to contamination
- Shock and vibration-resistant
- Easy and time-saving integration into the controller through defined parameter data exchange
- 4 designs – 3 interfaces

Synchronous real-time data

The transducers support highly dynamic and accurate control processes by means of Profinet – Isochronous Real Time (IRT), EtherCAT distributed clocks (DC) or VARAN phase locked loops (PLL).

Splitter   Splitter   Splitter
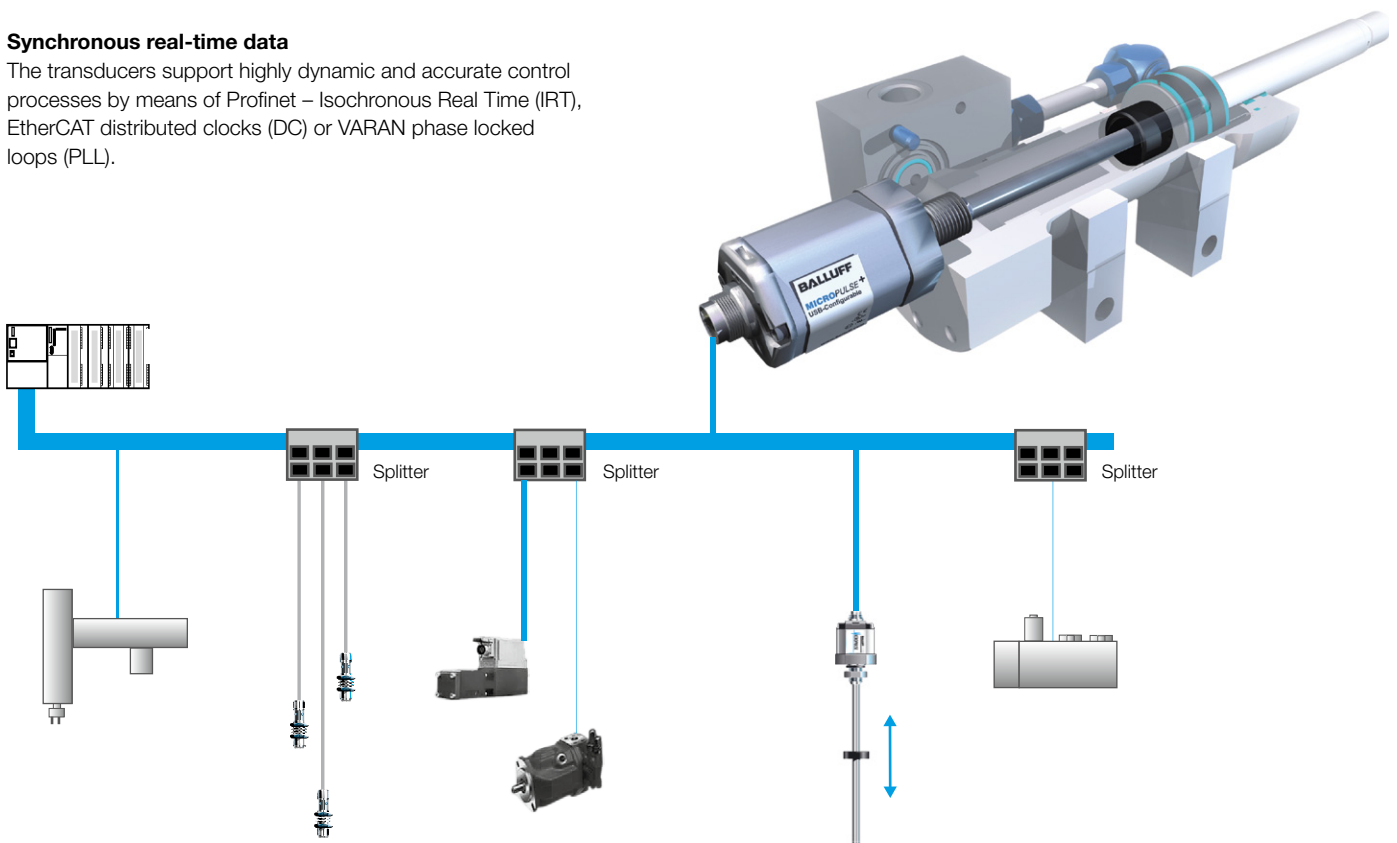
32 measured values with a single measurement

Micropulse transducers of the BTL7-V series are capable of detecting and processing up to 16 position encoders. Two values can be output for each position encoder: the position and the speed.

Flexible magnet mode

The BTL7-V series can be operated as a 1...16 magnet type. The sensor automatically detects how many magnets are in the measuring range. This function makes it easier to operate applications with a changing number of magnets.

Product Overview
Rod and profile housings of the Micropulse transducer BTL

Series		BTL6-V1	BTL7-V50	BTL6-V1	BTL6-V55	BTL7-V50
Interface	Profinet IRT	No	Yes	No	No	Yes
	EtherCAT	Yes *1)	Yes	Yes *1)	No	Yes
	VARAN	Yes	No	Yes	Yes	No
Design		Rod	Rod	Profile, round	Profile, flat	Profile
Max. measuring length		4012 mm	7620 mm	4012 mm	4572 mm	7620 mm
Resolution		< 10 μm	< 1 μm	< 10 μm	< 10 μm	< 1 μm
Repeat accuracy		< 30 μm	≤ ±5 μm	< 30 μm	< 20 μm	≤ ±5 μm
Max. scan rate		2 kHz	1.1 kHz	2 kHz	4 kHz	1.1 kHz
Max. measurable speed		10 m/s	10 m/s	10 m/s	10 m/s	10 m/s
Max. number of position encoders		2	16	2	2	16
Supply voltage		20…28 V DC	10…30 V DC	20…28 V DC	10…30 V DC	10…30 V DC
Operating temperature		0…+70 ℃	−40…+85 ℃	0…+70 ℃	0…+85 ℃	−40…+85 ℃
Housing material		Aluminum, Stainless steel	Aluminum, Stainless steel	Aluminum	Aluminum	Aluminum
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67	IP 67	IP 67

*1) No distributed clocks function

Ordering example

B T L 7 - V 5 0 ☐ - M ☐ - ☐ - C 0 0 3

Interface
T = Profinet IRT
E = EtherCAT

Rated length (4-digit)

Design
P = Profile housing
B = Metric mounting thread M18x1.5/O-ring, rod diameter 10.2 mm
Z = 3/4" thread 16 UNF/ O-ring, rod diameter 10.2 mm

B T L 6 - V ☐ - M ☐ - ☐ - S 1 1 5

Interface
11E = EtherCAT, 1 position encoder
12E = EtherCAT, 2 position encoders
11V = VARAN, 1 position encoder
12V = VARAN, 2 position encoders
55V = VARAN, Euromap 75

Rated length (4-digit)

Design
A1 = Profile housing, round
PF = Profile housing, flat
B = Metric mounting thread M18x1.5/O-ring/ rod diameter 10.2 mm
Z = 3/4" thread 16 UNF/ O-ring, rod diameter 10.2 mm

Series	BTL-P-1013-4R	BTL-P-1012-4R	BTL-P-1013-4S	BTL5-P-3800-2	BTL6-A-3801-2	BTL5-F-2814-1S
		Position encoder for rod			Position encoder for profile	
Distance	Captive	Captive	Captive	0.1…4 mm	4…8 mm	Captive

BALLUFF

sensors worldwide

Systems and Service

Industrial Networking and Connectivity

Industrial Identification

Object Detection

Linear Position Sensing and Measurement

Condition Monitoring and Fluid Sensors

Accessories

Headquarters
Balluff GmbH
Schurwaldstrasse 9
73765 Neuhausen a.d.F.
Germany
Phone +49 7158 173-0
Fax +49 7158 5010
balluff@balluff.de

www.balluff.com