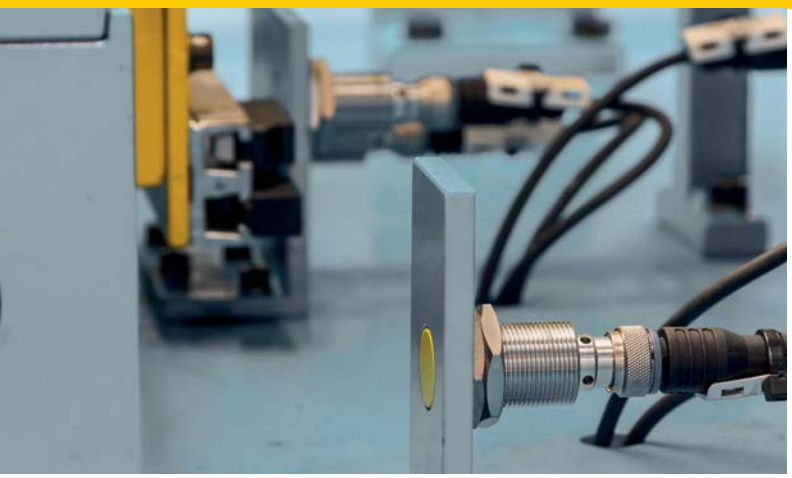
Your Global Automation Partner

BI-...-IO-Link
Inductive Measuring Sensors



With IO-Link 1.1 for Flexible Use

Measuring inductive sensors with IO-Link and voltage output enable different application scenarios for the user. On the one hand the sensors perform measuring tasks via the 0…10 V or 2…10 V voltage output or the IO-Link process data. On the other hand the sensors can be used as data suppliers for industrial 4.0 applications such as predictive maintenance thanks to IO-Link 1.1 COM 2.

The sensors offer 12-bit resolution across the measuring range as well as a variety of functions and parameterization options. In addition to freely adjusting the measuring range, the user can also change the behavior of the switching bit in the process data and the physical switching output in SIO mode, enabling switching functions such as switching windows or adjustable hysteresis. Two bytes of process data are available for additional diagnostics options when the device is used as an IO-Link product. For example, the temperature indicator that is integrated for temperature compensation can emit an alarm when the temperature deviates from the setpoint. The user knows immediately which sensor issued the warning thanks to the freely writable Application Specific Tag. The sensor also issues a warning if the target is outside of the detection range.

The initial release will feature M12, M18 and M30 flush threaded barrel devices, while non-flush threaded barrel devices and both flush and non-flush-mounted rectangular sensors will follow after.

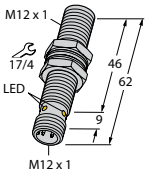
Your Benefits

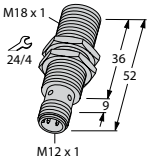
- IO-Link output and voltage output plus adjustable measuring range ensure universal usage
- Simple configuration and communication via IO-Link 1.1
- Reduced Downtimes: Diagnostic functions enable Industry 4.0 applications such as predictive maintenance
- Internal temperature compensation and linearization ensure that the devices are highly temperature insensitive and highly accurate

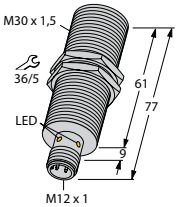
Measuring Inductive Sensors with IO-Link

- Threaded barrel, brass
- PNP/NPN; N.C./N.O. programmable
- Distance value via 12-bit process data or voltage output (0…10 V/2…10 V)
- Identification via 32-byte memory
- Temperature monitoring with adjustable limits
- M12 × 1 connector

IO-Link







Type designation	BI3-M12-IOLU69X2-H1141	BI5-M18-IOLU69X2-H1141	BI10-M30-IOLU69X2-H1141
Design	M12	M18	M30
Length	62 mm	52 mm	77 mm
Measuring range	0.2...3 mm	1…5 mm	2…10 mm
Mounting condition	Flush		
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4		
Repeatability	≤ 1 % of measurement range |A – B| ≤ 0.25 % of full scale, after 0.5 h warm-up time		
Linearity deviation	≤ 1 %		
Temperature drift (only +- 3 %)	≤ ± 3 %		
Ambient temperature	-25…+70 °C		
Operating voltage	15…30 VDC		
No-load current	≤ 20 mA		
Short-circuit protection	Yes		
Wire-break protection	No/complete (analog output restricted)		
Output function	4-wire, PNP/NPN, analog output		
Voltage output	0…10 V		
Voltage output load resistance	≥ 4.7 kΩ		
Response time	0.0015 s at the output		
Communication protocol	IO-Link		
IO-Link port type	Class A		
Communication mode	COM 2 (38.4 kBaud)		
Process data width	16 bit		
Minimum cycle time	2.3 ms		
Protection class	IP67		

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