

Inductive sensor

NAB4-12GM30-E2-IO-V1



- Parameterization and diagnosis via IO-Link
- Measuring range 0 ... 4 mm
- Flush mounting
- Flexible use with versatile mounting opportunities
- Extensive maintenance functions for condition monitoring
- Determining of speed and acceleration of the damping element

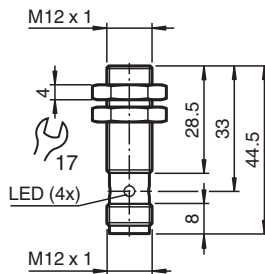
Inductive distance sensor with IO-Link interface



Function

The inductive distance sensors with IO-Link offer a wide range of functions. In addition to continuous distance measurement, 2 switch points or windows can be parameterized in different operating modes. The additional determination of the speed and acceleration of the damping element also allows monitoring options for special braking and acceleration processes or for opening and closing processes. Adjustable filters allow the measurement speed and accuracy to be adapted to the application requirements. All this comprehensive additional data and parameterizable limit values enable perfect condition monitoring of the application/machine, for example for temperature, operating times, counters and also symptoms of wear. Process and service data can be transferred via IO-Link, enabling easy integration into Industry 4.0 applications.

Dimensions



Technical Data

General specifications

Switching function	Normally open/closed (NO/NC) programmable	
Output type	PNP	
Installation	flush	
Output polarity	DC	
Actuating element	mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 12 mm x 12 mm x 1 mm	
Measuring range	0 ... 4 mm	
Output type	3-wire	

Nominal ratings

Operating voltage	U_B	10 ... 30 V (SIO mode) 18 ... 30 V (IO-Link)
Switching frequency	f	SIO mode: 1200 Hz (high speed filter)
Hysteresis	H	1 ... 20 % (factory setting: 5 %)
Reverse polarity protection	reverse polarity protected	
Short-circuit protection	pulsing	

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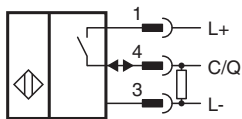
Technical Data

Voltage drop	U_d	≤ 1 V
Linearity error		± 3 % of full-scale value
Temperature drift		± 10 % of full-scale value
Repeat accuracy		± 1 % of full-scale value
Speed measuring range		1 ... 1400 mm/s
Speed measurement accuracy		± 20 % of the full-scale value
Speed measurement repeat accuracy		± 5 % of the full-scale value
Operating current	I_L	0 ... 100 mA
Off-state current	I_r	max. 30 μ A
No-load supply current	I_0	17 mA
Time delay before availability	t_v	max. 100 ms
Switching state indicator		Multihole-LED, yellow permanently on: switching output active permanently off: switching output inactive fast flashing (10 Hz): fault state
Functional safety related parameters		
MTTF _d		1410 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Interface		
Interface type		IO-Link (via C/Q = pin 4)
IO-Link revision		1.1
Device profile		Identification and Diagnosis - I&D Smart Sensor - SSP 0 Smart Sensor - SSP 4.1.1
Process data		Input: 32 Bit - measurement value 16 Bit - scaling 8 Bit - Diagnosis signals 3 Bit - switching signals 2 Bit
Vendor ID		1 (0x0001)
Device ID		2098947 (0x200703)
Transfer rate		COM2 (38.4 kBit/s)
Min. cycle time		3.2 ms
SIO mode support		yes
Compatible master port type		Class A , Class B
Conformity		
PWIS conformity		VDMA 24364-A1/B2/C1/T100°C-W
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2 EN IEC 60947-5-7
Approvals and certificates		
Protection class		II
Rated insulation voltage	U_i	30 V
Rated impulse withstand voltage	U_{imp}	500 V
UL approval		cULus Listed, General Purpose, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated ≤ 36 V
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		Connector plug
Housing material		brass , white bronze coated
Sensing face		PBT , green
Degree of protection		IP65 / IP67
Connector		

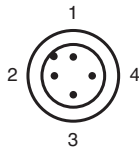
Technical Data

Threading	M12 x 1
Number of pins	3
Mass	21 g
Dimensions	
Length	44.5 mm
Diameter	12 mm
Mounting	with nuts, M12
Tightening torque	≤ 10 Nm
General information	
Scope of delivery	2 self locking nuts in scope of delivery

Connection



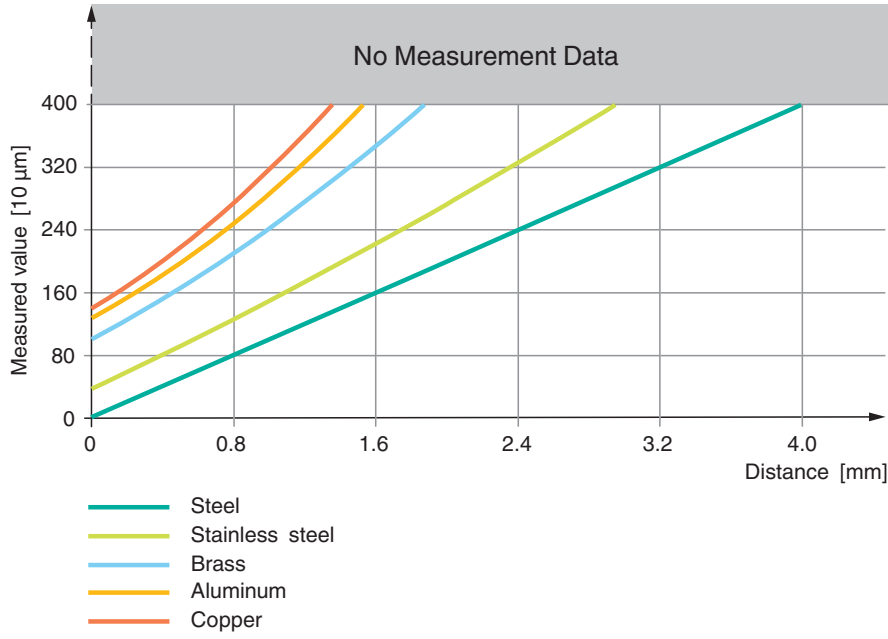
Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Characteristic Curve



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