

## Inductive sensor

### NAN20-30GM35-E2-IO-V1

- Parameterization and diagnosis via IO-Link
- Measuring range 0 ... 20 mm
- Non-flush mountable
- Flexible use with versatile mounting opportunities
- Extensive maintenance functions for condition monitoring
- Determining of speed and acceleration of the damping element

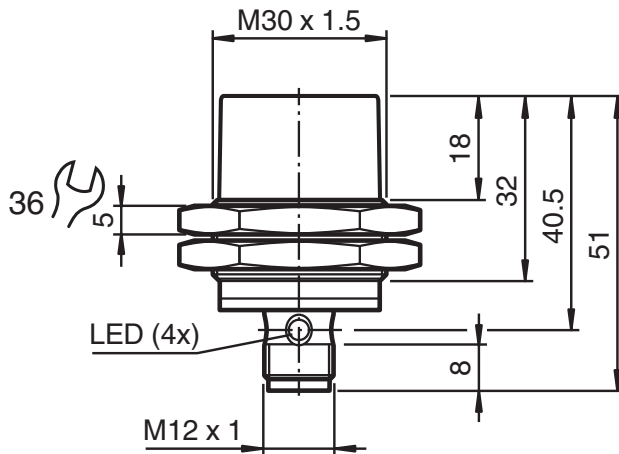
Inductive distance sensor with IO-Link interface



### 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	non-flush
Output polarity	DC
Actuating element	mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 60 mm x 60 mm x 1 mm
Measuring range	0 ... 20 mm
Output type	3-wire
Nominal ratings	

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## Technical Data

Operating voltage	$U_B$	10 ... 30 V (SIO mode) 18 ... 30 V (IO-Link)
Switching frequency	$f$	SIO mode: 400 Hz (high speed filter)
Hysteresis	$H$	1 ... 20 % ( factory setting: 5 % )
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 1$ V
Linearity error		$\pm 3$ % of full-scale value
Temperature drift		$\pm 10$ % of full-scale value
Repeat accuracy		$\pm 1$ % of full-scale value
Speed measuring range		1 ... 3000 mm/s
Speed measurement accuracy		$\pm 20$ % of the full-scale value
Speed measurement repeat accuracy		$\pm 5$ % of the full-scale value
Operating current	$I_L$	0 ... 100 mA
Off-state current	$I_r$	max. 30 $\mu$ 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
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1410 a
Mission Time ( $T_M$ )		20 a
Diagnostic Coverage (DC)		0 %
<b>Interface</b>		
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		2098952 (0x200708)
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
<b>Conformity</b>		
PWIS conformity		VDMA 24364-A1/B2/C1/T100°C-W
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN IEC 60947-5-2 EN IEC 60947-5-7
<b>Approvals and certificates</b>		
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 $\leq 36$ V
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)

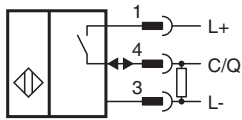
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## Technical Data

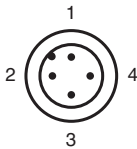
### Mechanical specifications

Connection type	Connector plug
Housing material	brass , white bronze coated
Sensing face	PBT , green
Degree of protection	IP65/IP67/IP68
Connector	
Threading	M12 x 1
Number of pins	3
Mass	104 g
Dimensions	
Length	51 mm
Diameter	30 mm
Mounting	with nuts, M30
Tightening torque	≤ 30 Nm
<b>General information</b>	
Scope of delivery	2 self locking nuts in scope of delivery

## Connection



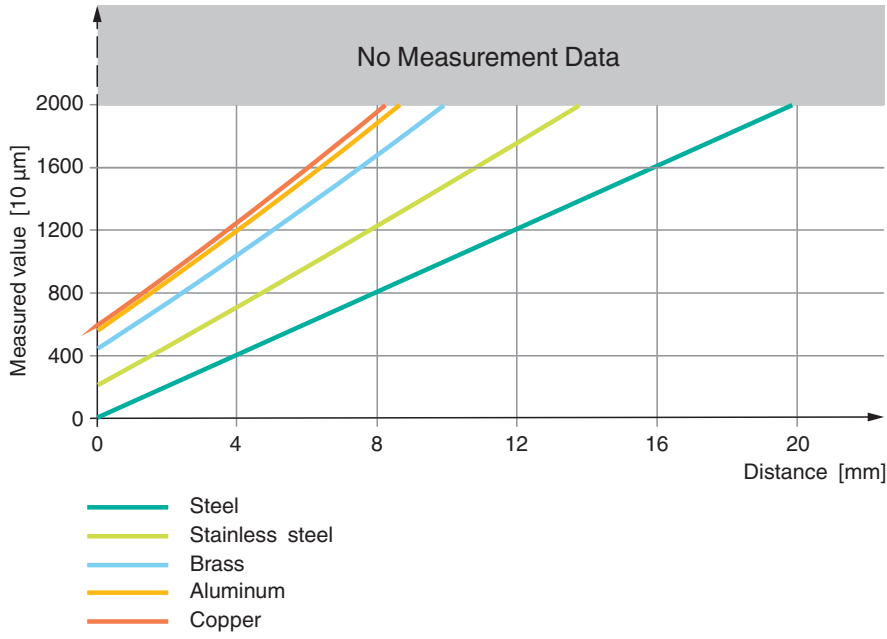
## Connection Assignment



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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