Incremental rotary encoder

MNI20N

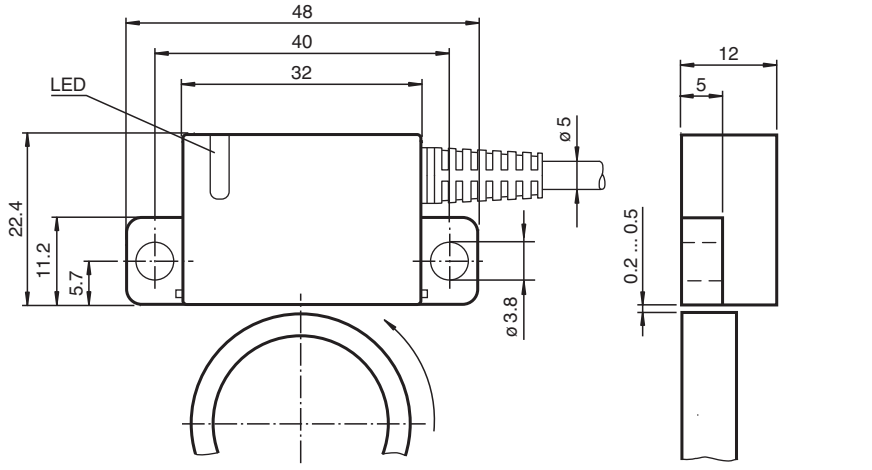
- Cost-effective, bearing-free rotary encoder for rotational speed measurement
- Simple installation
- Operating display verifies function
- High degree of protection (IP67)
- Robust and flexible magnetic rings

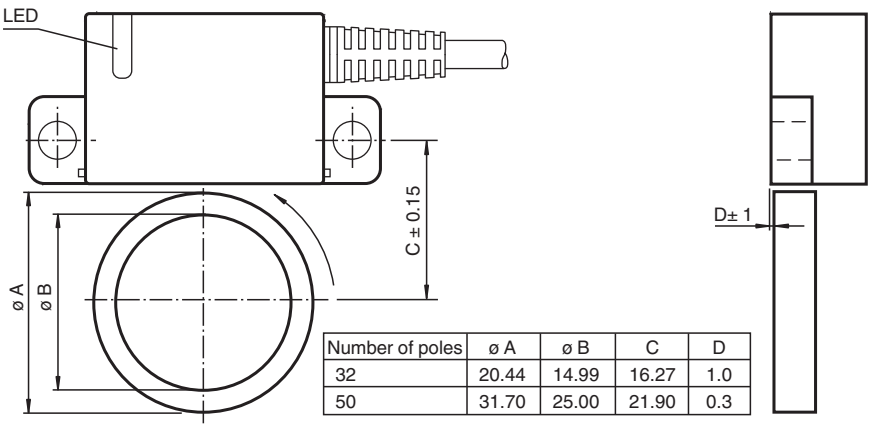
Magnetic, non Contact

Function

The magnetic incremental encoder MNI20 is an exceptionally robust measurement system in the smallest space. Its highly compact encapsulated housing gives the sensor its high resistance to harsh environmental conditions. The installation-friendly design reduces the installation time considerably.

Dimensions





Number of poles	ø A	ø B	C	D
32	20.44	14.99	16.27	1.0
50	31.70	25.00	21.90	0.3

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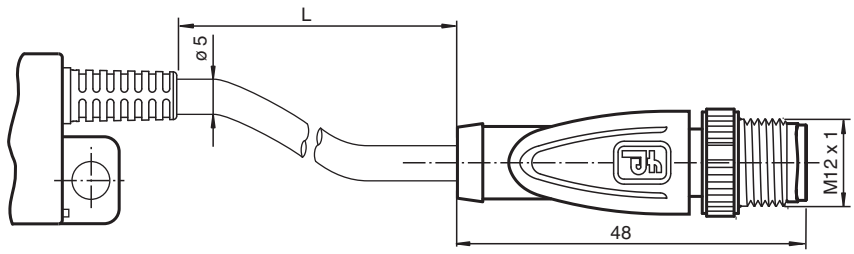
Dimensions



Technical Data

General specifications		
Detection type		magnetic sampling
Pulse count		max. 5000
UL File Number		E223176 "For use in NFPA 79 Applications only" , if UL marking is marked on the product.
Functional safety related parameters		
$MTTF_d$		1093 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
LED green		Operating display
Electrical specifications		
Operating voltage	U_B	10 ... 30 V DC 5 V DC for RS-422
No-load supply current	I_0	max. 55 mA
Output		
Output type		push-pull, incremental or RS-422, incremental
Voltage drop	U_d	< 2.5 V
Load current		max. per channel 30 mA , short-circuit protected (max. per channel 20 mA, conditionally short-circuit proof)
Output frequency		max. 800 kHz
Connection		
Cable		Ø4,7 mm, 4 x 2 x 0,128 mm^2 connection with plug M12, 8-pin, L = 0.3 m
Standard conformity		
Degree of protection		DIN EN 60529, IP67
Climatic testing		DIN EN 60068-2-30
Emitted interference		EN IEC 61000-6-4:2019
Noise immunity		EN IEC 61000-6-2:2019
Shock resistance		DIN EN 60068-2-27, 200 *g*, 6 ms
Vibration resistance		DIN EN 60068-2-6, 40 *g*, 10 ... 2000 Hz
Approvals and certificates		
UL approval		cULus Listed, General Purpose, Class 2 Power Source, Type 1 enclosure , if UL marking is marked on the product. adapters providing field wiring on request
Maximum permissible ambient temperature		max. 80 °C (max. 176 °F)
Ambient conditions		
Operating temperature		-25 ... 85 °C (-13 ... 185 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		
Material		
Housing		PA
Cable		PUR
Magnetic ring		PA , Plastic-coated ferrite
Mass		approx. 190 g

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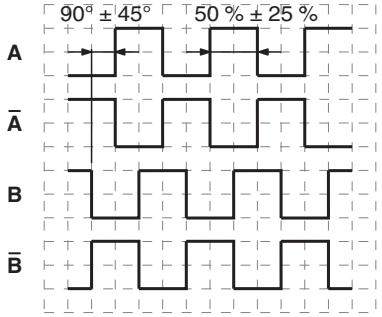
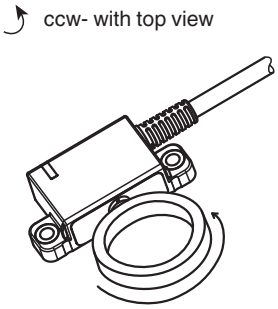
Technical Data

Rotational speed		max. 20000 min $^{-1}$
Dimensions		
Width		22.4 mm
Length		32 mm

Operation

Signal outputs





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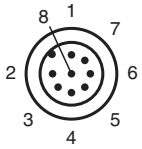
Connection

Signal	Cable, 8-core	Connection cable with M12 plug, 8-pin
GND	White	1
$+U_b$	Brown	2
A	Green	3
B	Grey	5
$\overline{A}$	Yellow	4
$\overline{B}$	Pink	6
n. c.	Blue	7
n. c.	Red	8
Screen	-	-
		

Indication

LED-Indicators

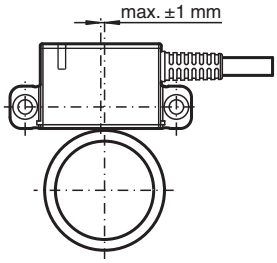
LED status	Description
Green On	Sensor ready for operation. Supply volage applied and magnetic wheel is detected.
LED Off	Possible reason: • Supply voltage drop or no supply voltage • Magnetic wheel not detectable (e. g. too large gap)

Mounting

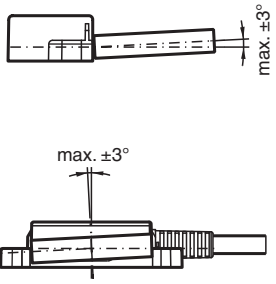
Mounting information

Installation

Shaft displacement



Angular displacement



Type Code

M	N	I	2	0	N	–							4		N	–					

Pulse count see magnetic ring specifications

Temperature
N normal

Output type
1 10 V ... 30 V, push-pull
6 5 V, RS 422

Signal output

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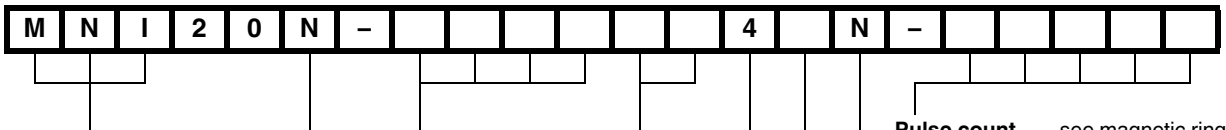

Pulse count see magnetic ring specifications

Temperature
N normal

Output type
1 10 V ... 30 V, push-pull
6 5 V, RS 422
4 A + B and $\overline{A}$ + $\overline{B}$

Connection type
B1 Fixed cable with M12 plug, 8-pin, 0.3m
K2 PUR cable, 4 x 2 x 0.128 mm^2, 2m
K5 PUR cable, 4 x 2 x 0.128 mm^2, 5m
KA PUR cable, 4 x 2 x 0.128 mm^2, 10m

Magnetic ring specifications
0TB2 Ø15 mm, 32 poles, pulse count: 32, 64, 128, 256, 512, 800, 1024, 1600, 3200
0H02 Ø25 mm, 50 poles, pulse count: 50, 100, 500, 1000, 1250, 1600, 2400, 2500, 5000

Housing material
N Plastic

Version
MNI **M**agnetic principle, **N**on-contact, **I**ncremental

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