



### Model Number

**MNI20N**

Magnetic, Non Contact

### Features

- **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**

### Description

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.

## 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 <sub>d</sub>	1093 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Indicators/operating means

LED green	Operating display
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### Electrical specifications

Operating voltage U <sub>B</sub>	10 ... 30 V DC 5 V DC for RS-422
No-load supply current I <sub>0</sub>	max. 55 mA

### Output

Output type	push-pull, incremental or RS-422, incremental
Voltage drop U <sub>d</sub>	< 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 <sup>2</sup> connection with plug M12, 8-pin, L = 0.3 m
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### Standard conformity

Degree of protection	DIN EN 60529, IP67
Climatic testing	DIN EN 60068-2-30
Emitted interference	EN 61000-6-4:2007/A1:2011
Noise immunity	EN 61000-6-2:2005
Shock resistance	DIN EN 60068-2-27, 200 g, 6 ms
Vibration resistance	DIN EN 60068-2-6, 40 g, 10 ... 2000 Hz

### Ambient conditions

Operating temperature	-25 ... 85 °C (-13 ... 185 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)

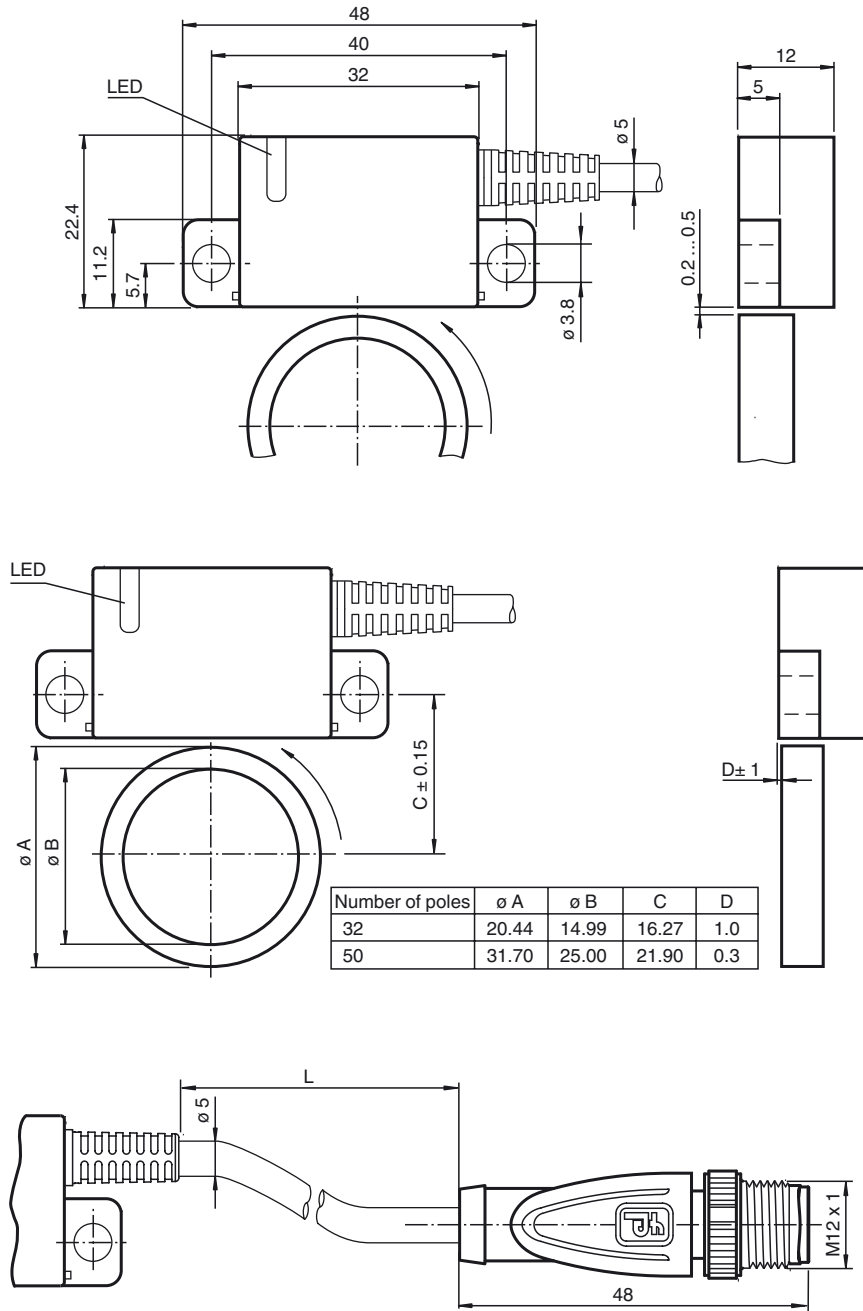
### Mechanical specifications

Material	
Housing	PA
Cable	PUR
Magnetic ring	PA , Plastic-coated ferrite
Mass	approx. 190 g
Rotational speed	max. 20000 min <sup>-1</sup>

### Approvals and certificates

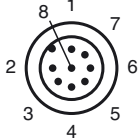
UL approval	cULus Listed, General Purpose, Class 2 Power Source, Type 1 enclosure , if UL marking is marked on the product. adapters providing field wiring on request
Maximum permissible ambient temperature	≤ 75 °C (≤ 167 °F)

Dimensions

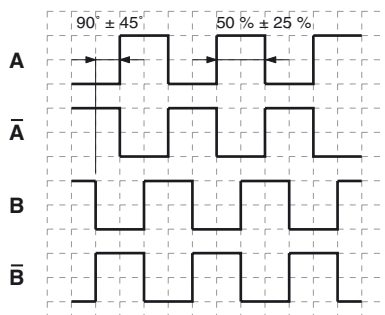


Electrical connection

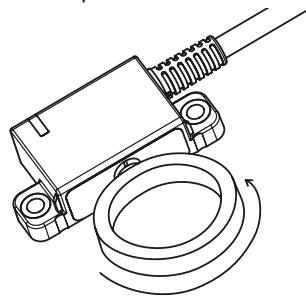
Signal	Cable, 8-core	Connection cable with M12 plug, 8-pin
GND	White	1
+U <sub>b</sub>	Brown	2
A	Green	3
B	Grey	5
$\bar{A}$	Yellow	4
$\bar{B}$	Pink	6
n. c.	Blue	7
n. c.	Red	8
Screen	-	-



Signal outputs



ccw - with top-view



LED-Indicators

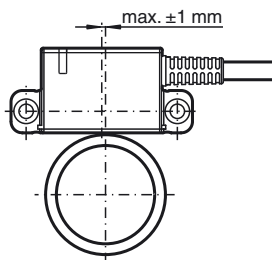
LED status	Description
Green On	Sensor ready for operation. Supply voltage applied and magnetic wheel is detected.
LED Off	Possible reason: <ul style="list-style-type: none"> <li>Supply voltage drop or no supply voltage</li> <li>Magnetic wheel not detectable (e. g. too large gap)</li> </ul>

Mounting information

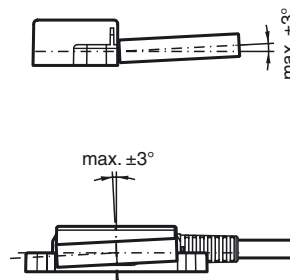
Installation



Shaft displacement



Angular displacement



Release date: 2020-01-13 07:49 Date of issue: 2020-01-13 1158322\_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

## Order code

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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

**Signal output**

4 A + B and  $\bar{A}$  +  $\bar{B}$

**Connection type**

**B1** Fixed cable with M12 plug, 8-pin, 0.3m

**K2** PUR cable, 4 x 2 x 0.128 mm<sup>2</sup>, 2m

**K5** PUR cable, 4 x 2 x 0.128 mm<sup>2</sup>, 5m

**KA** PUR cable, 4 x 2 x 0.128 mm<sup>2</sup>, 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** Magnetic principle, Non-contact, Incremental