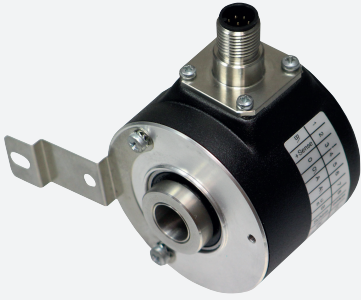


# Incremental Encoder for special applications

## RSI58N-\*\*\*\*\*X



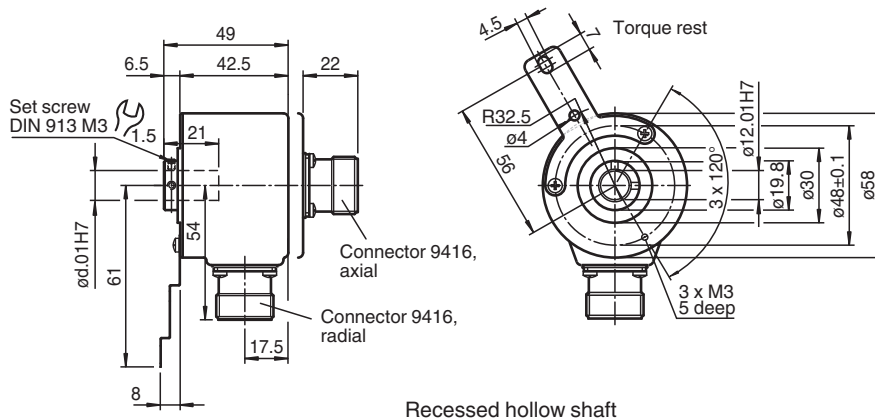
- Industrial standard housing  $\varnothing 58$  mm
- Up to 50,000 ppr
- Recessed hollow shaft
- 10 V ... 30 V with RS 422 interface



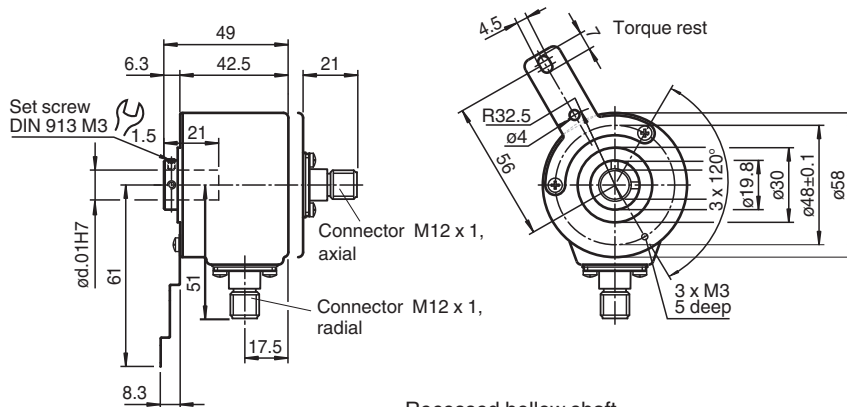
### Function

High performance are key words for this rotary encoder. Its outstanding feature is the-high resolution angle. All six output channels are fitted for this incremental rotary encoder. It can thus be used universally in many different applications. This incremental rotary encoder is available in recessed hollow shaft design with a shaft 10 mm in diameter x 20 mm or with a shaft 12 mm in diameter x 20 mm. The rotary encoder is held in place by an included torque rest. The electrical connection is made by a 8-pin or a 12-pin round plug connector. It is also possible to obtain a version with a cable connector.

### Dimensions



Recessed hollow shaft



Recessed hollow shaft

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

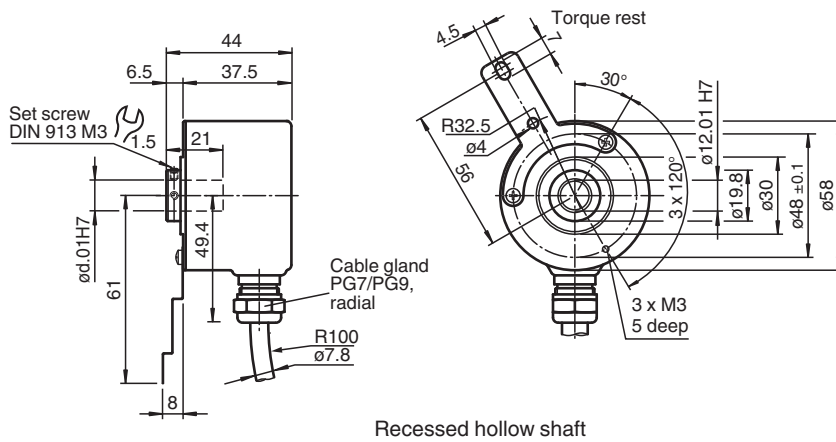
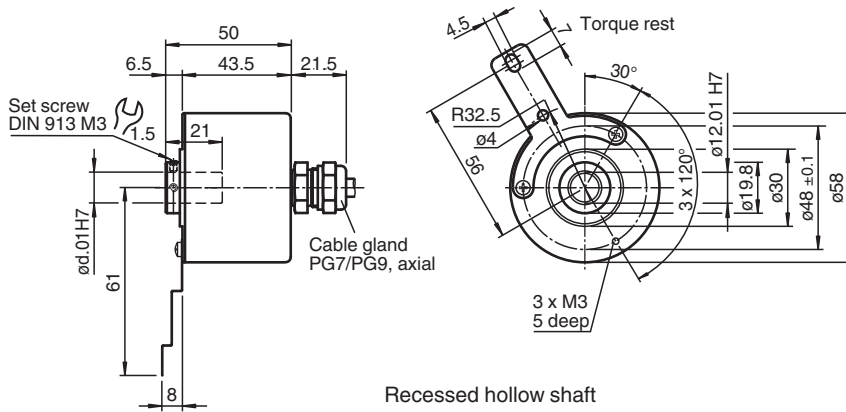
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**PEPPERL+FUCHS**

**Dimensions**



**Technical Data**

General specifications	
Detection type	photoelectric sampling
Pulse count	max. 50000
Functional safety related parameters	
MTTF <sub>d</sub>	140 a
Mission Time (T <sub>M</sub> )	20 a
L <sub>10</sub>	70 E+9 at 6000 rpm
Diagnostic Coverage (DC)	0 %
Electrical specifications	
Operating voltage	U <sub>B</sub> 10 ... 30 V DC
No-load supply current	I <sub>0</sub> max. 50 mA
Output	
Output type	RS 422, incremental
Load current	max. per channel 20 mA , conditionally short-circuit proof (not with U <sub>b</sub> ), reverse polarity protected
Output frequency	max. 200 kHz
Rise time	100 ns
Connection	
Connector	type 9416 (M23), 12-pin or M12 connector, 8-pin
Cable	Ø7.8 mm, 6 x 2 x 0.14 mm <sup>2</sup> , 1 m
Standard conformity	
Degree of protection	DIN EN 60529, IP54

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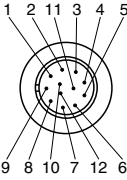
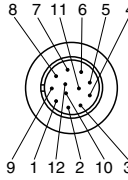
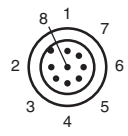
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

## Technical Data

Climatic testing	DIN EN 60068-2-78 , no moisture condensation
Emitted interference	EN 61000-6-4:2007/A1:2011
Noise immunity	EN 61000-6-2:2005
Shock resistance	DIN EN 60068-2-27, 100 g, 3 ms
Vibration resistance	DIN EN 60068-2-6, 10 g, 10 ... 2000 Hz
<b>Approvals and certificates</b>	
UL approval	cULus Listed, General Purpose, Class 2 Power Source
<b>Ambient conditions</b>	
Operating temperature	-5 ... 80 °C (23 ... 176 °F) , movable cable -20 ... 80 °C (-4 ... 176 °F), fixed cable
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>	
Material	
Housing	powder coated aluminum
Flange	3.1645 aluminum
Shaft	Stainless steel 1.4305 / AISI 303
Mass	approx. 280 g
Rotational speed	max. 12000 min <sup>-1</sup>
Moment of inertia	≤ 35 gcm <sup>2</sup>
Starting torque	≤ 1 Ncm
Shaft load	
Angle offset	1 °
Axial offset	max. 1 mm

**Connection**

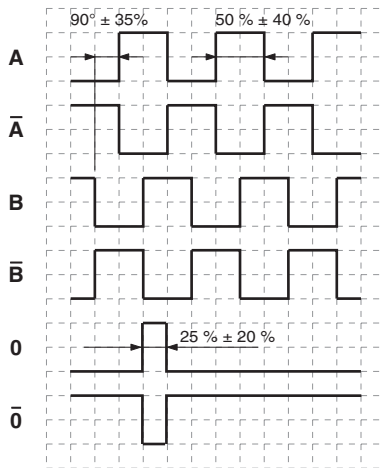
Signal	Cable	Connector 9416	Connector 9416L	Connector M12 x 1
GND	White	10	10	1
U <sub>b</sub>	Brown	12	12	2
A	Green	5	5	3
B	Grey	8	8	5
$\bar{A}$	Yellow	6	6	4
$\bar{B}$	Pink	1	1	6
0	Blue	3	3	7
$\bar{0}$	Red	4	4	8
U <sub>b</sub> Sens <sup>*)</sup>	Violet	2	2	-
NC	Grey/Pink	7	7	-
Screen	-	Housing	Housing	Housing
NC	-	9	9	-
GND Sens <sup>*)</sup>	Black	11	11	-

<sup>\*)</sup> only for devices with 5 V supply and RS 422 interface (output circuit 6)

**Operation**

**Signal outputs**



↻ cw - with view onto the shaft clamping ring

**Type Code**

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**Pulse count** 1024, 2048, 2500,  
4096, 5000, 8192,  
10000, 20000, 50000

**Option**

**N** Normal

**Output switching**

**1** 10 V ... 30 V, push-pull

**6** 5 V, RS 422

**X** 10 V ... 30 V, RS 422

**Signal output**

**6** A + B + 0 and  $\bar{A} + \bar{B} + \bar{0}$

**Exit position**

**A** Axial

**R** Radial

**Connection type**

**AA** Plug connector type 9416, 12-pin

**AB** Plug connector type 9416L, 12-pin

**BE** Plug connector M12 x 1, 8-pin

**K1** Cable  $\varnothing 7.8$  mm, 6 x 2 x 0.14 mm<sup>2</sup>, 1 m

**Flange version**

**A** Hollow shaft

**Shaft dimension**

**01** Recessed hollow shaft  $\varnothing 10$  mm x 20 mm

**02** Recessed hollow shaft  $\varnothing 12$  mm x 20 mm

**Housing material**

**N** Aluminium, powder coated

**Shaft version**

**S** Recessed hollow shaft

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