



### Model Number

RHI58N-\*\*\*\*\*X

### Features

- Industrial standard housing Ø58 mm
- Up to 50,000 ppr
- Hollow shaft
- 10 V ... 30 V with RS 422 interface
- Up to 5000 ppr

### Description

High performance are key words for this rotary encoder. Its outstanding feature is the high resolution angle.

Usually all six output channels of this incremental rotary encoder are assigned to ensure flexible use of the encoder in a wide range of applications.

This incremental rotary encoder is available as hollow shaft design with a shaft Ø10 mm, Ø12 mm or Ø15 mm.

The rotary encoder is held in place by an included torque rest.

The electrical connection is made with a cable connector.

## 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>10h</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

Cable	Ø6.5 mm, 4 x 2 x 0.14 mm <sup>2</sup> , 1 m
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### Standard conformity

Protection degree	DIN EN 60529, IP54
Climatic testing	DIN EN 60068-2-78 , no moisture condensation
Emitted interference	EN 61000-6-4:2007
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

### Ambient conditions

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)

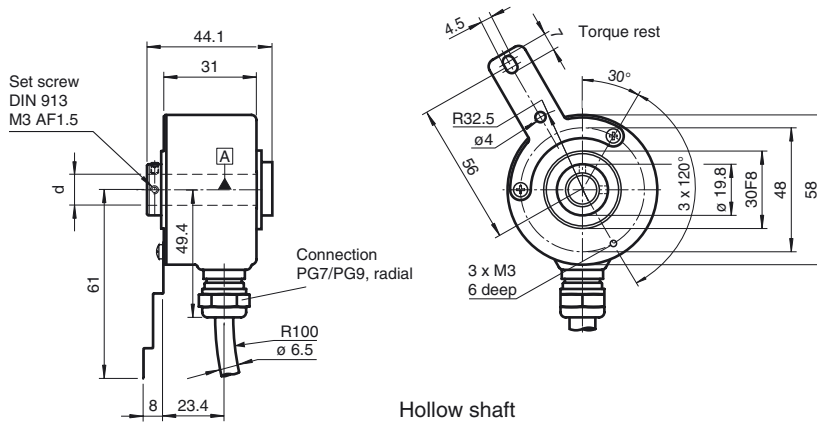
### Mechanical specifications

Material	
Housing	powder coated aluminum
Flange	3.1645 aluminum
Shaft	Stainless steel 1.4305 / AISI 303
Mass	approx. 290 g
Rotational speed	max. 6000 min <sup>-1</sup>
Moment of inertia	≤ 40 gcm <sup>2</sup>
Starting torque	≤ 1.5 Ncm
Shaft load	
Angle offset	1 °
Axial offset	max. 1 mm

### Approvals and certificates

UL approval	cULus Listed, General Purpose, Class 2 Power Source
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**Dimensions**

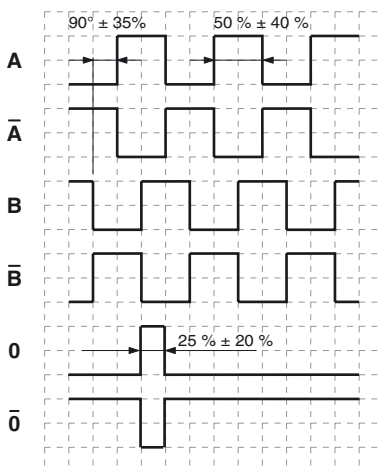


**Electrical connection**

Signal	Cable
GND	White
U <sub>b</sub>	Brown
A	Green
B	Grey
$\bar{A}$	Yellow
$\bar{B}$	Pink
0	Blue
$\bar{0}$	Red
U <sub>b</sub> Sens <sup>*)</sup>	Violet <sup>*)</sup>
GND Sens <sup>*)</sup>	Black <sup>*)</sup>
Screen	-

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

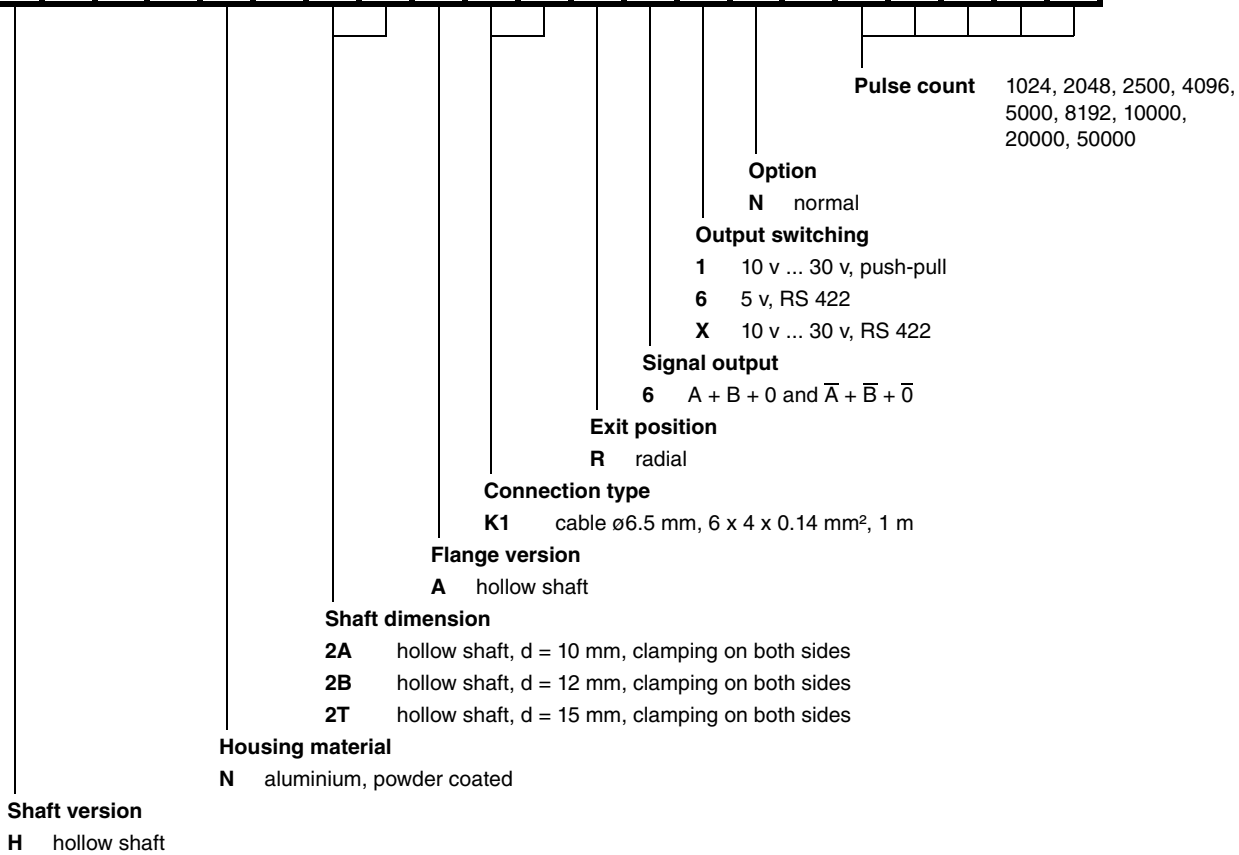
**Signal outputs**



↺ cw - with view onto the shaft clamping ring

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**Order code**



**Shaft version**  
H hollow shaft

**Housing material**  
N aluminium, powder coated

**Shaft dimension**  
2A hollow shaft, d = 10 mm, clamping on both sides  
2B hollow shaft, d = 12 mm, clamping on both sides  
2T hollow shaft, d = 15 mm, clamping on both sides

**Flange version**  
A hollow shaft

**Connection type**  
K1 cable ø6.5 mm, 6 x 4 x 0.14 mm<sup>2</sup>, 1 m

**Exit position**  
R radial

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

**Output switching**  
1 10 v ... 30 v, push-pull  
6 5 v, RS 422  
X 10 v ... 30 v, RS 422

**Option**  
N normal

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