



Model Number

RH158N-*****6

Features

- Industrial standard housing Ø58 mm
- Up to 50,000 ppr
- Hollow shaft
- 5 V with RS-422 interface

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 _d	140 a
Mission Time (T _M)	20 a
L _{10h}	70 E+9 at 6000 rpm
Diagnostic Coverage (DC)	0 %

Electrical specifications

Operating voltage U _B	5 V DC ± 5 %
No-load supply current I ₀	max. 70 mA

Output

Output type	RS 422, incremental
Load current	max. per channel 20 mA , conditionally short-circuit proof (not with U _b)
Output frequency	max. 200 kHz
Rise time	100 ns

Connection

Cable	Ø6.5 mm, 4 x 2 x 0.14 mm ² , 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)

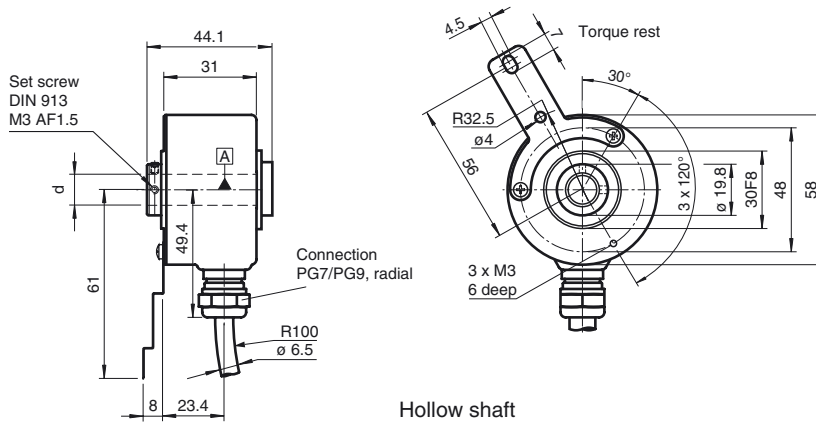
Mechanical specifications

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 ⁻¹
Moment of inertia	≤ 40 gcm ²
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



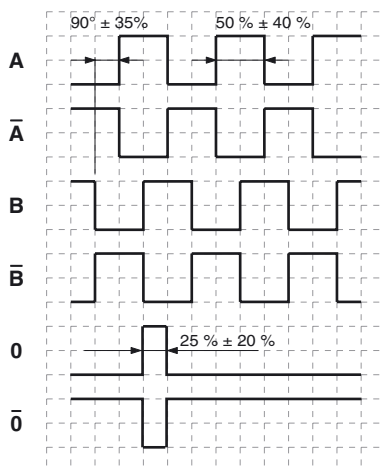
Hollow shaft

Electrical connection

Signal	Cable
GND	White
U _b	Brown
A	Green
B	Grey
\bar{A}	Yellow
\bar{B}	Pink
0	Blue
$\bar{0}$	Red
U _b Sens ^{*)}	Violet ^{*)}
GND Sens ^{*)}	Black ^{*)}
Screen	-

^{*)} 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

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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****R** radial**Connection type****K1** cable \varnothing 6.5 mm, 6 x 4 x 0.14 mm², 1 m**Flange version****A** hollow shaft**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**Housing material****N** aluminium, powder coated**Shaft version****H** hollow shaft