

Incremental rotary encoder with sin/cos interface

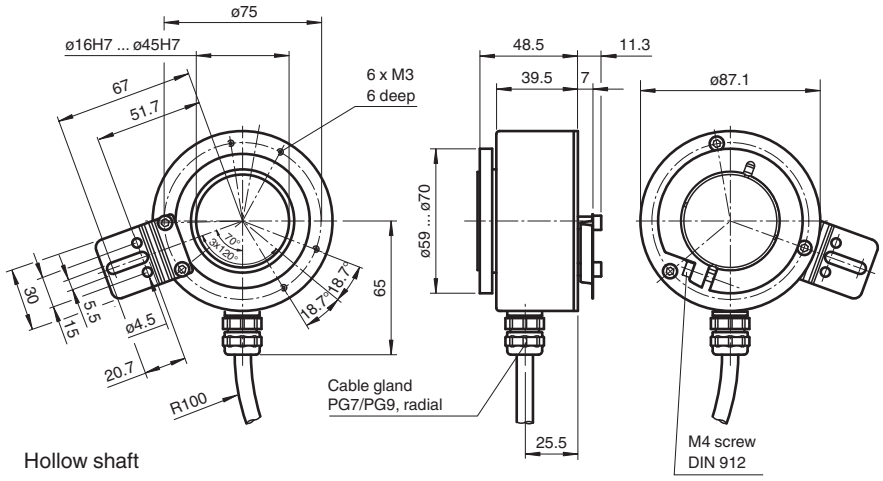
RHS90N-*******Z

- Incremental encoder with sin/cos interface
- 1024 or 2048 signal periods
- Hollow shaft up to max. 45 mm (many reductors on request)
- Temperature compensated, interpolateable voltage signals
- Application: motor feedback/ drive engineering

Function

The RHS90 provides the user with sine/cosine signals with a resolution of up to 2048 signal periods per revolution.
Typical applications for these rotary encoders are found in drive technology (motor feedback in assembly applications). Thanks to the 1 Vss sine/cosine interface the RHS90 is compatible with the current drive converters available on the market, as are required for the fine positioning of drives and servo-drive systems in industrial applications.
A clear increase in precision and improved drive running characteristics at an attractive price are the strengths of this series of rotary encoders.

Dimensions



Hollow shaft

Technical Data

General specifications		
Detection type		photoelectric sampling
Pulse count		max. 2048
Electrical specifications		
Operating voltage	U_B	5 V DC ± 5 %
No-load supply current	I_0	max. 70 mA
Output		
Output type		sine / cosine
Amplitude		1 V_{ss} ± 10 %
Load current		max. per channel 10 mA , short-circuit protected, reverse polarity protected
Output frequency		max. 200 kHz (3 dB limit)
Connection		

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Technical Data

Cable		Ø6.5 mm, 4 x 2 x 0.14 mm², 1 m
Standard conformity		
Degree of protection		DIN EN 60529, IP65
Climatic testing		DIN EN 60068-2-78
Emitted interference		EN 61000-6-4:2007/A1:2011
Noise immunity		DIN EN 61000-6-2
Shock resistance		DIN EN 60068-2-27, 100 *g*, 6 ms
Vibration resistance		DIN EN 60068-2-6, 10 *g*, 10 ... 2000 Hz
Approvals and certificates		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
Ambient conditions		
Operating temperature		-5 ... 70 °C (23 ... 158 °F) , cable, movable installation -20 ... 70 °C (-4 ... 158 °F), cable, fixed installation
Storage temperature		-40 ... 80 °C (-40 ... 176 °F)
Mechanical specifications		
Material		
Housing		aluminum, blank
Flange		3.1645 aluminum
Shaft		Stainless steel 1.4305 / AISI 303
Mass		approx. 900 g
Rotational speed		max. 3500 min $^{-1}$
Starting torque		≤ 6 Ncm
Shaft load		
Angle offset		1 °
Axial offset		max. 1 mm
Dimensions		
Length		48.5 mm
Diameter		87.1 mm

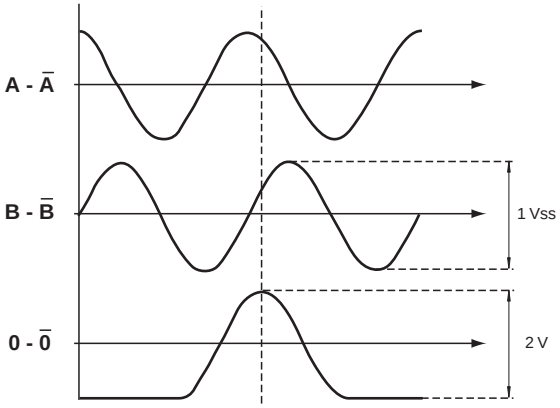
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Connection

Signal	Cable Ø6.5 mm, 8-core
GND	White
U_b	Brown
A / cos	Green
B / sin	Grey
$\overline{A}$ / $\overline{cos}$	Yellow
$\overline{B}$ / $\overline{sin}$	Pink
0	Blue
$\overline{0}$	Red
Screen	-

Operation

Signal outputs



measured in difference mode

↻ cw - view towards clamping ring

Type Code

Order code

R	H	S	9	0	N	–				K	1	R	6	Z	N	–					

Signal periods 1024, 2048

Option
N normal

Supply voltage / output type
Z 5 V, sine/cosine

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

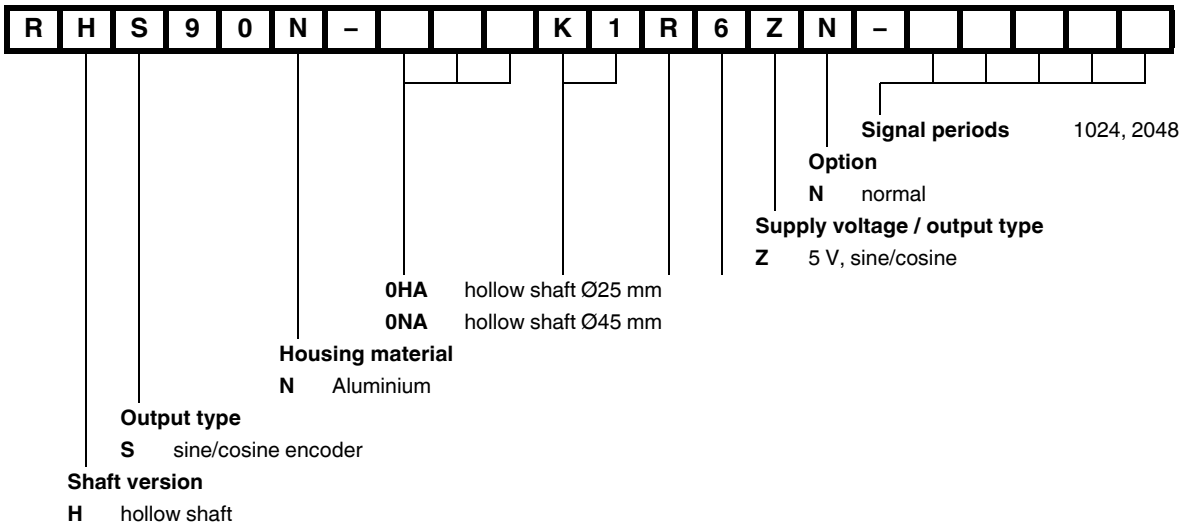
Exit position
R radial

Connection type
K1 cable Ø6.5 mm, 4 x 2 x 0.14 mm², 1 m

Shaft dimensions/flange version
2CA hollow shaft Ø19 mm
0FA hollow shaft Ø20 mm

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