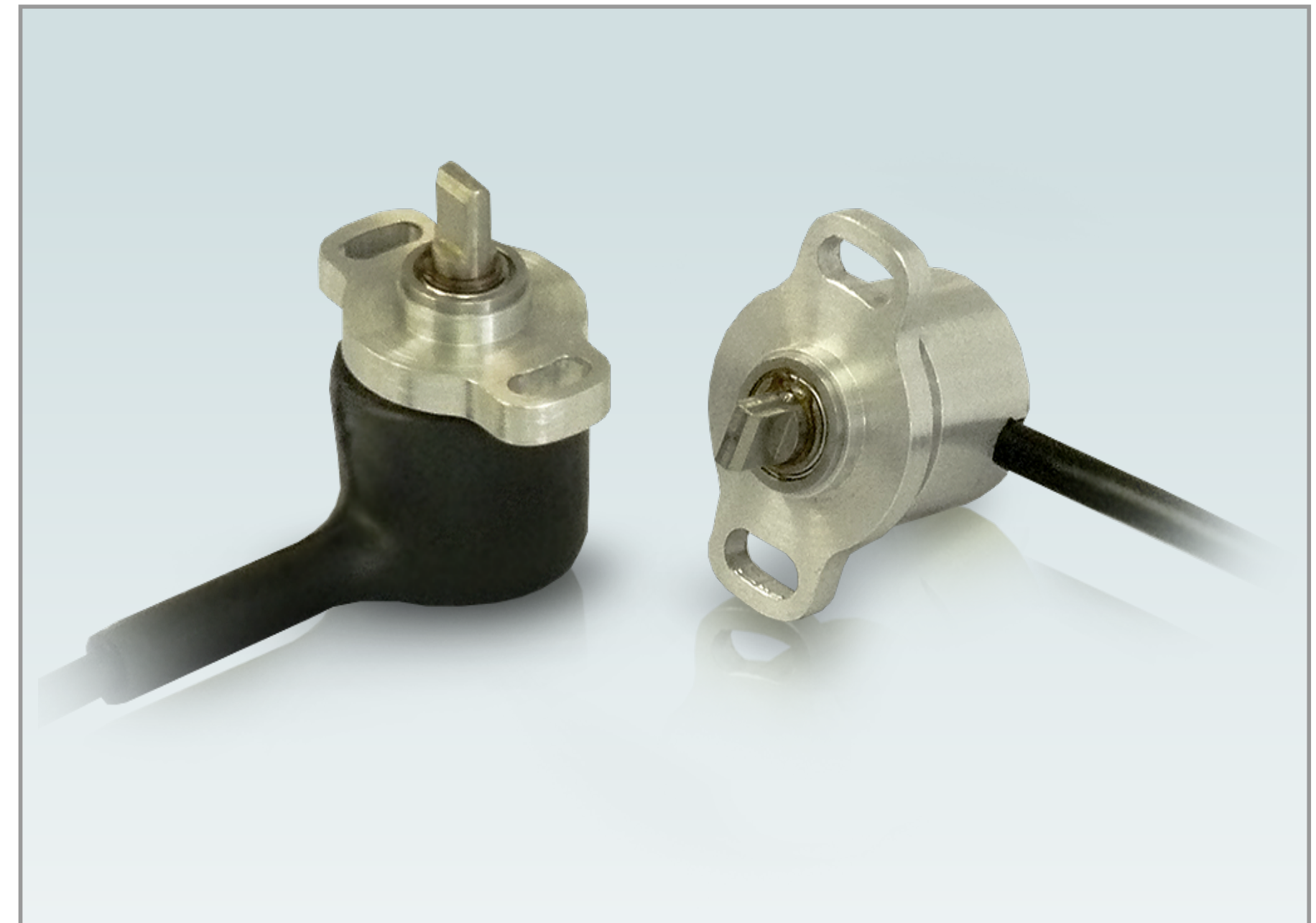


## RH0630 Contactless rotary position sensor

- Measurement angle up to 360°
- Contactless technology
- Twin ball-race shaft bearings
- Low-force operating shaft
- Raychem cabling
- Shrink boot option

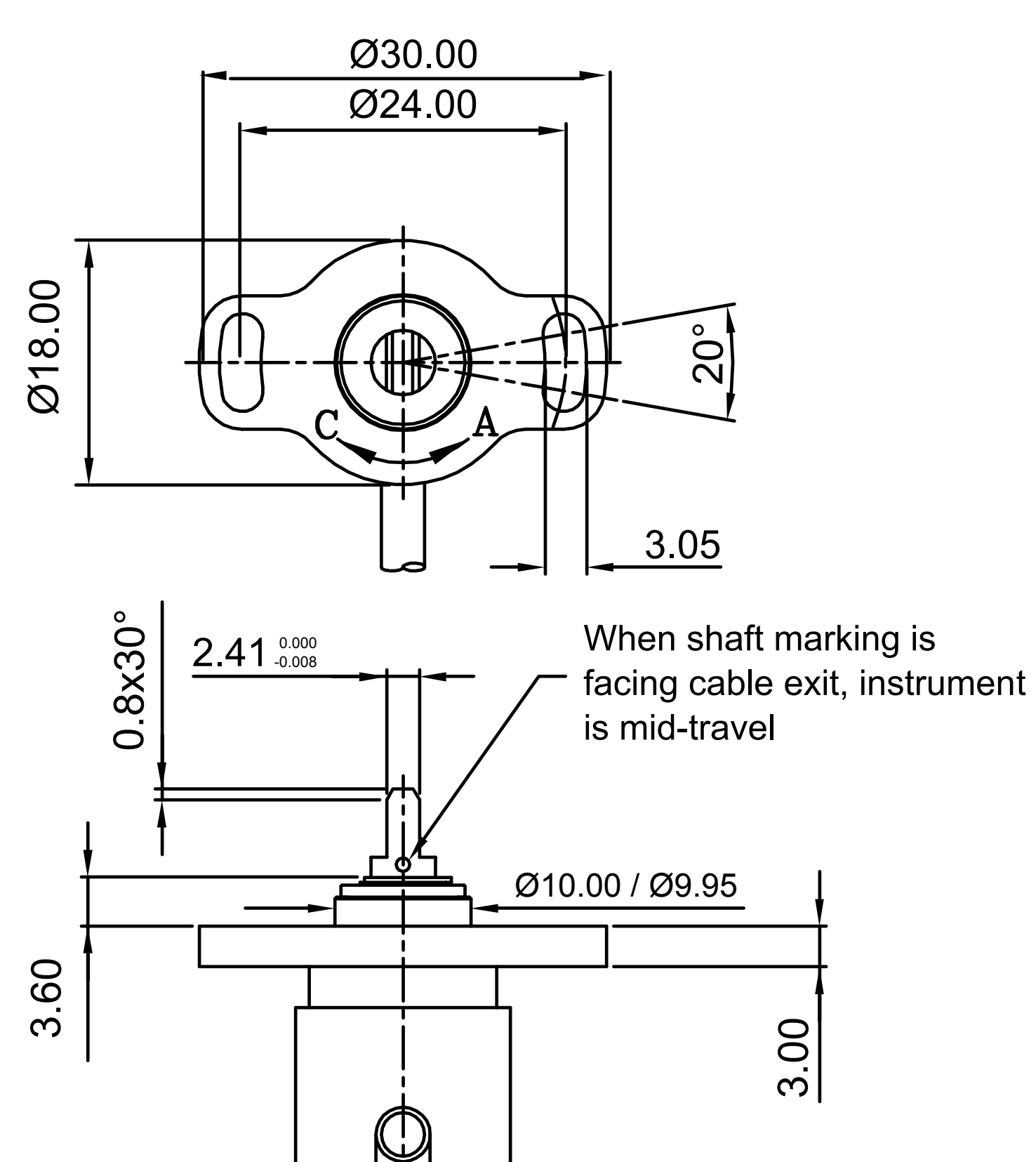
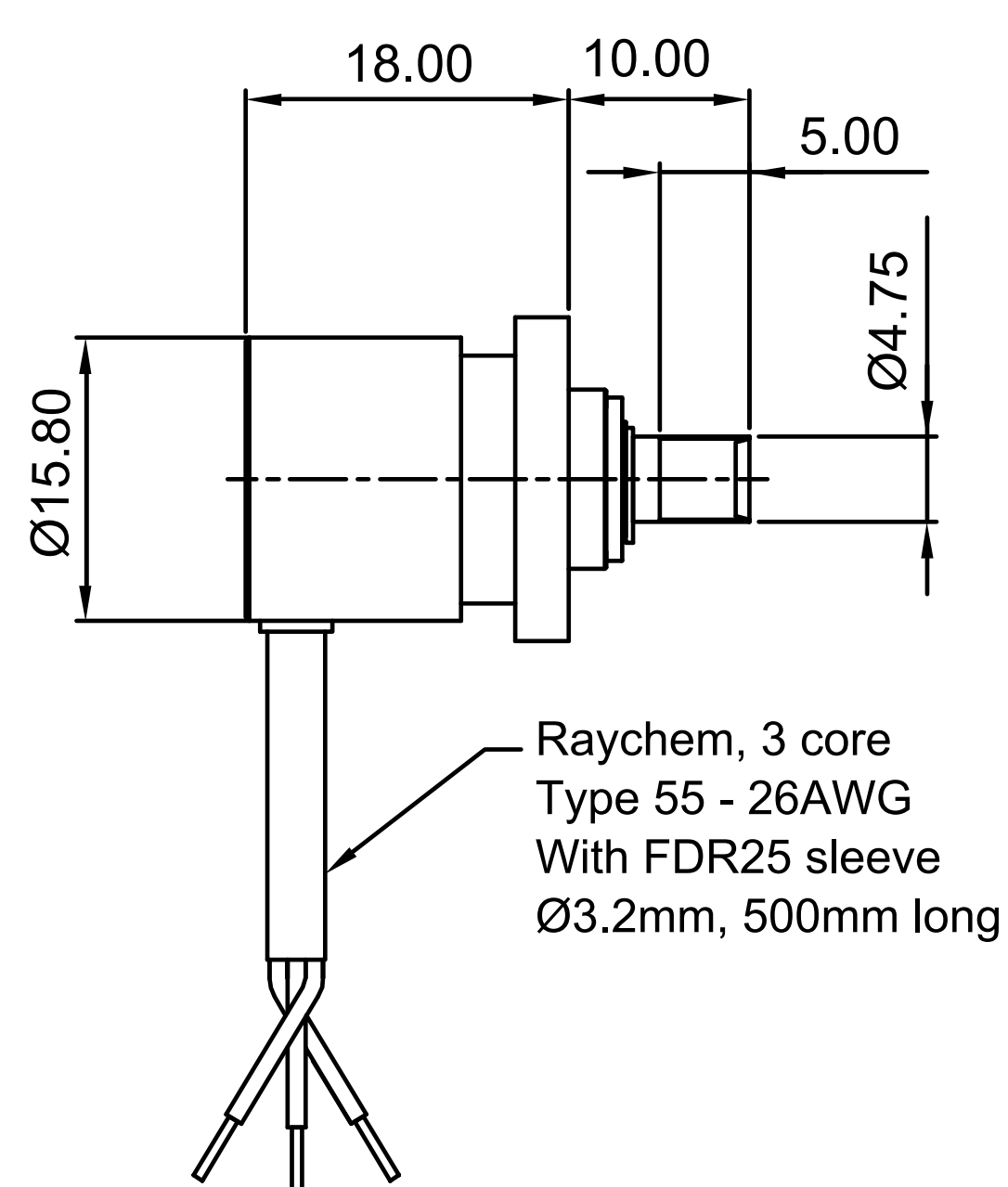


### Description

The miniature RH0630 flange mount Hall Effect contactless rotary position sensor is designed around a unique two-part assembly consisting of a sealed electronics module and a separate operating shaft set within precision 'twin' long life stainless steel ball-race bearings. When rotated, the shaft accurately measures up to 360° of angular position without mechanical contact with the face of the sensing module (contactless). The design provides an environmentally sealed sensing module independent of shaft sealing making it suitable for measurement applications where fluid, debris and vibration are a consideration.

The sensor operates from either a 5Vdc regulated or 6 to 30Vdc unregulated supply and the output signal is 0.5V - 4.5V with a 12-bit resolution (0.08°). The operating temperature is 130°C and every RH0630 sensor module is heat cycled prior to final calibration to ensure output signal stability when operated at elevated temperatures. The sensors electrical angle and output signal direction, clockwise or anticlockwise is specified by the customer. Additionally, the compact electronics housing is designed for the easy fitting of a Raychem heat shrink cable boot.

### Dimensions and mounting





# RH0630 Contactless rotary position sensor

## Electrical & mechanical information

	-L-	-H-	
Electrical angle	90-360 in 1° increments		°
Supply voltage (+Vs)	5.0+10% regulate	6 to 30 unregulated	Vdc
Over voltage protection	None	80	Vdc
Maximum supply current	<18		mA
Reverse polarity protection	No	Yes	
Power-on settlement time	<250		mS
Resolution	0.088		°
Non-linearity	<+0.25		%
Temperature coefficient	<+20	<+50	ppm/°C
Voltage output	0 - Vs	0 - 4.000	Vdc
Monotonic range (typical)	5 - 95		% Vout
Load resistance	5K minimum		Ohms
Output noise	<5		mVrms
Update speed	>500		Hz
Maximum operating speed	30		rpm
	117		rpm
	468		rpm
	1875		rpm
Weight (approx.)	15		g
Protection class	IP67		
Life	Essentially infinite (contactless)		
Dither life	Contactless - no degradation due to shaft dither		
Operational temperature	-40 - +130	See graph-sheet 1	°C
Storage temperature	-55 - +130		°C
Output	Analogue voltage		
Output direction (viewed on shaft)	Clockwise or anticlockwise with increasing output		
Materials	Housing - glass filled nylon Shaft - stainless steel 316		

Note 1: Incorrect wiring may cause internal damage to the sensor. Note 2: Circuit recommendation: Due to the presence of a high contact resistance, these potentiometers should be used as voltage dividers only. Operation with wiper circuits of low impedance will degrade the output signal.

Ordering information

RH063X-X-XXX-X

0 = Unbooted

1 = Heatshrink boot

L = 5Vdc input

H = 6 to 30Vdc input

Electrical angle in degrees

Output direction (viewed on shaft)

C = Clockwise

A = Anticlockwise

Electrical connections

BLK

WHT

RED

Vs

Vout

0v

Operational temp RH063X-H only

Input volts vs temp.

30v

13v

6v

-40°C

+75°C

+130°C

## Contact details



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**Additional product information**  
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