

RTD 4 A 4 Y 2

Blind hollow shaft $\varnothing 10$ to $\varnothing 16$ mm

Number of pole pairs 1 (= 2 poles)

Overview

- Robust resolver with blind hollow shaft $\varnothing 10 \dots 16$ mm
- Rotation speed max. 8000 rpm
- Very high resistance to shock and vibrations
- Wide operating temperature range



Technical data

Technical data - electrical ratings

Number of pole pairs	1 = 2 poles
Input voltage U_i	7 Vrms
Input frequency	≤ 10 kHz
Input current I_i max.	≤ 65 mA
Transformation ratio	$0.5 \pm 5\%$
Phase shift	$0^\circ \pm 10^\circ$
Electrical error max.	10 Angular minutes
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

Technical data - mechanical design

Size (flange)	$\varnothing 80$ mm
Shaft type	$\varnothing 10 \dots 16$ mm (blind hollow shaft)
Protection EN 60529	IP 65
Operating speed	≤ 8000 rpm ($\leq +80^\circ\text{C}$) ≤ 4000 rpm ($\leq +100^\circ\text{C}$)

Technical data - mechanical design

Starting torque	≤ 0.025 Nm ($+20^\circ\text{C}$)
Material	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	$-40 \dots +100^\circ\text{C}$
Resistance	EN 60068-2-6 Vibration 10 g, 55-2000 Hz EN 60068-2-27 Shock 100 g, 11 ms
Weight approx.	670 g
Connection	Connector M23 type 2, 12-pin
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit	050

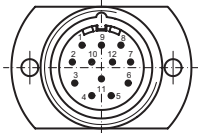
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Terminal assignment

Connector	Assignment
Pin 1	R1
Pin 2	R2
Pin 3	S2
Pin 4	S4
Pin 5	S1
Pin 6	S3
Pin 7	—
Pin 8	—
Pin 9	shield/housing
Pin 10	—
Pin 11	—
Pin 12	—



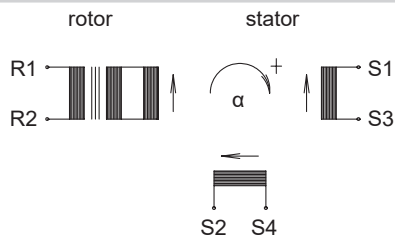
DC resistance

R_R (transformer)	Approx. 36 Ω
R_S (stator winding)	Approx. 62 Ω
Max. zero voltage	50 mV

Impedances

Z_{RO}	[70+j100] Ω
Z_{SO}	[180+j300] Ω
Z_{SS}	[175+j275] Ω

Circuit diagram



$$U_{S1-S3} = TR \cdot U_{R1-R2} \cdot \cos \alpha$$

$$U_{S2-S4} = TR \cdot U_{R1-R2} \cdot \sin \alpha$$

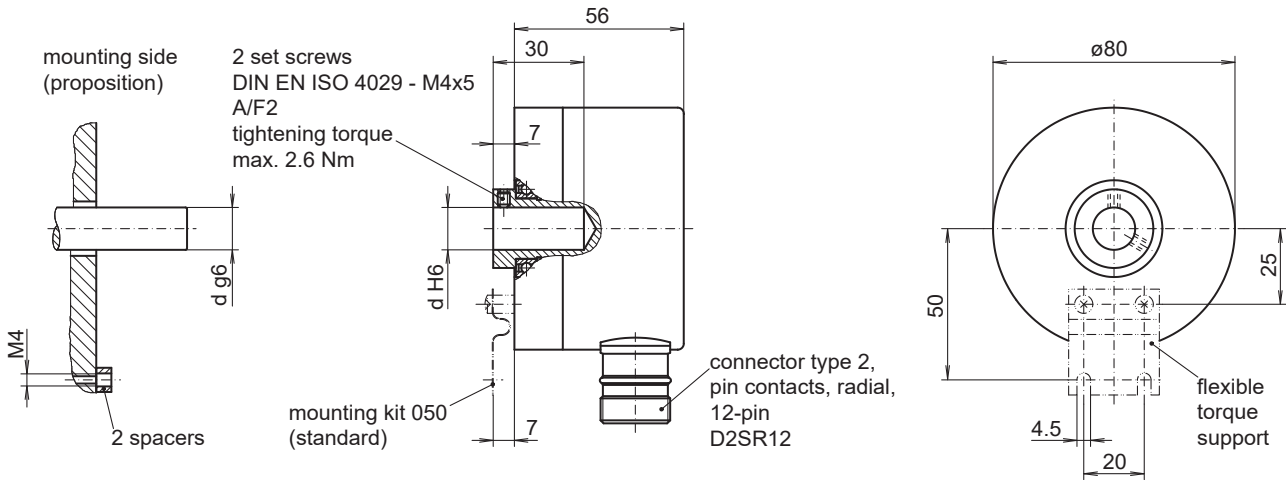
Schematic diagram, diagrammed during direction of rotation against counter-clockwise direction (ccw) when looking at the end of the mounting side.

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Dimensions



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Blind hollow shaft ø10 to ø16 mm

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Ordering reference

		RTD 4 A 4 Y 2	P1	7	10	0.5	D2SR12	##	IP65	050
Product		RTD 4 A 4 Y 2								
Number of pole pairs										
1 = 2-pin			P1							
Input voltage										
7 Vrms				7						
Input frequency										
10 kHz					10					
Transformation ratio										
0.5						0.5				
Connection										
Flange connector type 2, pin contacts, radial, 12-pin							D2SR12			
Blind hollow shaft										
ø10 mm										10
ø11 mm										11
ø12 mm										12
ø13 mm										13
ø14 mm										14
ø15 mm										15
ø16 mm										16
Protection										
IP 65									IP65	
Mounting kit										
Mounting kit 050										050