

RTD 1 B14 Y 1

Solid shaft $\varnothing 6$ mm with synchro flange

Number of pole pairs 1 (= 2 poles)

Overview

- Robust resolver with solid shaft $\varnothing 6$ mm
- Rotation speed max. 10000 rpm
- Centering alignment $\varnothing 50$ mm
- Mounting hole circle $\varnothing 68$ mm
- Wide operating temperature range
- Flange connector radial



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)	$\varnothing 58$ mm
Shaft type	$\varnothing 6$ mm solid shaft

Technical data - mechanical design

Protection EN 60529	IP 65
Operating speed	≤ 10000 rpm
Starting torque	≤ 0.01 Nm ($+20^\circ\text{C}$)
Admitted shaft load	≤ 20 N axial ≤ 40 N radial
Material	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	$-20 \dots +100^\circ\text{C}$
Resistance	EN 60068-2-6 Vibration 20 g, 60-2000 Hz EN 60068-2-27 Shock 100 g, 11 ms
Weight approx.	450 g
Connection	Connector M23 type 2, 12-pin

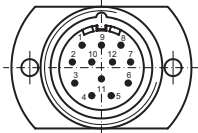
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Terminal assignment

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	—
Pin 10	—
Pin 11	—
Pin 12	—



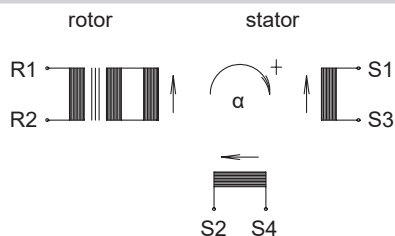
DC resistance

R_R (rotor)	Approx. 36 Ω
R_S (stator winding)	Approx. 60 Ω
Max. zero voltage	20 mV

Impedances

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

Circuit diagram



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

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

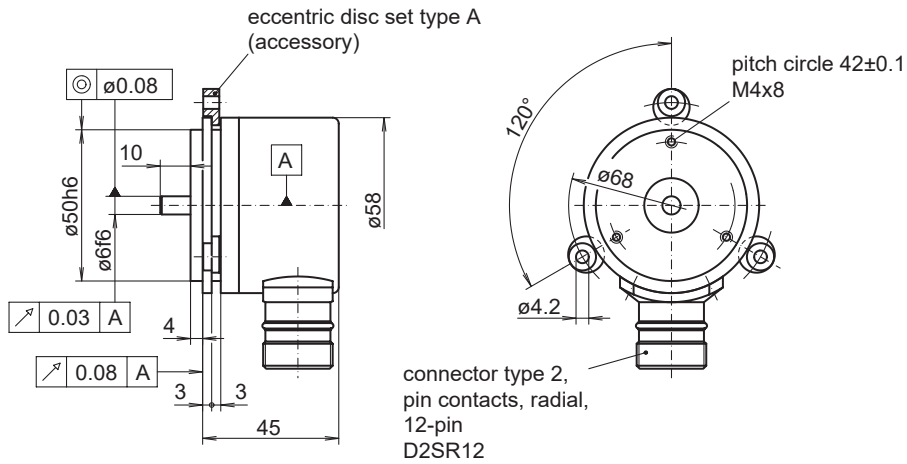
Schematic diagram, diagrammed during direction of rotation against counter-clockwise direction (ccw) when looking at the end of the mounting side.

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Dimensions



Ordering reference									
		RTD 1 B14 Y 1	P1	7	10	0.5	D2SR12	6	IP65
Product		RTD 1 B14 Y 1							
Number of pole pairs			P1						
1 = 2-pin									
Input voltage				7					
7 Vrms									
Input frequency					10				
10 kHz									
Transformation ratio						0.5			
0.5									
Connection							D2SR12		
Flange connector type 2, pin contacts, radial, 12-pin									
Flange / Solid shaft								6	
Synchro flange / ø6 mm									
Protection									IP65
IP 65									