

# Resolvers

Solid shaft  $\varnothing 10$  mm with clamping flange

Number of pole pairs 1 (= 2 poles)

## RTD 1 B14 Y 3



RTD 1 B14 Y 3 with clamping flange

### Features

- Robust resolver with solid shaft  $\varnothing 10$  mm
- Rotation speed max. 5000 rpm
- Centering alignment  $\varnothing 36$  mm, mounting hole circle  $\varnothing 48$  mm
- Wide operating temperature range
- High protection IP 67 at the shaft input
- Flange connector radial

### Technical data - electrical ratings

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

### Technical data - mechanical design

|                         |   |
|-------------------------|---|
| Size (flange)           | $\varnothing 58$ mm   |
| Shaft type              | $\varnothing 10$ mm solid shaft (clamping flange)   |
| Protection DIN EN 60529 | IP 65 (IP 67 at shaft input)  |
| Operating speed         | $\leq 5000$ rpm   |
| Starting torque         | $\leq 0.01$ Nm (+20 °C)   |
| Admitted shaft load     | $\leq 40$ N axial<br>$\leq 60$ N radial   |
| Materials               | Housing: aluminium, black, powder-coated<br>Shaft: stainless steel                        |
| Operating temperature   | -40...+100 °C   |
| Resistance              | DIN EN 60068-2-6<br>Vibration 20 g, 60-2000 Hz<br>DIN EN 60068-2-27<br>Shock 100 g, 11 ms |
| Weight approx.          | 310 g   |
| Connection              | Connector M23 type 2, 12-pin  |

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## Part number

RTD 1 B14 Y 3 **P1** **7** **10** **0.5** **D2SR12** **E** **10** **IP65**

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  | <u>Protection</u>  |
|  |  |  |  |  |  |  |  |  | IP65 IP 65   |
|  |  |  |  |  |  |  |  |  | <u>Flange / Solid shaft</u>                                  |
|  |  |  |  |  |  |  |  |  | 10 Clamping flange / ø10 mm                                  |
|  |  |  |  |  |  |  |  |  | <u>Operating temperature</u>                                 |
|  |  |  |  |  |  |  |  |  | E -40...+100 °C  |
|  |  |  |  |  |  |  |  |  | <u>Connection</u>  |
|  |  |  |  |  |  |  |  |  | D2SR12 Flange connector type 2, pin contacts, radial, 12-pin |
|  |  |  |  |  |  |  |  |  | <u>Transformation ratio</u>                                  |
|  |  |  |  |  |  |  |  |  | 0.5  |
|  |  |  |  |  |  |  |  |  | <u>Input frequency</u>                                       |
|  |  |  |  |  |  |  |  |  | 10 10 kHz  |
|  |  |  |  |  |  |  |  |  | <u>Input voltage</u>   |
|  |  |  |  |  |  |  |  |  | 7 7 Vrms   |
|  |  |  |  |  |  |  |  |  | <u>Number of pole pairs</u>                                  |
|  |  |  |  |  |  |  |  |  | P1 1 = 2-pin   |

## Accessories

### Connectors and cables

|          |                                    |
|----------|------------------------------------|
| 11069601 | Connector S2BG12, 2 m cable (RTD)  |
| 11069603 | Connector S2BG12, 5 m cable (RTD)  |
| 11069605 | Connector S2BG12, 10 m cable (RTD) |

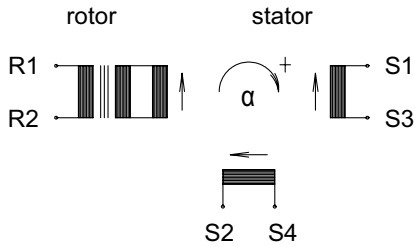
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### Circuit diagram



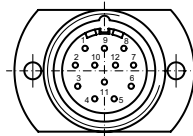
$$U_{S1-S3} = TR \cdot U_{R1-R2} \cdot \cos \alpha$$

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

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

### 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    | –          |



### Impedances

|          |                     |
|----------|---------------------|
| $Z_{RO}$ | [70+j100] $\Omega$  |
| $Z_{SO}$ | [180+j300] $\Omega$ |
| $Z_{SS}$ | [175+j275] $\Omega$ |

### DC resistance

|                        |                     |
|------------------------|---------------------|
| $R_R$ (rotor)          | Approx. 36 $\Omega$ |
| $R_S$ (stator winding) | Approx. 60 $\Omega$ |
| Max. zero voltage      | 20 mV               |

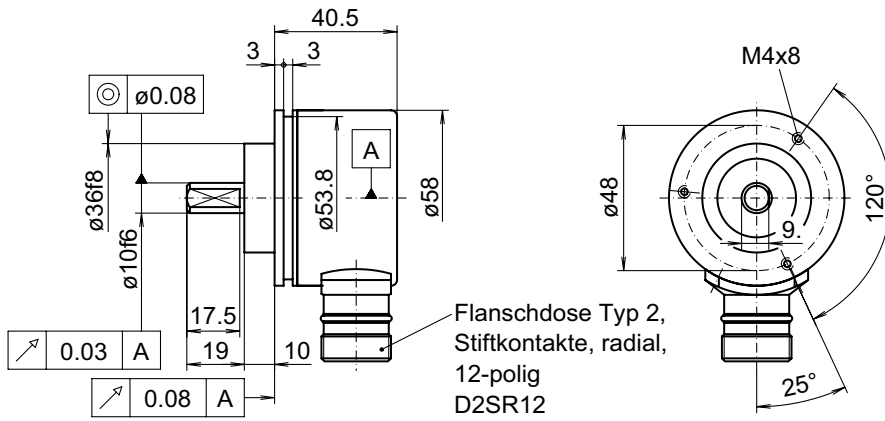
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## Dimensions



026-41 Y 3