

**ROD 1930**

Technical Data

Dimensions

Electrical connection

Mounting Accessories

**Incremental Rotary Encoder for separate Rotor Coupling**

<b>Mechanical design</b>	<ul style="list-style-type: none"> <li>• Outer Diameter <math>\square</math> 120 mm</li> <li>• Overall length <math>\leq</math> 151 mm</li> <li>• Solid shaft with feather key 15 mm</li> </ul>
<b>Output signals</b>	<ul style="list-style-type: none"> <li>• Incremental signals HTLs and HTL</li> </ul>
<b>Special features</b>	<ul style="list-style-type: none"> <li>• For use in extreme environmental</li> <li>• High resistance to               <ul style="list-style-type: none"> <li>○ Mechanical loads</li> <li>○ Dust and liquids</li> <li>○ Vibration and shock</li> </ul> </li> </ul>

Technical Data		
Incremental signals *	HTLs <sup>1)</sup>	HTL <sup>2)</sup>
Line counts *	600 1024 1200 2400	
Scanning frequency	≤ 160 kHz	
Edge separation a	≥ 0.76 μs	
<b>System accuracy at 20 °C</b>	± 1/10 grating period	
<b>Power supply</b>	10 to 30 V DC	
Current consumption (typical; without load)	≤ 100 mA @ 15 V DC	≤ 60 mA @ 15 V DC
<b>Electrical connection</b>	Terminal Board	
<b>Shaft *</b>	single or double ended solid shaft D = 15 mm with feather key	
<b>Mech. Permissible speed</b>	≤ 4 000 min <sup>-1</sup>	
<b>Starting torque at 20 °C</b>	≤ 0.05 Nm (single ended shaft), ≤ 0.15 Nm (double ended shaft),	
<b>Moment of inertia of rotor</b>	≤ 2.5 x 10 <sup>-5</sup> kgm <sup>2</sup>	
<b>Shaft load</b>	axial 150 N / radial 200 N on shaft end (see graph Bearing lifetime)	
<b>Vibration (25 to 200 Hz)</b>	≤ 100 m/s <sup>2</sup> (EN 60 068-2-6)	
<b>Shock (6 ms)</b>	≤ 1 000 m/s <sup>2</sup> (EN 60 068-2-27)	
<b>Max. operating temperature</b>	70 °C <sup>3)</sup>	
<b>Min. operating temperature</b>	-20 °C	
<b>Protection (EN 60 529)</b>	IP 66	
<b>Weight</b>	Approx. 4.5 kg	

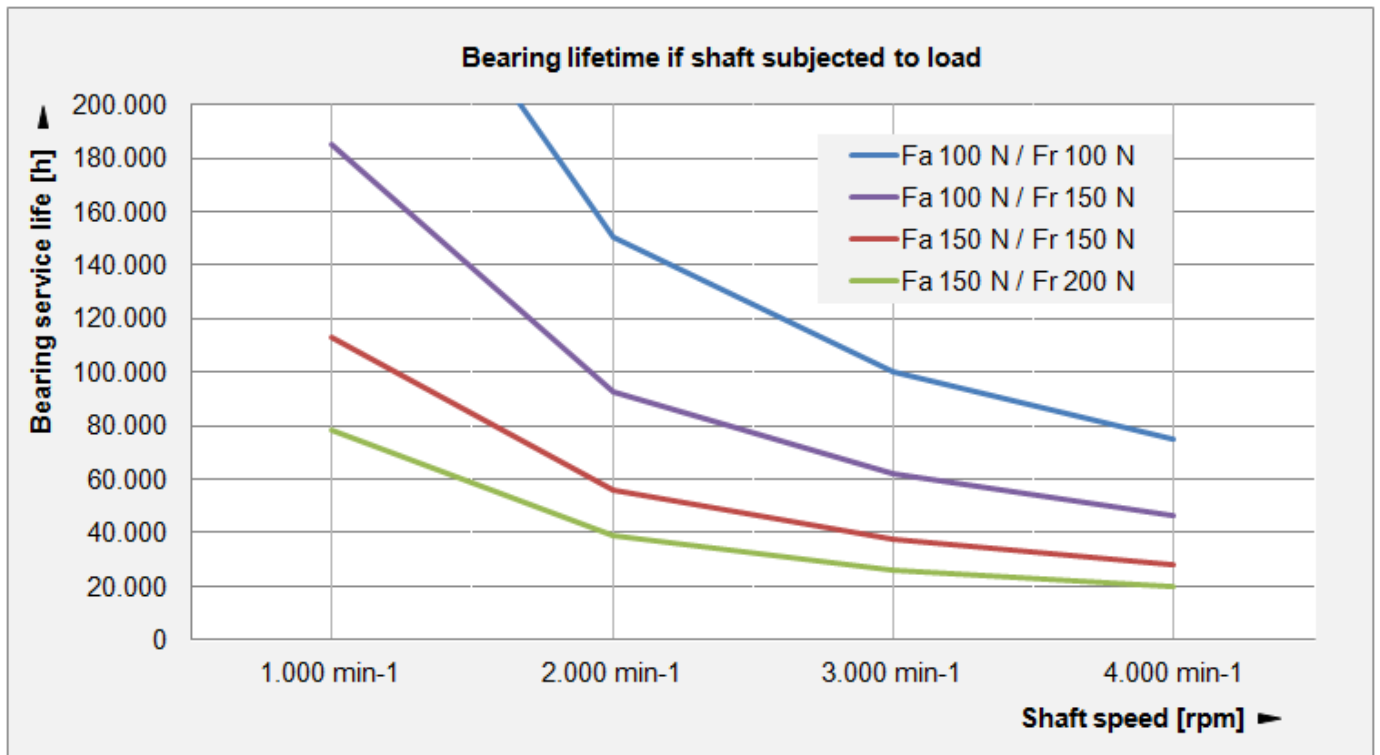
\* Please select when ordering

<sup>1)</sup> Without inverse signal but with reference signal RV = 90°

<sup>2)</sup> Without reference signal

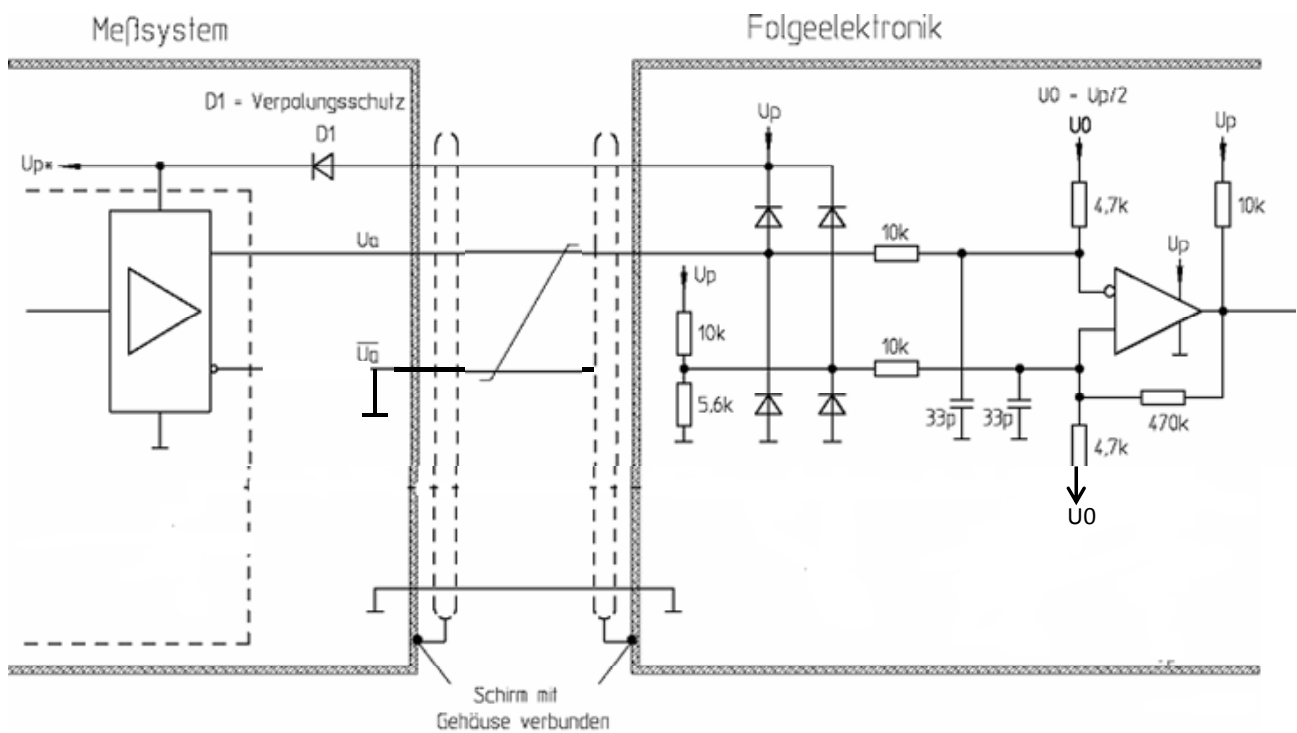
<sup>3)</sup> Special versions (e.g. water cooling jacket) upon request

**Bearing lifetime**



**Recommended receiver circuit**

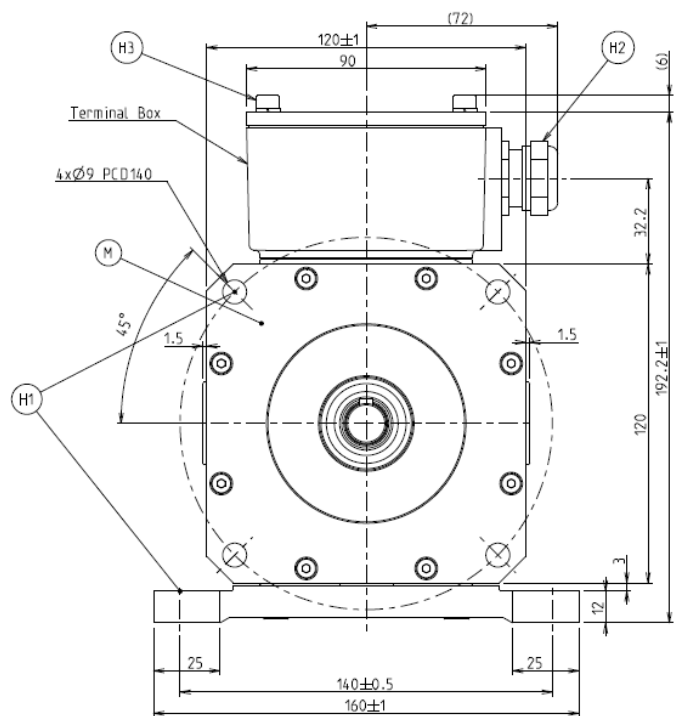
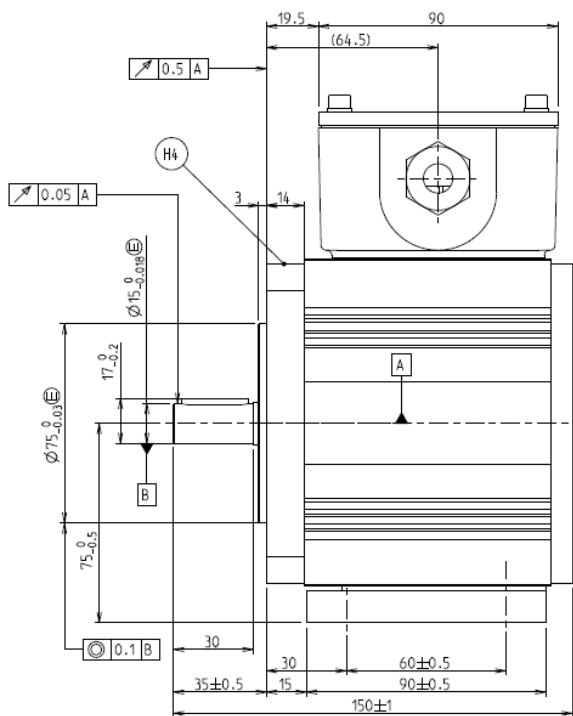
HTLs:



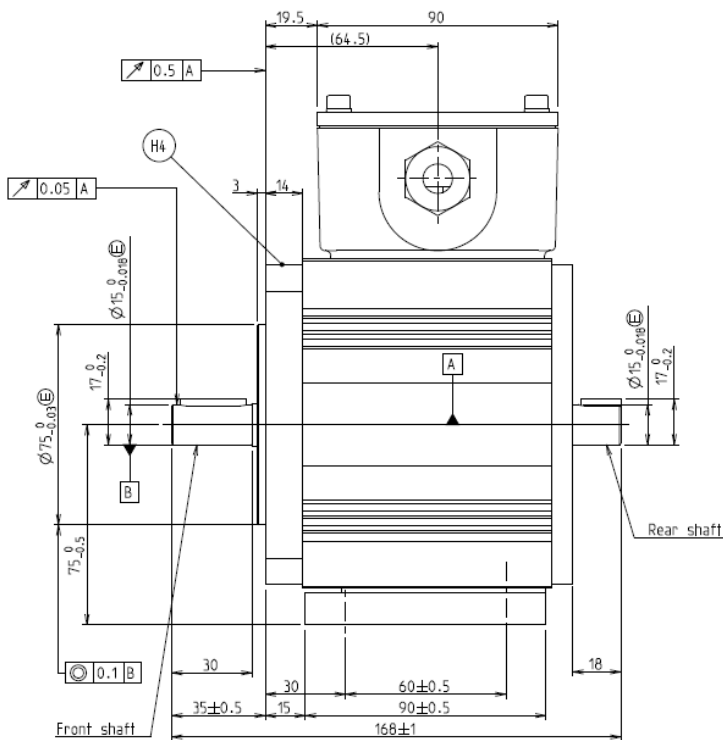
For HTL see *Interfaces* in catalogue *Rotary Encoders*

## Dimensions

### ID 1043373-xx



### ID 1043377-xx

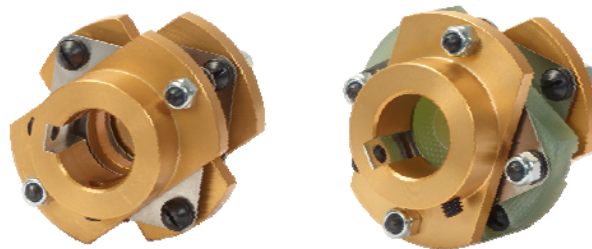


**Electrical connection**

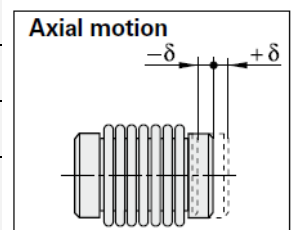
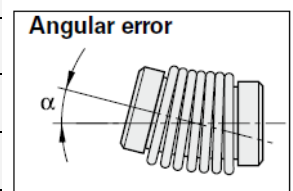
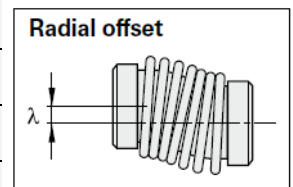
Screw-terminal connection						
Connection	1	2	3	4	5	6
HTLs	$U_P$	0 V	$U_{a1}$	$U_{a2}$	0 V	$U_{a0}$
HTL	$U_P$	0 V	$U_{a1}$	$U_{a2}$	$\overline{U_{a1}}$	$\overline{U_{a2}}$

**Mounting Accessories**

**Rotor coupling**



<b>Name</b>	C-19-15K/15K	C-212-15K/15K
<b>ID</b>	731374-01	731374-02
<b>Attribute</b>	not insulating	insulating
<b>Hub bore</b>	15/15 mm	15/15 mm
<b>Kinematic transfer error *</b>	$\pm 13''$	$\pm 13''$
<b>Torsional rigidity</b>	$1.7 \cdot 10^3 \text{ Nm/rad}$	$1.7 \cdot 10^3 \text{ Nm/rad}$
<b>Max. torque</b>	3.9 Nm	5.0 Nm
<b>Max. radial offset <math>\lambda</math></b>	$\leq 0.3 \text{ mm}$	$\leq 0.3 \text{ mm}$
<b>Max. angular error <math>\alpha</math></b>	$\leq 1.5^\circ$	$\leq 1.5^\circ$
<b>Max. axial offset <math>\delta</math></b>	$\pm 1.7 \text{ mm}$	$\pm 1.7 \text{ mm}$
<b>Moment of inertia (approx.)</b>	$15.0 \cdot 10^{-6} \text{ kgm}^2$	$15.0 \cdot 10^{-6} \text{ kgm}^2$
<b>Permissible speed</b>	$20\,000 \text{ min}^{-1}$	$6\,000 \text{ min}^{-1}$
<b>Fastening torque of the clamping screws M4 **</b>	1.37 Nm	1.37 Nm
<b>Weight</b>	75 g	75 g



\* With radial misalignment  $\lambda = 0.1 \text{ mm}$ , angular error  $\alpha = 0.15 \text{ mm over } 100 \text{ mm} \hat{=} 0.09^\circ$ , valid up to  $50^\circ \text{C}$

\*\* Bonding anti-rotation lock is preferable

**Note:**

For further

- General mechanical information
- Incremental signal interface description
- General electrical information

please refer to catalogue „Rotary Encoders“ and „Encoder for Servo Drives“

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