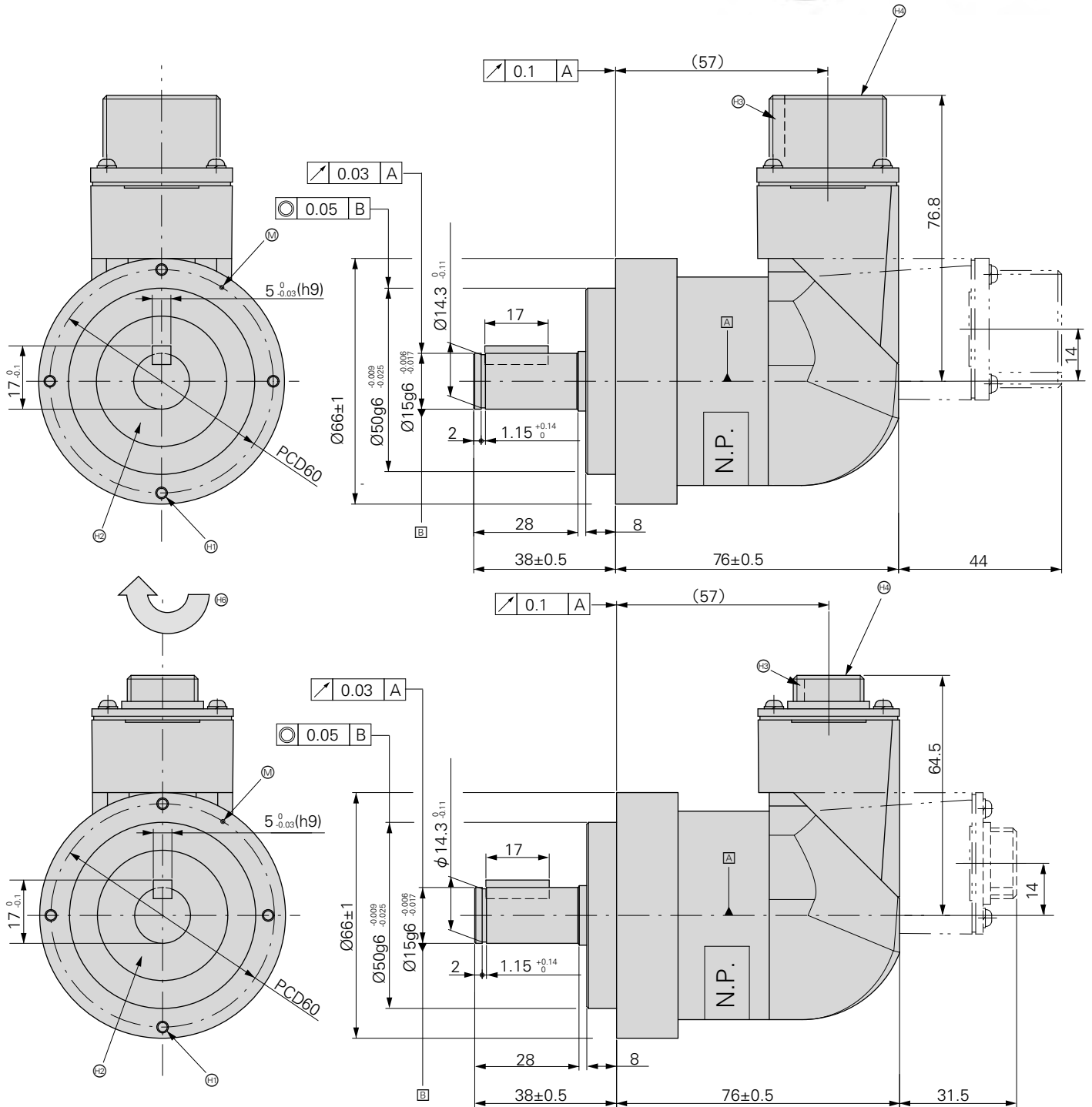


# ROD 600 Series

Incremental Rotary Encoders for separate rotor coupling

- Outer Diameter 66 mm
- Length 76 mm
- Shaft Diameter 15.0 mm





Dimensions in mm



Tolerancing ISO 8015

- Ⓜ = Measuring point for operating temperature
- Ⓣ = 4-M3, Depth 8, Equally Spaced
- Ⓢ = Oil seal
- Ⓚ = Key
- ⓕ = Flange socket MS3102E20-29P(Equivalent)
- Ⓛ = Flange socket RM15WTRZ-10P(71)
- Ⓝ = Direction of shaft rotation for output signals as per the interface description

Flange socket	Mating connector
10-pin RM15WTRZ-10P(71)	Connector RM15WTRZ-10S(71) Clamp JR13WCC-10(72)
17-pin MS3102E20-29P	Connector MS3106B-20-29S Clamp MS3057-12A

	ROD 620	ROD 630	ROD 690	
<b>Incremental signals</b>	 TTL-C <sup>1)</sup>	 HTLs <sup>2)</sup> -C <sup>1)</sup>	Open Collectors	
Output pulse *(Accuracy Class)	100 <sup>(I)</sup> 300 <sup>(I)</sup> 500 <sup>(I)</sup> <b>600<sup>(I)</sup></b> 900 <sup>(I)</sup> <b>1000<sup>(I)</sup></b> <b>1024<sup>(I)</sup></b> 1200 <sup>(I)</sup> <b>2000<sup>(I)</sup></b> 2048 <sup>(I)</sup> 3000 <sup>(I)</sup> 4096 <sup>(II)</sup> 5000 <sup>(II)</sup>			
Scanning frequency	≤ 300 kHz	≤ 200 kHz	≤ 200 kHz	≤ 200 kHz
Edge separation <i>a</i>	≥ 0.41 μs	≥ 0.62 μs	≥ 0.62 μs	≥ 0.62 μs
<b>System accuracy</b>	Accuracy Class I : ±1/10 SP , Accuracy Class II: ±1/5 SP			
<b>Power supply</b>	5V ± 10%	10.8V ~ 26.4V	5V ± 10%	10.8V to 26.4V
<b>Current consumption</b> without load	≤ 70 mA	≤ 70 mA	≤ 70 mA	≤ 70 mA
Output current	± 10 mA	≤ 40 mA	≤ 40 mA	≤ 40 mA
Electrical connection	<ul style="list-style-type: none"> <li>• <b>17-pin MS3102E-20-29P flange socket, radial</b></li> <li>• 10-pin RM15WTRZ-10P(71) flange socket, radial</li> </ul>			
<b>Shaft</b>	Solid shaft D = 15 mm with feather key			
<b>Mech. permissible speed n</b>	≤ 6000 min <sup>-1</sup>			
<b>Starting torque</b> (at 20°C)	≤ 0.05 Nm			
<b>Moment of inertia of rotor</b>	9.0 · 10 <sup>-6</sup> kgm <sup>2</sup>			
<b>Shaft load</b>	Axial :50 N Radial: 50 N			
<b>Vibration</b> 25 to 2000 Hz	≤ 100 m/s <sup>2</sup> (JIS C 60 068-2-6, EN 60 068-2-6)			
<b>Shock</b> 6 ms	≤ 1000 m/s <sup>2</sup> (JIS C 60 068-2-27, EN 60 068-2-27)			
<b>Max. operating temp.</b>	70°C			
<b>Min. operating temp.</b>	-20°C			
<b>Protection</b> EN 60 529	IP66			
<b>Weight</b>	Approx. 0.7 kg (without cables)			

**Bold** : preferred versions

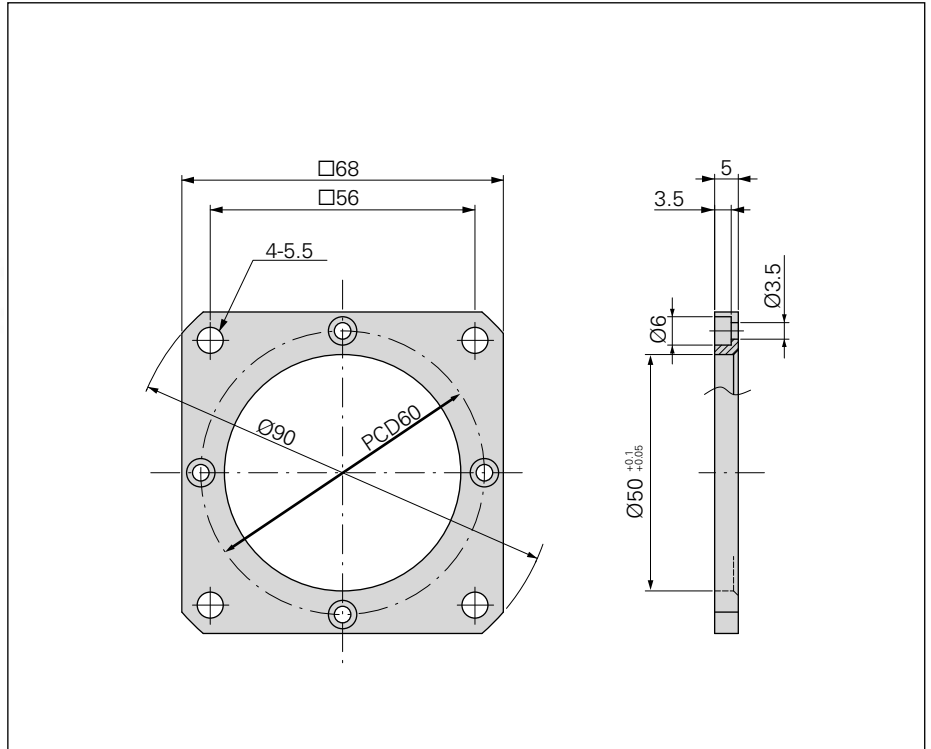
\* Please select when ordering.

<sup>1)</sup> Bypass capacitor is connected to FG.

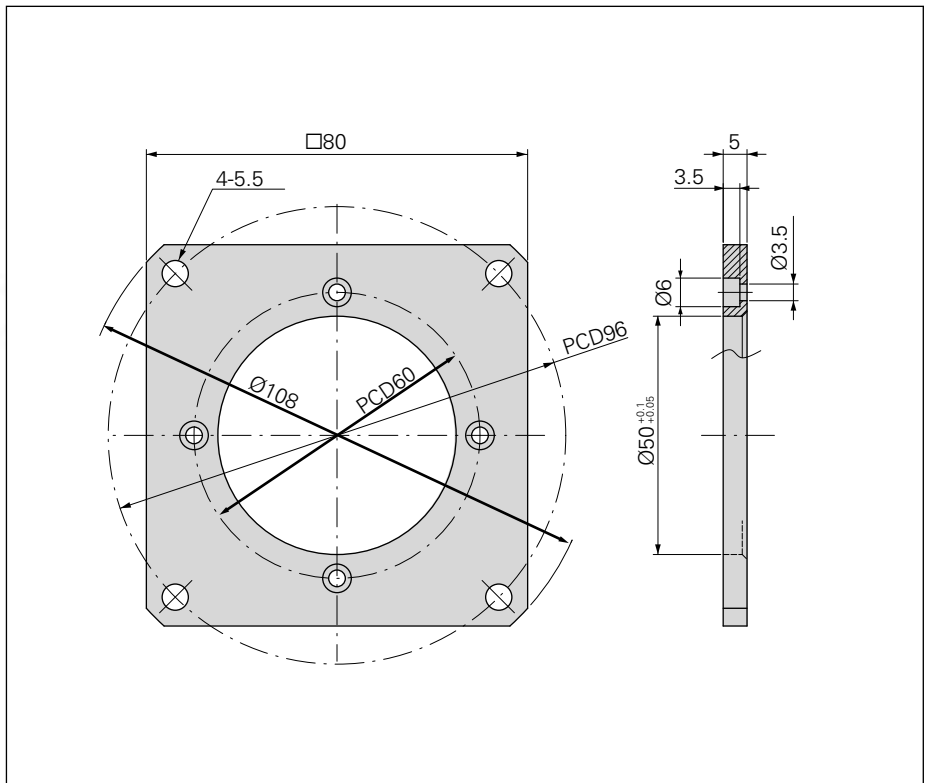
<sup>2)</sup> Without inverse signal

# Mounting Accessories

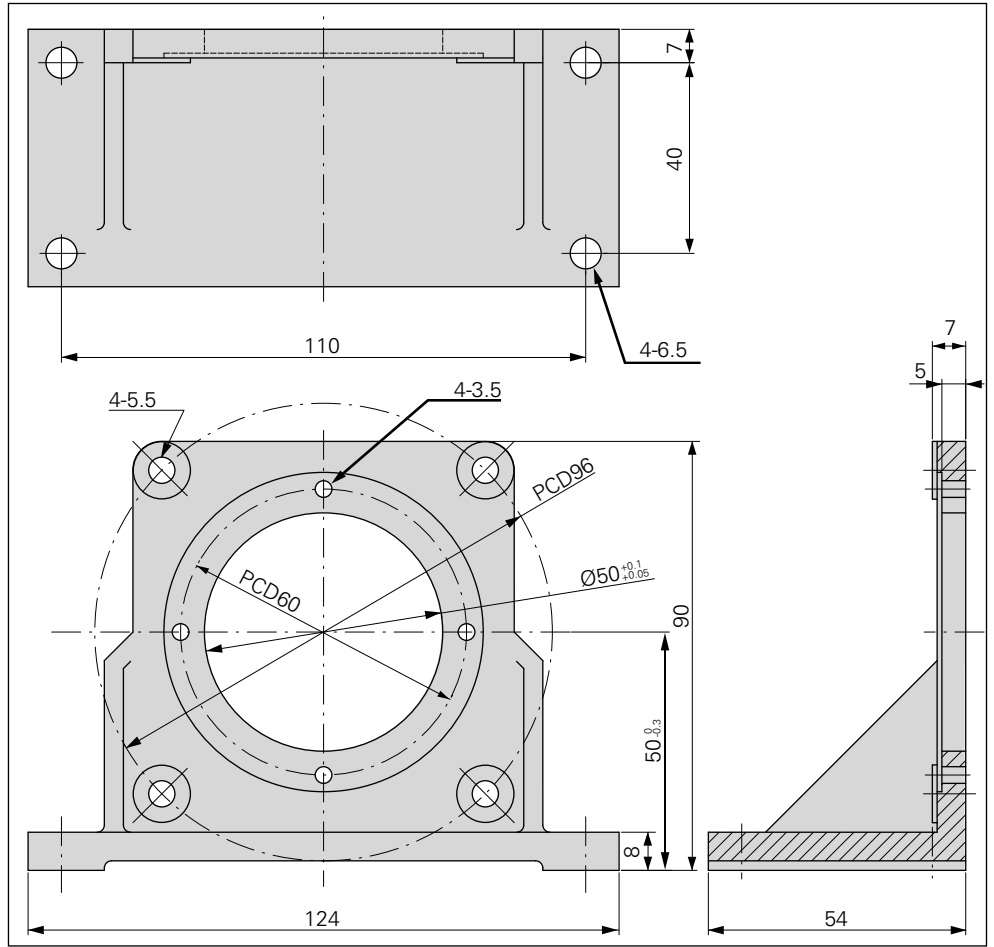
**Mounting flange for ROD 600 series**  
ID 728 587-01



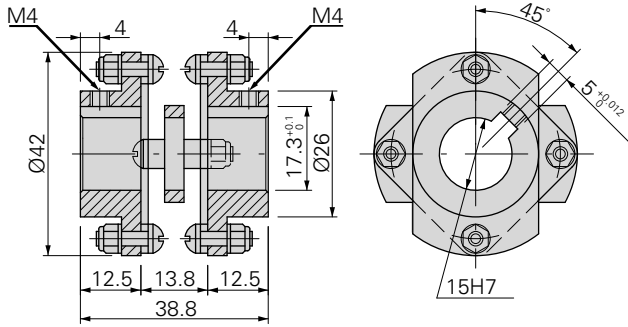
**Mounting flange for ROD 600 series**  
ID 728 587-02



**Mounting bracket for ROD 600 series**  
ID 728 587-03

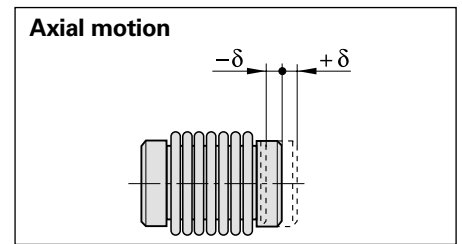
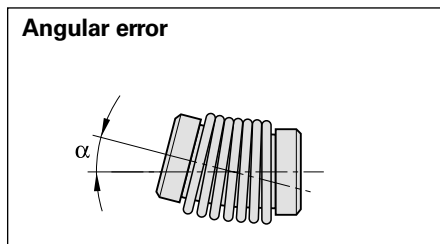
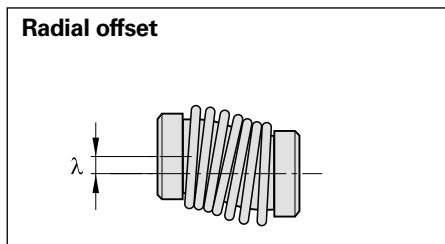


**Rotor coupling for ROD 600 series**  
ID 731 374-01



	for ROD 600 series
<b>Hub bore</b>	15/15 mm
<b>Kinematic transfer error*</b>	± 12"
<b>Torsional rigidity</b>	1685 $\frac{\text{Nm}}{\text{rad}}$
<b>Max. torque</b>	3.92 Nm
<b>Max. radial offset <math>\lambda</math></b>	$\leq 0.3$ mm
<b>Max. angular error <math>\alpha</math></b>	$\leq 1.5^\circ$
<b>Max. axial motion <math>\delta</math></b>	$\leq 1$ mm
<b>Moment of inertia (approx.)</b>	$1.5 \cdot 10^{-5} \text{ kgm}^2$
<b>Permissible speed</b>	20000 $\text{min}^{-1}$
<b>Weight</b>	65 g

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




## Connecting Elements and Cables

### Connecting Cables

Cable diameter 6.5 mm		
Connector	Cable Specification	
10-pin	4x 2x 0.18 mm <sup>2</sup>	736 060-01 (1m) 736 060-03 (3m) 736 060-05 (5m)
17-pin	4x 2x 0.18 mm <sup>2</sup>	736 061-01 (1m) 736 061-03 (3m) 736 061-05 (5m)


# Pin Layout

□ TTL - C / □ HTL - C

10-pin RM15WTRZ-10P(71) flange socket			17-pin MS3102B-20-29P flange socket									
	Power supply		Incremental signals							Other signals		
10-pin RM15WTRZ-10P(71) flange socket	1	2	10	3	4	5	6	7	8	/	9	/
17-pin MS3102B-20-29P flange socket	H	K	T	A	N	C	R	B	P	M	/	D/E/F/G/J/L/S
	U <sub>P</sub>	0V	FG	U <sub>a1</sub>	$\overline{U}_{a1}$	U <sub>a2</sub>	$\overline{U}_{a2}$	U <sub>a0</sub>	$\overline{U}_{a0}$	0V	Vacant	Vacant
	White	Black		Red	Pink	Olive	Blue	Yellow	Orange			

Cable shield connected to housing; U<sub>P</sub> = power supply

□ HTLs- C / Open Collectors

10-pin RM15WTRZ-10P(71) flange socket			17-pin MS3102B-20-29P flange socket									
	Power supply		Incremental signals							Other signals		
10-pin RM15WTRZ-10P(71) flange socket	1	2	10	3	4	5	6	7	8	/	9	/
17-pin MS3102B-20-29P flange socket	H	K	T	A	N	C	R	B	P	M	/	D/E/F/G/J/L/S
	U <sub>P</sub>	0V	FG	U <sub>a1</sub>	0V	U <sub>a2</sub>	0V	U <sub>a0</sub>	0V	0V	Vacant	Vacant
	White	Black		Red	Pink	Olive	Blue	Yellow	Orange			

Cable shield connected to housing; U<sub>P</sub> = power supply

# HEIDENHAIN

<http://www.heidenhain.co.jp>

HEIDENHAIN K.K.

Hulic Kojimachi Bldg., 9F  
3-2 Kojimachi, Chiyoda-ku,  
Tokyo 102-0083 Japan

+81 (0)3 3234 7781

+81 (0)3 3262 2539