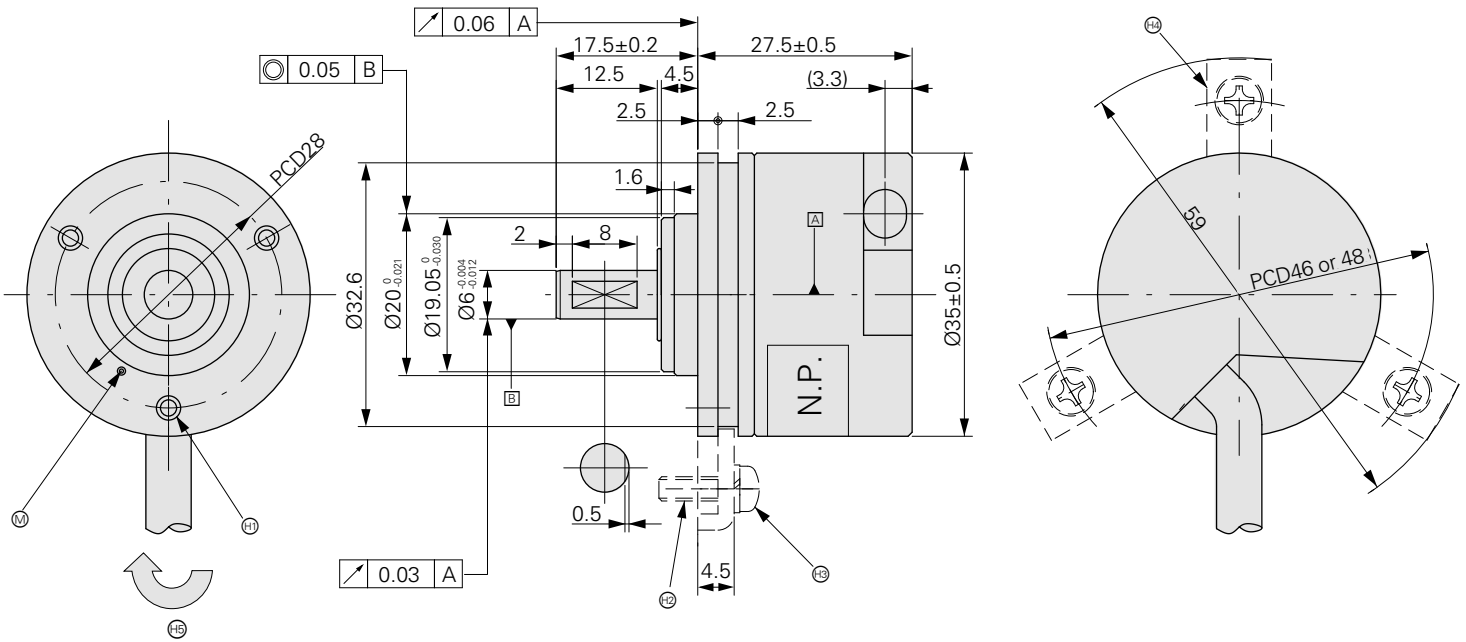


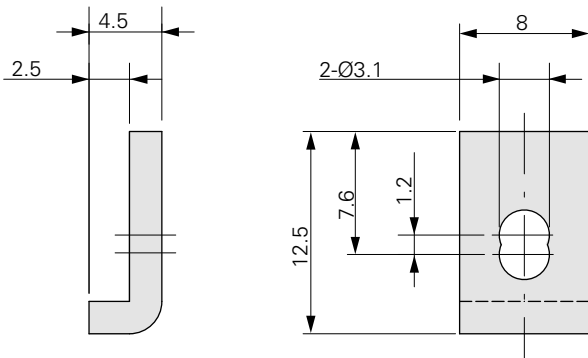
ROD 1000 Series

Incremental Rotary Encoder for Separate Rotor Coupling

- Outer Diameter 35 mm
- Length 27.5 mm
- Shaft Diameter 6.0 mm



Fixing clamps (Option) ID 682 096-01 (3 per encoder)





Dimensions in mm



Tolerancing ISO 8015

- Ⓜ = Measuring point for operating temperature
- Ⓜ = 3-M3, Depth 6, Equally Spaced
- Ⓜ = 3-M3, Depth 6
- Ⓜ = Screws M3x10, SW, 3pcs
- Ⓜ = Fixing clamps (Option)
- Ⓜ = Direction of shaft rotation for output signals as per the interface description

	ROD 1020	ROD 1030	ROD 1090	
Incremental signals	 TTL – C ¹⁾	 HTLs ²⁾ – C ¹⁾	Open Collectors	
Output pulse* (Accuracy Class)	100 ^(I) 500 ^(I) 600^(I) 1000^(I) 1024^(I) 1800 ^(I) 2000^(III) 2048 ^(III) 2500^(III) 4096 ^(III) 8192 ^(IV)			
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
System accuracy	Accuracy Class I : ±1/10 SP , Accuracy Class II : ±1/5 SP , Accuracy Class III: ±2/5 SP , Accuracy Class IV: ±4/5 SP			
Power supply	5V ± 10%	10.8V to 26.4V	5V ± 10%	10.8V to 26.4V
Current consumption without load	≤ 70 mA	≤ 70 mA	≤ 70 mA	≤ 70 mA
Output current	± 10 mA	≤ 40 mA	≤ 40 mA	≤ 40 mA
Electrical connection	Cable 1 m , 3 m, 5 m, 10 m without coupling			
Shaft	Solid shaft D = 6 mm			
Mech. permissible speed n	≤ 6000 min ⁻¹			
Starting torque (at 20°C)	≤ 0.005 Nm			
Moment of inertia of rotor	0.4 · 10 ⁻⁶ kgm ²			
Shaft load	Axial : 10 N Radial: 20 N			
Vibration 25 to 2000 Hz	≤ 100 m/s ² (JIS C 60068-2-6, EN 60 068-2-6)			
Shock 6 ms	≤ 1000 m/s ² (JIS C 60068-2-27, EN 60 068-2-27)			
Max. operating temp. (Ambient Temperature)	90°C (85°C)			
Min. operating temp.	<i>For rigid configuration</i> : –20°C <i>For frequent flexing</i> : –10°C			
Protection EN 60 529	IP64 (IP66 when shaft is stationary)			
Mass	Approx. 0.07 kg (without cables)			

Bold : preferred versions

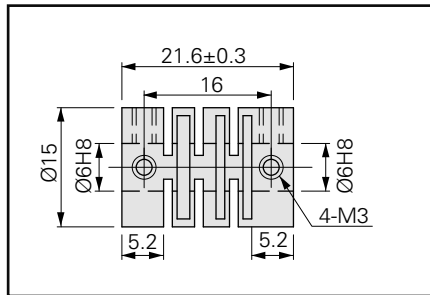
* Please select when ordering.

¹⁾ Bypass capacitor is connected to FG.

²⁾ Without inverse signal

Rotor coupling

ID 731 228-01



	Coupling
Hub bore	6/6 mm
Torsional rigidity	73 $\frac{\text{Nm}}{\text{rad}}$
Max. torque	0.8 Nm
Max. radial offset λ	≤ 0.5 mm
Max. angular error α	$\leq 6^\circ$
Max. axial offset δ	≤ 0.4 mm
Moment of inertia (approx.)	$1.2 \cdot 10^{-7}$ kgm ²
Permissible speed	20000 min ⁻¹
Torque for locking screws (approx.)	0.25 Nm
Mass	3.9 g

Pin Layout

□ TTL-C

	Power supply		FG	Incremental signals					
	U_P	0V		U_{a1}	$\overline{U_{a1}}$	U_{a2}	$\overline{U_{a2}}$	U_{a0}	$\overline{U_{a0}}$
	White	Black		Red	Pink	Olive	Blue	Yellow	Orange

U_P = power supply

¹⁾ Only ERN1123. Cable shield connected to housing

□ HTLs-C / Open Collectors

	Power supply		FG	Incremental signals					
	U_P	0V		U_{a1}	0V	U_{a2}	0V	U_{a0}	0V
	White	Black		Red	Pink	Olive	Blue	Yellow	Orange

Cable shield connected to housing; U_P = power supply

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<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