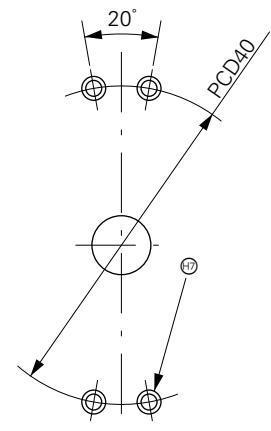
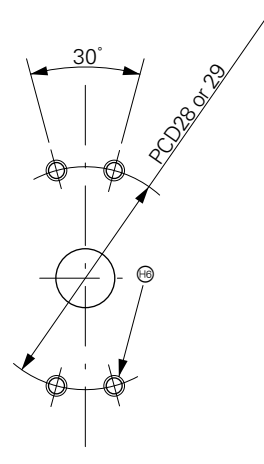
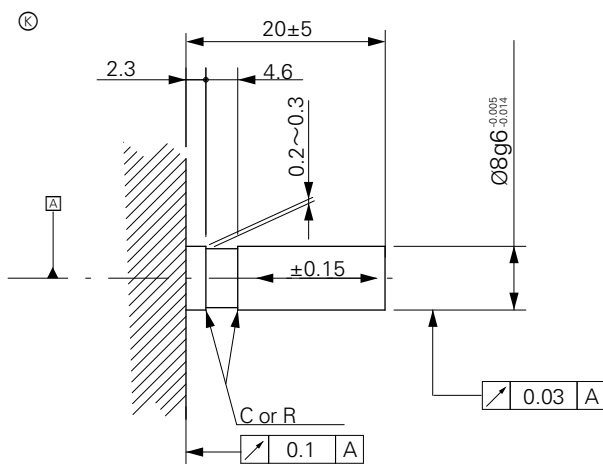
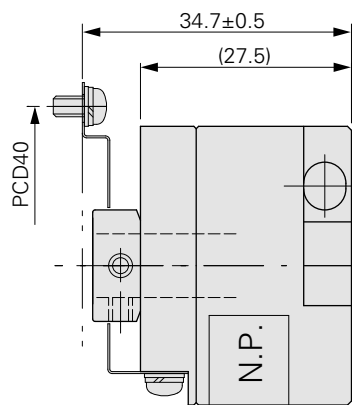
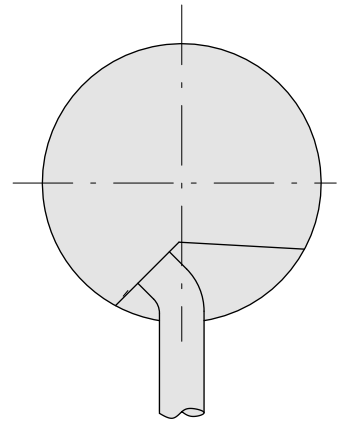
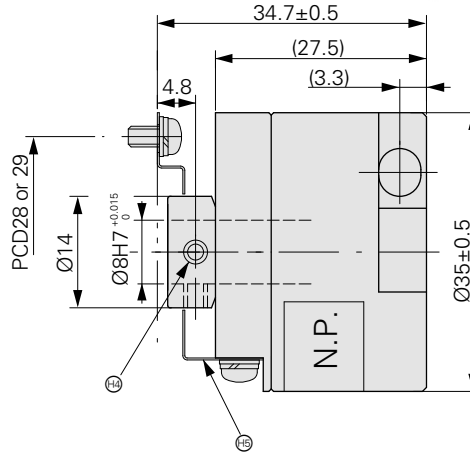
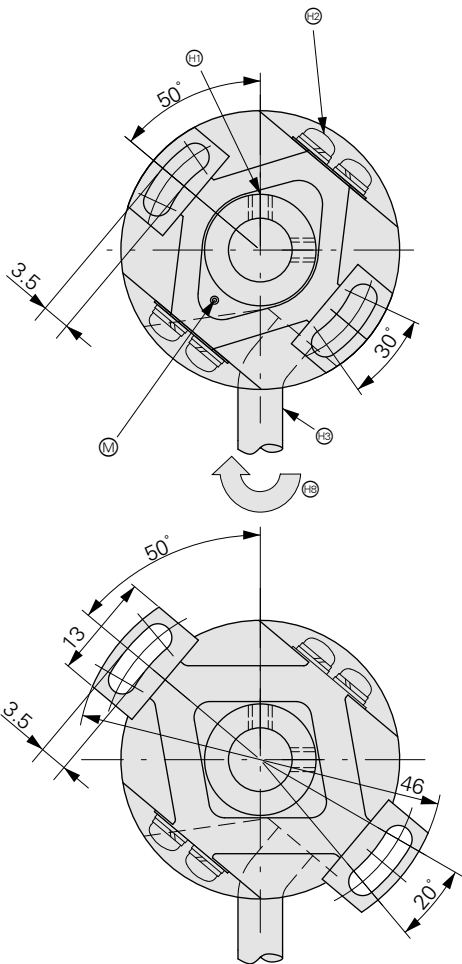


# ERN 1100 Series

## Incremental Rotary Encoder with Mounted Stator Coupling

- Outer Diameter 35 mm
- Length 34.7 mm
- Blind Hollow Shaft Diameter 8.0 mm



Dimensions in mm






Tolerancing ISO 8015

- Ⓢ = Required mating dimensions
- Ⓜ = Measuring point for operating temperature
- Ⓟ = Reference pulse output  $\pm 10^\circ$
- Ⓠ = Screw 4-M2.6x5, SW,W
- Ⓡ = Cable Ø5.5
- Ⓢ = Hexagon socket set screws 2-M3 SW1.5

- Ⓣ = Coupling
- Ⓤ = Threaded mounting hole 4-M2.6
- Ⓥ = Threaded mounting hole 4-M3
- Ⓦ = Direction of shaft rotation for output signals as per the interface description

Coupling for PCD28 and 29 is not mounted on the encoder

	ERN 1120	ERN 1123	ERN 1130	ERN 1190	
<b>Incremental signals</b>	 TTL - C <sup>1)</sup>	 TTL - C <sup>1)</sup>	 HTLs <sup>2)</sup> - C <sup>1)</sup>	Open Collectors	
Output pulse* (Accuracy Class)	500 <sup>(I)</sup> <b>600<sup>(I)</sup></b> <b>1000<sup>(I)</sup></b> <b>1024<sup>(I)</sup></b> <b>2000<sup>(III)</sup></b> 2048 <sup>(III)</sup> <b>2500<sup>(III)</sup></b> 5000 <sup>(III)</sup>				
Commutation signal *	–	2, 3, 4 P/R	–	–	
Scanning frequency	≤ 300 kHz	≤ 300 kHz	≤ 200 kHz	≤ 200 kHz	≤ 200 kHz
Edge separation <i>a</i>	≥ 0.41 μs	≥ 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 , Accuracy Class III: ±2/5 SP , Accuracy Class IV: ±4/5 SP				
<b>Power supply</b>	5V ± 10%	5V ± 10%	10.8V to 26.4V	5V ± 10%	10.8V to 26.4V
<b>Current consumption</b> without load	≤ 70 mA	≤ 70 mA	≤ 70 mA	≤ 70 mA	≤ 70 mA
Output current	± 10 mA	± 10 mA	≤ 40 mA	≤ 40 mA	≤ 40 mA
Electrical connection	Cable <b>1 m</b> , 3 m, 5 m without coupling				
<b>Shaft</b>	Blind hollow shaft D = 8 mm				
<b>Mech. permissible speed n</b>	≤ 6000 min <sup>-1</sup>				
<b>Starting torque</b> (at 20°C)	≤ 0.005 Nm				
<b>Moment of inertia of rotor</b>	0.5 · 10 <sup>-6</sup> kgm <sup>2</sup>				
<b>Permissible axial motion of measured shaft</b>	± 0.15 mm				
<b>Vibration</b> 25 to 2000 Hz	≤ 100 m/s <sup>2</sup> (JIS C 60068-2-6, EN 60 068-2-6)				
<b>Shock</b> 6 ms	≤ 1000 m/s <sup>2</sup> (JIS C 60068-2-27, EN 60 068-2-27)				
<b>Max. operating temp. (Ambient Temperature)</b>	90°C (85°C)				
<b>Min. operating temp.</b>	<i>For rigid configuration</i> : -20°C <i>For frequent flexing</i> : -10°C				
<b>Protection</b> EN 60 529	IP20 (IP66 when shaft is stationary)				
<b>Mass</b>	Approx. 0.07 kg (without cables)				

**Bold** : preferred versions

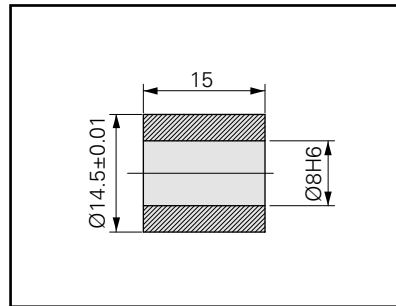
\* Please select when ordering.

1) Bypass capacitor is connected to FG.

2) Without inverse signal

# Central Adapter

Central Adapter for mounting couplings  
ID 682 143-01



## Pin Layout

□ TTL-C

	Power supply		FG	Incremental signals						Other signals					
	$U_P$	0V		$U_{a1}$	$\overline{U}_{a1}$	$U_{a2}$	$\overline{U}_{a2}$	$U_{a0}$	$\overline{U}_{a0}$	$U^{1)}$	$\overline{U}^{1)}$	$V^{1)}$	$\overline{V}^{1)}$	$W^{1)}$	$\overline{W}^{1)}$
	White	Black		Red	Pink	Olive	Blue	Yellow	Orange	Beige	Brown	Green	Gray	Light Blue	Violet

$U_P$  = power supply

<sup>1)</sup> 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

# HEIDENHAIN

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