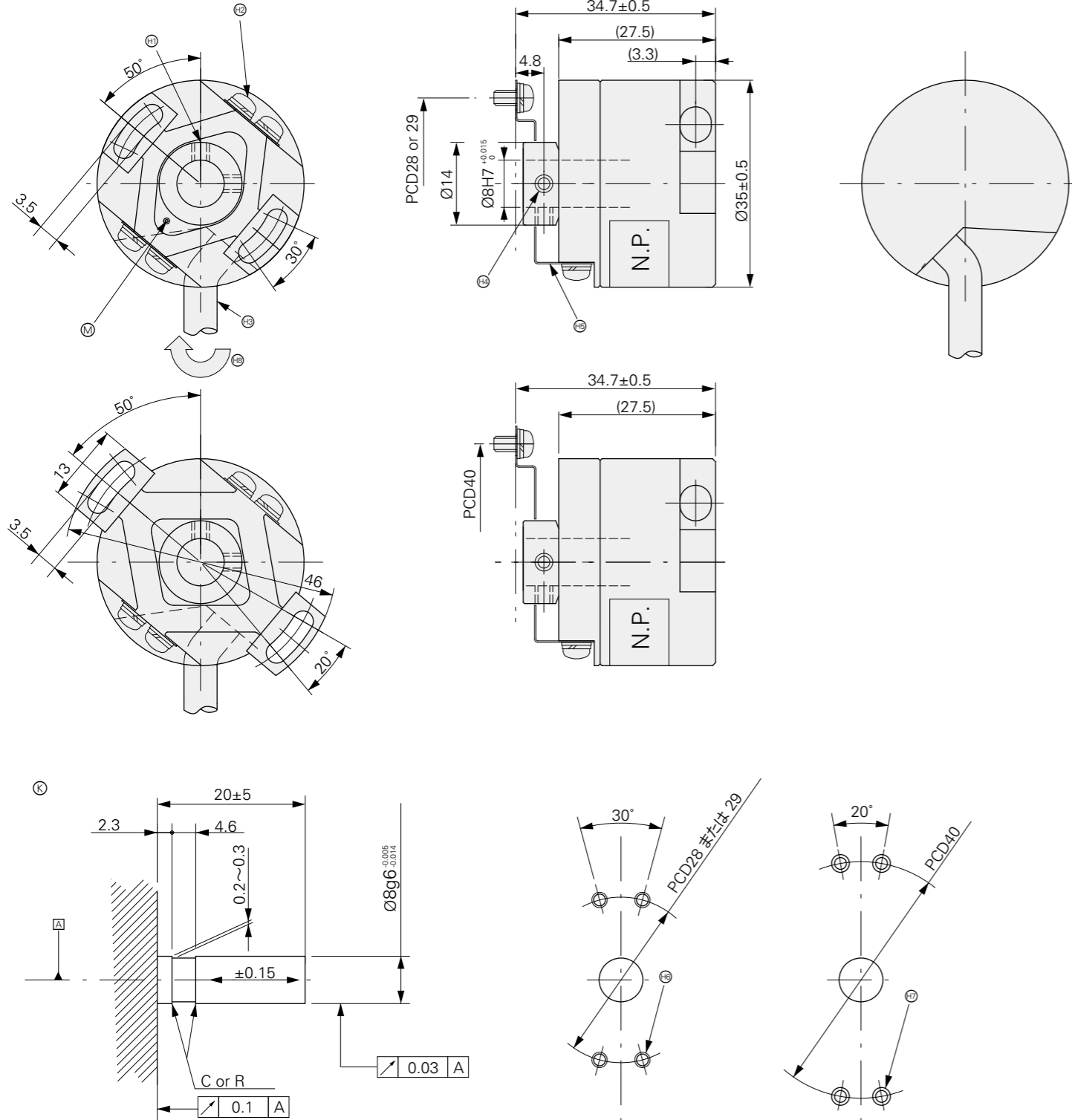


ERN 1100 Series

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 $\varnothing 5.5$
- ⊙ = 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
Incremental signals	\square TTL - C ¹⁾	\square TTL - C ¹⁾	\square HTLS ²⁾ - C ¹⁾
Output pulse*	500 600 1000 1024 2000 2048 2500 5000		
Commutation signal *	-	2, 3, 4 P/R	-
Scanning frequency	≤ 300 kHz	≤ 300 kHz	≤ 200 kHz
Edge separation <i>a</i>	≥ 0.41 μ s	≥ 0.41 μ s	≥ 0.62 μ s
System accuracy	≤ 1500 P/R: ± 0.1 T 1501 to 3000 P/R: ± 0.2 T 3001 to 6000 P/R: ± 0.4 T ≥ 6001 P/R: ± 0.8 T T = $360^\circ / N$; N: Output pulse (P/R) of U _{a1} or U _{a2} signal		
Power supply	5V $\pm 10\%$	5V $\pm 10\%$	10.8V to 26.4V
Current consumption without load	≤ 70 mA	≤ 70 mA	≤ 70 mA
Output current	± 20 mA	± 20 mA	≤ 40 mA
Electrical connection	Cable 1 m , 3 m, 5 m without coupling		
Shaft	Blind hollow shaft D = 8 mm		
Mech. permissible speed n	≤ 6000 min ⁻¹		
Starting torque (at 20°C)	≤ 0.005 Nm		
Moment of inertia of rotor	$0.5 \cdot 10^{-6}$ kgm ²		
Permissible axial motion of measured shaft	± 0.15 mm		
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.	For rigid configuration : -20°C For frequent flexing : -10°C		
Protection EN 60 529	IP20 (IP66 when shaft is stationary)		
Mass	Approx. 0.07 kg (without cables)		
ID number	1386839-xx	1386841-xx	1386849-xx

Bold : preferred versions

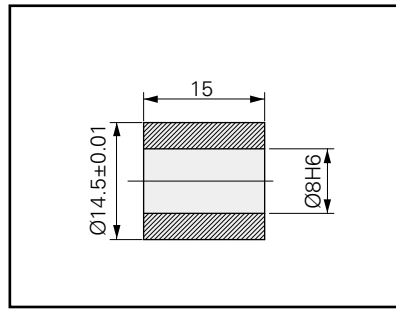
* Please select when ordering.

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

U_P = power supply

¹⁾ Only ERN1123. Cable shield connected to housing

HTLs – C

	Power supply			Incremental signals					
	U_P	0V	FG	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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