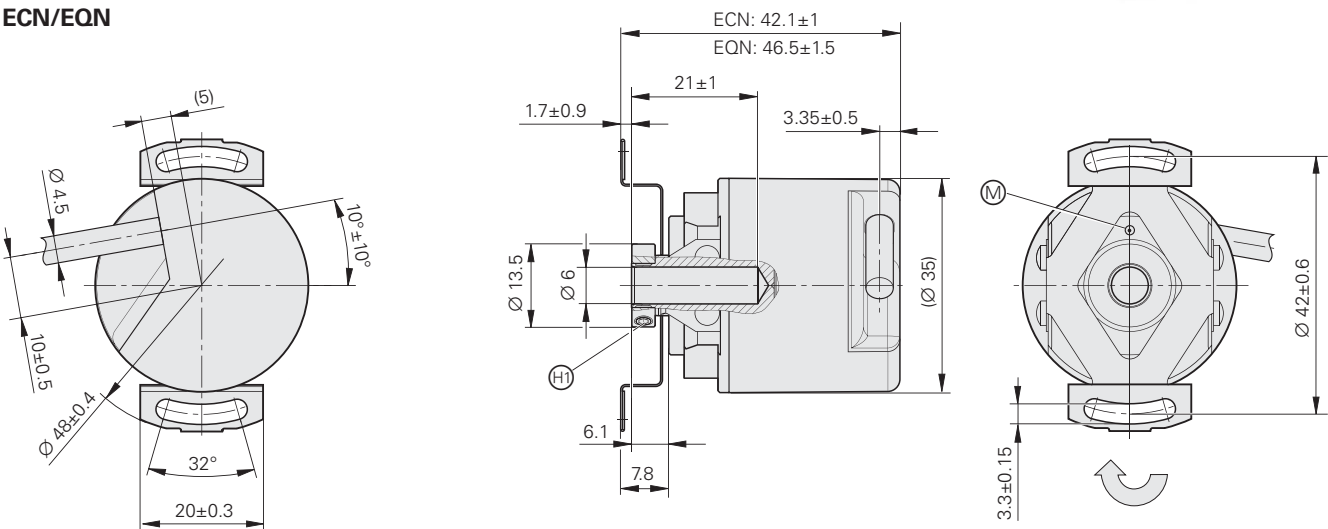


ECN, EQN, ERN 1000 Series

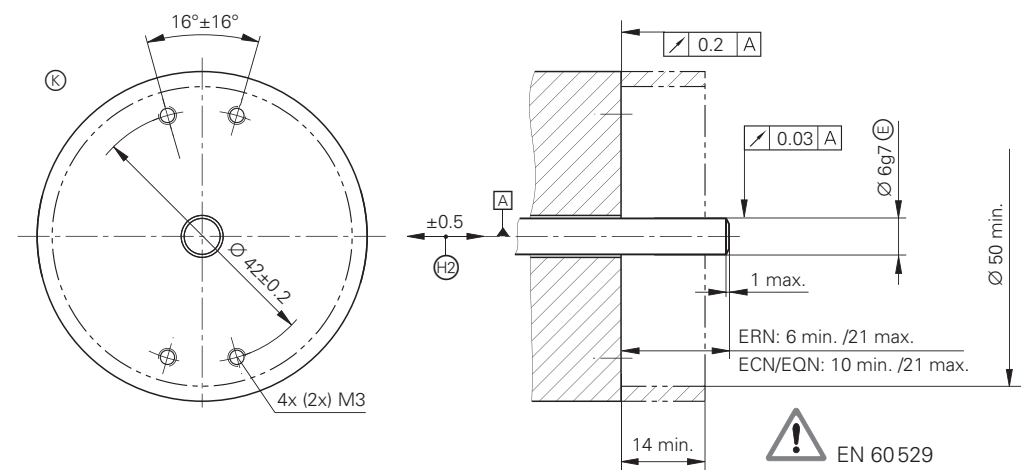
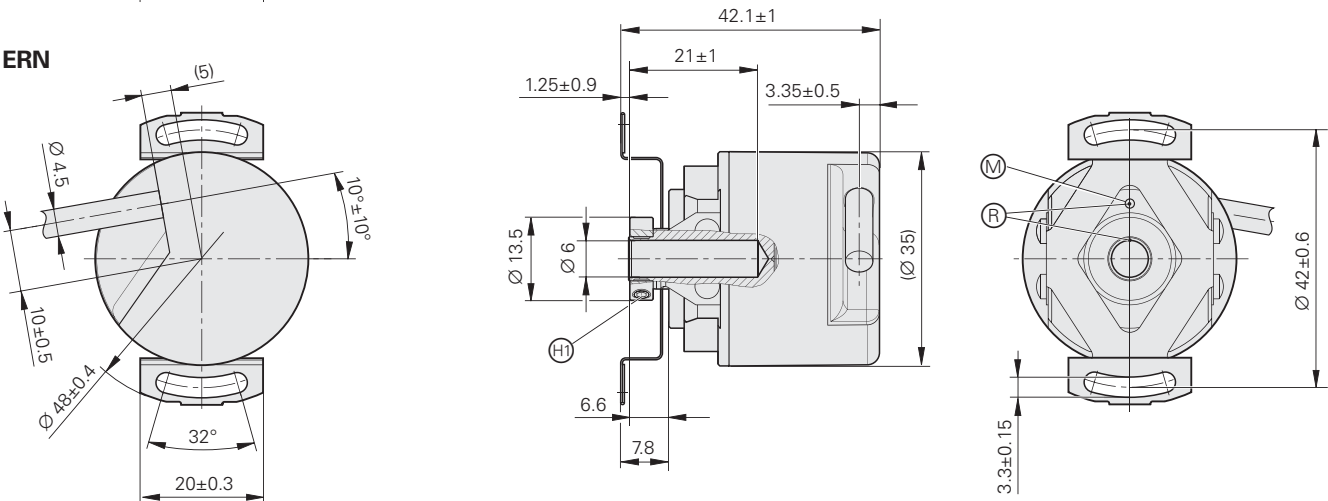
- Rotary encoders with mounted stator coupling
- Compact dimensions
- Blind hollow shaft $\varnothing 6$ mm
- Functional Safety for ECN 1023/EQN 1035 upon request



ECN/EQN



ERN



Dimensions in mm



Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ± 0.2 mm

- ▣ = Bearing of mating shaft
- Ⓚ = Required mating dimensions
- Ⓜ = Measuring point for operating temperature
- Ⓡ = Reference mark position $\pm 20^\circ$
- Ⓢ = 2 screws in clamping ring. Tightening torque 0.6 ± 0.1 Nm, width across flats 1.5
- Ⓣ = Compensation of mounting tolerances and thermal expansion, no dynamic motion
- ↻ = Direction of shaft rotation for output signals as per the interface description



Absolute
Singleturn
ECN 1023

ECN 1013

Absolute position values	EnDat 2.2	
Ordering designation	EnDat 22	EnDat 01
Positions per revolution	8388608 (23 bits)	8192 (13 bits)
Revolutions	–	
Code	Pure binary	
Elec. permissible speed Deviations ¹⁾	12000 min ⁻¹ (for continuous position value)	4000 min ⁻¹ /12000 min ⁻¹ ± 1 LSB/± 16 LSB
Calculation time t_{cal}	≤ 5 μs	
Incremental signals	–	~ 1 V _{PP} ²⁾
Line count	–	512
Cutoff frequency –3 dB	–	≥ 190 kHz
System accuracy	± 60"	
Power supply Current consumption without load	3.6 V to 14 V ≤ 110 mA ³⁾	
Electrical connection	Cable 1 m, with M12 coupling	Cable 1 m, with M23 coupling
Shaft	Blind hollow shaft Ø 6 mm	
Mech. permissible speed n	12000 min ⁻¹	
Starting torque	≤ 0.001 Nm (at 20 °C)	
Moment of inertia of rotor	Approx. $0.5 \cdot 10^{-6}$ kgm ²	
Permissible axial motion of measured shaft	± 0.5 mm	
Vibration 55 to 2000 Hz Shock 6 ms	≤ 100 m/s ² (EN 60068-2-6) ≤ 1000 m/s ² (EN 60068-2-27)	
Max. operating temp.	100 °C	
Min. operating temp.	For fixed cable: –30 °C For frequent flexing: –10 °C	
Protection EN 60529	IP 64	
Weight	Approx. 0.1 kg	

¹⁾ Velocity-dependent deviations between the absolute and incremental signals

²⁾ Restricted tolerances: Signal amplitude 0.80 to 1.2 V_{PP}

³⁾ Depends on the power supply; see *General Electrical Information*

