

Hall Effect Single-Turn Rotary Encoder with Incremental Output
Series ERCI

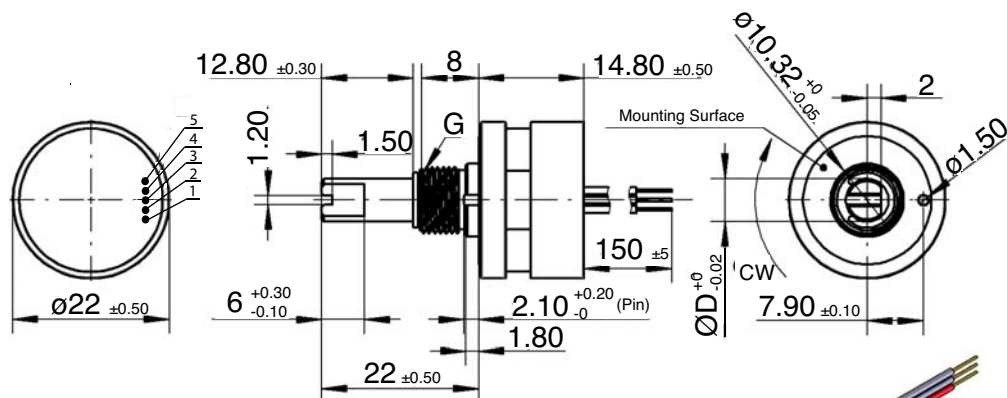

- A,B,Z Channels
- From 2 up to 1024 pulses per revolution
- TTL or Open Collector
- Shock and Vibration Proof
- Alternative to Optical Encoders

A magnet rotates over the sensor IC with 4 Hall sensors for angular determination and converts the magnetic field into a measurable Hall voltage. Sine and cosine voltages are generated to determine the angles. Two separate sine/digital converters provide A,B,Z incremental signals

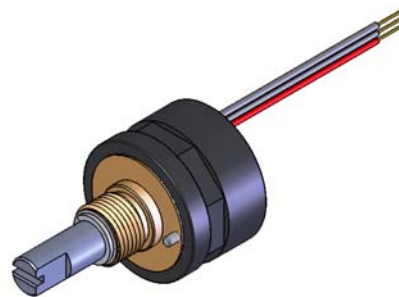
Electrical Data		
Output signal	TTL	Open Collector
Supply voltage	5 VDC ±10%	5VDC ±10% or 9..30 VDC
Pulses	Any pulse from 2 to128, or 256, 512, 1024	
Resolution	12 bit (4096 steps)	
Limit frequency	500 kHz	
Power consumption (no load)	≤ 30 mA	
Insulation voltage	1000 VAC @ 50 Hz, 1 min.	
Insulation resistance	2 Mohm @ 500 VDC, 1 min.	
Mechanical and Environmental Data		
Maximum radial load	1 N	
Lifetime		
Standard sleeve bearing	> 10 mio. shaft revolutions*	
With optional polymer bearing option	> 15 mio. shaft revolutions*	
	* at +20°/c, 1 N radial load, without optional sealing ring	
Bearing	Sleeve (Polymer bearing optional)	
Maximum rotational speed		
Standard	800 rpm	
With Polymer Bearing	3000 rpm	
Starting torque @ ambient temperature:	0.5 ~ 1Ncm	
Operating temperature	-40°C..+85°C	
Storage temperature	-40°C..+90°C	
Protection grade (electronics / cable)	IP65 (IEC 60529)	
Vibration (IEC 68-2-6, Test Fc)	±1.5mm / 20 g / 10..2000 Hz, 16 frequency cycles (3x4 h)	
Shock (IEC 68-2-27, Test Ea)	50 g / 11 ms / half sine (3x6 shocks)	
Material		
Standard Bearing	Sleeve - Brass	
Polymer Bearing (optional)	Polymer	
Housing	Nylon 66 Glass Filled Reinforced	
Shaft	Stainless Steel	
Cable	5 Core Flat Cable 0.15m (AWG28)	

Dimensions (mm)

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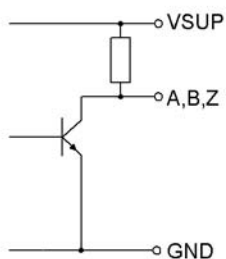
Cable assignment	
VSUP (red)	1
Z	2
B	3
A	4
GND	5



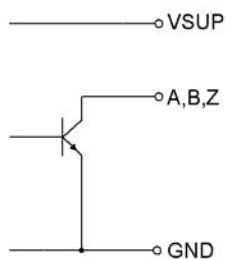
Bushing	Dimension D	Dimension G
B1	6mm	M10
B3	1/4"	3/8 - 32

Internal connection

TTL:



Open Collector:



Signal edges

