

TECHNICAL DATASHEET
Modular hollow shaft absolute encoder


- Modular kit bearingless absolute encoder
- Best company for low voltage DC motor
- Holistic sensing technology, robust mounting
- Communication interface : BISS-C , SSI , SPI
- Single-turn up to 18bit, battery Multi-turn system available
- Operating temperature -40°C ... +85°C
- AGV, Medical, Collaborative robot



Mechanical Specification

Out-diameter	64 mm
Bore size	12 mm / 15 mm / 17 mm / 20 mm / 25 mm Other size on request
Mounting	PCB : 4 x 2.2
IP Rating (EN 60529)	IP00
Allowable axial runout	±0,1 mm
Allowable radial runout	±0,1 mm
Nominal airgap	0.6 mm
Max speed	3.500 RPM. Higher speed on request
Inertia	ca. <i>tbd</i> x 10 ⁻⁶ kgm ²
Vibration (DIN EN 60068-2-6)	200 m/s ² (10 ... 2000 Hz)
Shock (DIN EN 60068-2-27)	2000 m/s ² (6 ms)
Operating temperature	-40 °C ... +85 °C (w/o battery)
Storage temperature	-40 °C ... +100 °C
Humidity	98% non-condensing
Weight	approx. <i>tbd</i> g
Cable exit	10 pole JST PCB connector: SM10B-SHLS-TF

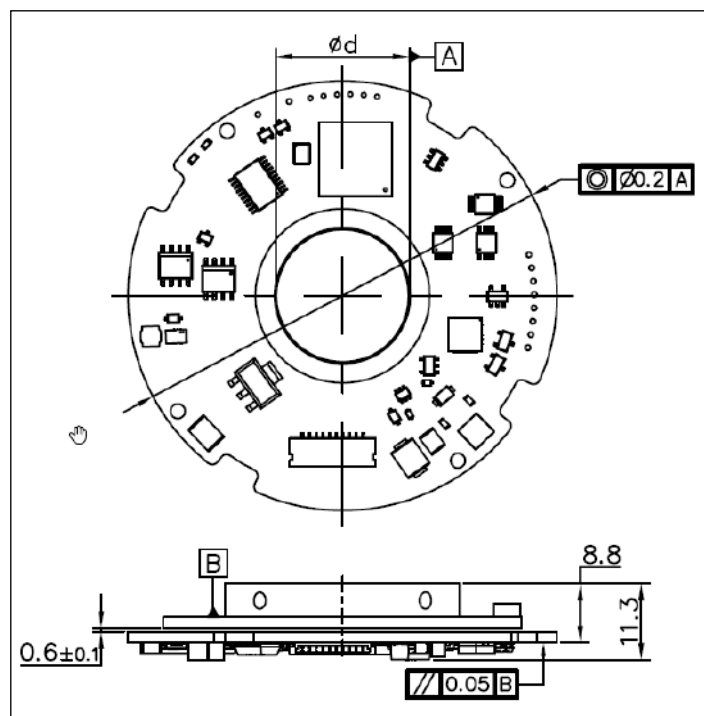
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Electrical Specification

Supply voltage	DC 4.75 ... 5.5 V
Battery voltage	DC 2.2 ... 3.6 V
Multi-Turn	TMR sensor + Battery
Standby battery current consumption (power-off)	6 μ A
Operating current consumption (w/o load)	150 mA
Single-turn resolution	Max 18 Bit
Multi-turn resolution	Max 16 Bit
Coding	BISS-C : Binary , SSI/SPI : GRAY
Communication protocol	BiSS-C (sensor mode only), SPI, SSI
Output voltage	RS422 compatible
Max communication frequency	10 MHz
Accuracy ¹	$\pm 55''$
Repeatability ¹	$\pm 15''$

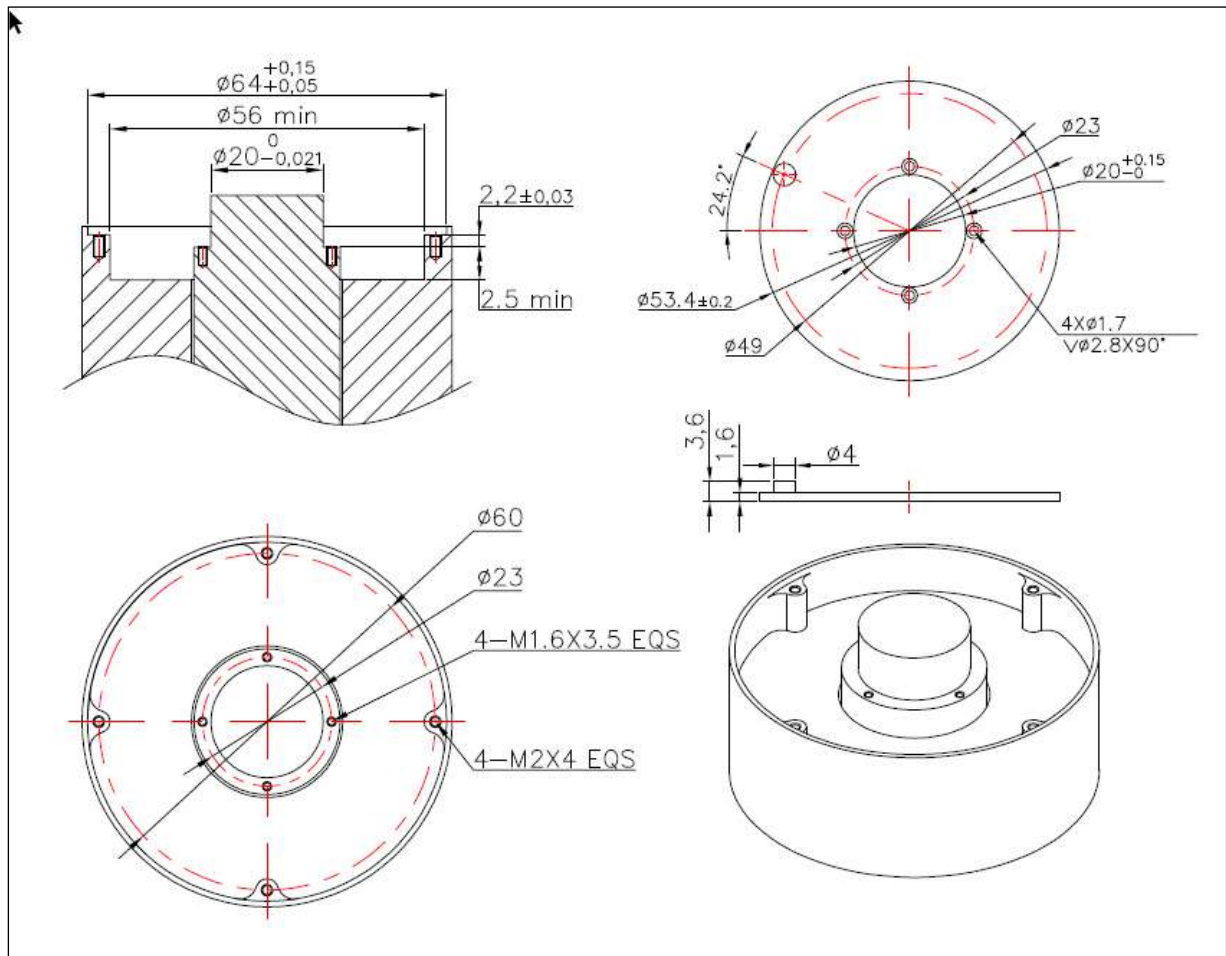
¹ Test condition : $24 \pm 2^\circ\text{C}$, RH $30 \pm 10\%$, airgap = $0.6 \text{ mm} \pm 0.01 \text{ mm}$, rotor and stator misalignment < 0.01 mm.

Overall Dimension



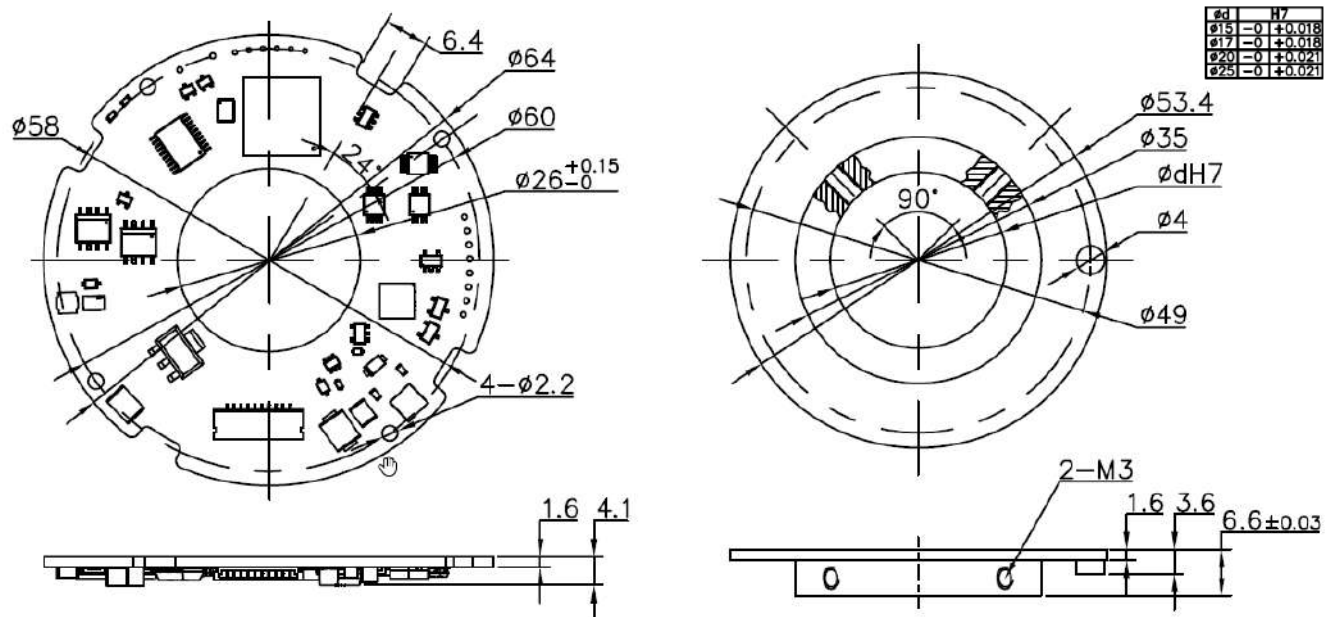
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Recommend Flange Design



Stator

Rotor



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Wiring

Pin	Color	BiSS	SSI	SPI
1	Red	UIN	UIN	UIN
2	Black	GND ¹	GND ¹	GND ¹
3	Blue	CLK+	CLK+	CLK
4	Blue/Black	CLK-	CLK-	N.C.
5	Green	DAT+	DAT+	MISO
6	Green/Black	DAT-	DAT-	N.C.
7	Violet	Preset ²	Preset ²	/CS
8	Violet/Black	Direction ³	Direction ³	Direction ³
9	Red/White	Battery+ ⁴	Battery+ ⁴	Battery+ ⁴
10	Black/White	Battery- ⁴	Battery- ⁴	Battery- ⁴

¹ GND and PE connects together via thru mounting hole

² Preset pin connect to UIN for 1 seconds for preset, only valid at booting

³ Direction pin connects to UIN to reverse counting direction, only valid at booting

⁴ Battery only available in MT

Option

Type	Resolution*	Voltage	Mechanical*	Interface	Connector*
AM64	0017 ST 17BIT 1617 ST 17bit+ MT 16bit 0018 ST 18BIT 1618 ST 18bit+ MT16bit *other resolution on request	A DC5V	M.0G15 15mm rear, set-screw M.0G17 17mm rear, set-screw M.0G20 20mm rear, set-screw M.0G25 25mm rear, set-screw M.0I20 20mm Axial screw *Other size on request	BE BISS-C SG SSI GRAY BP SPI	0 PCB connector

Cable ordering code:

117296-030: 0.3m twisted in pair , for multi-turn use, including battery

117297-030: 0.3m twisted in pair , for single-turn use


INTTERTECH RIO

CONTROLE DE PROCESSOS E INSTRUMENTAÇÃO

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