Absolute Rotary Encoder GDS60---SGB User Manual (Gray code)

- A "photoelectric detection mode", with excellent impact and vibration resistance.
- Wide operating voltage, low current consumption.
- Clamping flange, servo flange or blind hollow shaft, the international standard structure.

★**Please totally read the following instruction first for proper use of encoder.**

Mechanical spec.		Electrical spec.	
Max. speed	6000 RPM	Power supply	10-30Vdc (5Vdc optional)
Shaft load	Axial 40N, radial 100N	Current consumption	< 50mA (24Vdc)no-load
impact	1000m/s²(6ms),about 100g	output	18-bit BISS-C
Anti-vibration	200m/s²(10-2000Hz) about 20g	resolution	1/262144FS
Allow axial jump	±1.5mm	IP	IP65 或 IP68
Allow radial jump	±0.2mm	accuracy	0.01°
structure	60mm outer diameter, solid shaft, or hollow shaft	Operating temp.	-40℃~100℃
Connection Type	6-core shielded cable or aviation connector	Storage temp.	-40℃~85℃

Reliable and patented

- Rugged bearing structure with safety lock design provides higher anti-vibration and anti-installation error
- IP68 protection grade and wide working temperature range -40℃...+85℃
- With permanent power-off memory function

Performance optimization

- High precision, data refresh rate of position data ≤4us
- High-resolution feedback via RS422
- The control period is short. Clock frequency up to 1MHz
- International standard SSI signal format

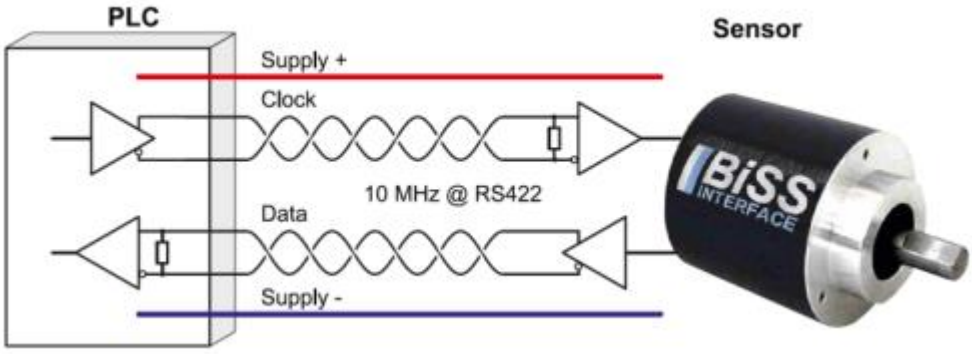
Output Interface: (Refer to product manual)

Wire	Signal
Brown	10-30Vdc or 5V
White	0V GND
Blue	DIR
Black	MID P
Green	CLOCK+
Yellow	CLOCK-
Gray	DATA+
Pink	DATA-

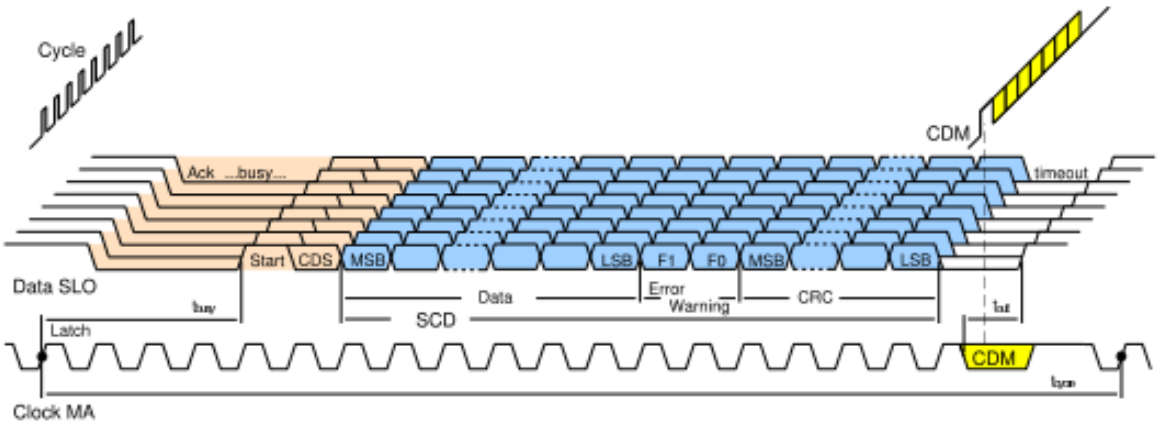
DIR --- rotation direction. When the core wire is low, top view of the shaft clockwise to incrGDSe data. When working power plus high, change of direction is counterclockwise to incrGDSe data;

MID P --- Zero point positioning. When the core wire with high level short contact , the current position data output is the zero point of the whole data ; When working properly, it should connected to 0V.

Clock/Data-- four- wire RS422 mode, ±5V, one pair of clock trigger, a pair of data output.



Sequence chart



Basic parameter

```
<Length>15</Length>
<CrcPoly>0x25</CrcPoly>
<InvCrc>0</InvCrc>
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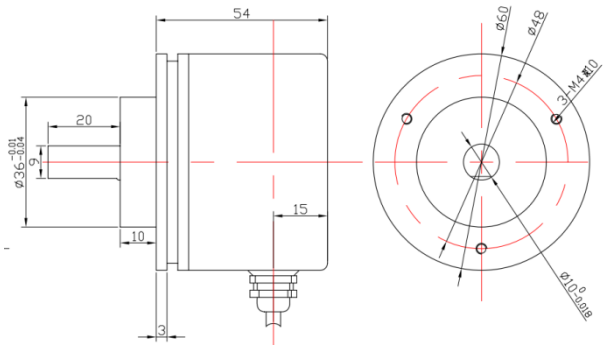
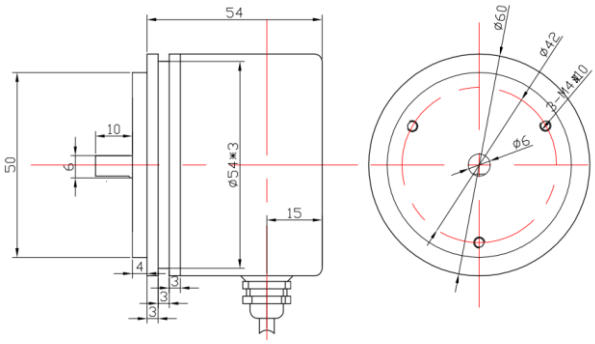
Installation dimensions (Unit: mm)

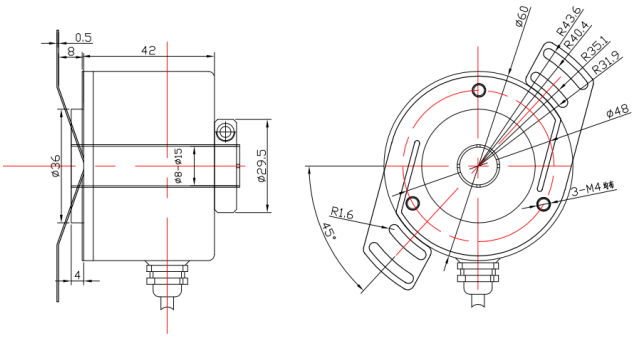
a. Clamping & synchro flange(default)



b. Synchro flange



C. Hollow shaft



Note:

Encoder is a precision instrument, do not knock, bump or drop encoders, especially in the shaft end, please gently, with care.

Guarantee encoder power supply in the range of 10 ~ 30Vdc and good isolation, to prevent large-scale activation of the electrical grid and the impact of the encoder.

In strong electromagnetic interference in the environment, to extend the signal lines should use the recommended special lines, such as right angle shielded cable.

Encoder signal lines should be done well grounded: close within two meters, the cable inside the shield should be grounded at both ends; greater distance, grounded metal enclosure encoder, the encoder comes with shielded cable shield unconnected, signal extension cable shielding receiving end single-grounded; if the signal cable longer or outdoor use, should signal cable sleeve metallic iron pipes and metal pipes grounded at its ends.

SSI signal line is band voltage, the signal should be used to prevent short-circuiting or short-circuited the power supply; prohibit hot plug, ensure that the cable is energized each wire on simultaneously. Encoder must be powered down no static soldering or connection, or connect the 0V line before welding; cable, do not pull the cable violently.

Encoder protection class IP65, waterproof to use, but the encoder shaft at the Do not flooded.

Encoder shaft and mechanical connections should use a dedicated flexible coupling.