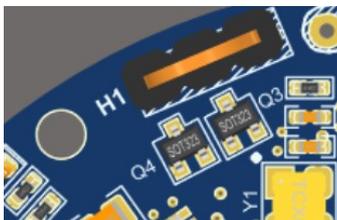


### Mode Switch



Encoder has Operation/Calibration mode that you can switch by metal jumper in the package. The default setting is Operation mode ( no jumper)

**Calibration Mode :** Encoder stops position value output. User can adjust airgap (0.6 ± 0.1mm) with the help of green LED indicator. The position value will reset to 0 automatically after airgap adjustment done.

**Operation Mode :** Encoder output position value continuously. User can adjust airgap dynamically with the help of green LED indicator. Position value will not reset to 0 in "Operation Mode".

User can choose either mode to carry out airgap adjusting.

### LED indicator



Mode	Color	Off	On	1Hz Blink	5Hz Blink
<b>Calibration</b>					
	<b>Green</b>	Power-off	Signal quality good	Bad signal	
<b>Operation</b>					
	<b>Green</b>	Power-off	Signal quality good	Bad signal	
	<b>Red</b>	Battery good	Battery error	Battery low voltage	MT count error

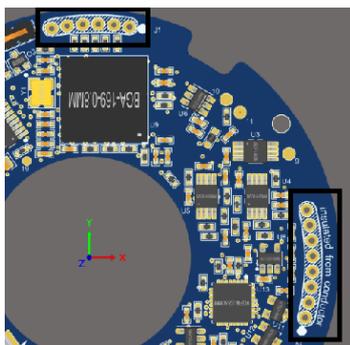
**Battery error:** Battery removed during power-off or no battery connected (only). MT value is missing.

**Battery low voltage:** Battery voltage < 2.1V, need to be replaced

**MT counter error:** Internal MT counter error.

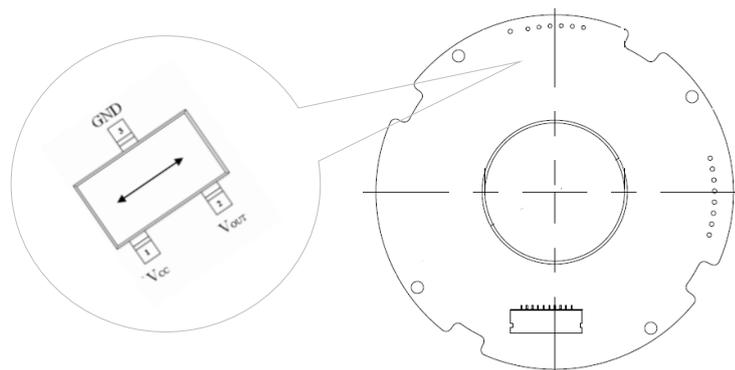
**Bad signal:** Airgap between rotor and stator need to be adjust .

### Isolation guidance



The area with white screen printing must be isolated from conductor in both side. The GND connects to PE via PCB mounting hole.

### Magnetic MT



Magnetic switches locate in above position. MT counter is safe when the external magnetic filed perpendicular to above direction. Rotating PCB direction can also avoid external magnetic problem.

### Wiring

	1	2	3	4	5	6	7	8	9	10
SSI	Vcc	GND	CLK+	CLK-	DAT+	DAT-	SET	DIR	BT+	BT-
BISS	Vcc	GND	CLK+	CLK-	DAT+	DAT-	SET	DIR	BT+	BT-
SPI	Vcc	GND	CLK	/	MISO	/	/CS	DIR	BT+	BT-

SET: connects to Vcc for 1s to reset position value to 0

DIR: connects to Vcc to reverse counting direction. Only available in first 1s booting

### BISS-C

#### Multi-Turn :

MSB

LSB

	MT	ST	ERR	WAR	CRC
Bits	16	18	1	1	6

#### Single-Turn :

MSB

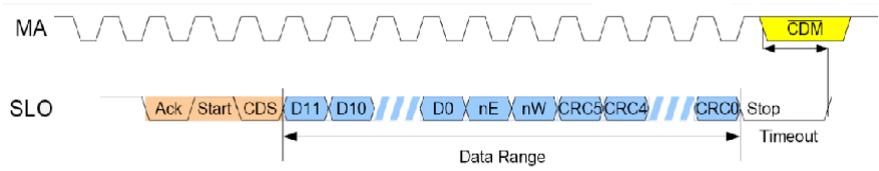
LSB

	ST	ERR	WAR	CRC
Bits	18	1	1	6

**ERR:** Battery error ,MT counter error, Bad signal quality will cause ERR. ERR only can be rest by repowering encoder. Low active

**WAR:** Operation temperature out of specification or battery voltage <2.1v can trigger WAR.WAR bit can be reset automatically after warning status disappear. Low active.

**SSI**



**Multi-Turn:**

MSB

LSB

	MT	ST	ERR	WAR
Bits	16	18	1	1

**Single-Turn:**

MSB

LSB

	ST	ERR	WAR
Bits	18	1	1

**ERR:** Battery error ,MT counter error, Bad signal quality will cause ERR. ERR only can be rest by repowering encoder. High active

**WAR:** Operation temperature out of specification or battery voltage <2.1v can trigger WAR.WAR bit can be reset automatically after warning status disappear. High active

