

## Magnetic Rotary Encoder

**CE58M Series**

Suitable for use under harsh conditions, such as oil and water mist, high shock and vibration

- Magnetic detecting method which can be used under oil-mist condition.
- Thin and hollow shaft type: Hollow shaft  $\phi 15$
- High resolution: 17bit/Revolution  
High Accuracy: Absolute angle accuracy  $\pm 0.044^\circ$
- Resolution of Multi-turn type is 16bit.  
Multi-turn type which is memorized numbers of turns without power is available. (Back-up battery type)

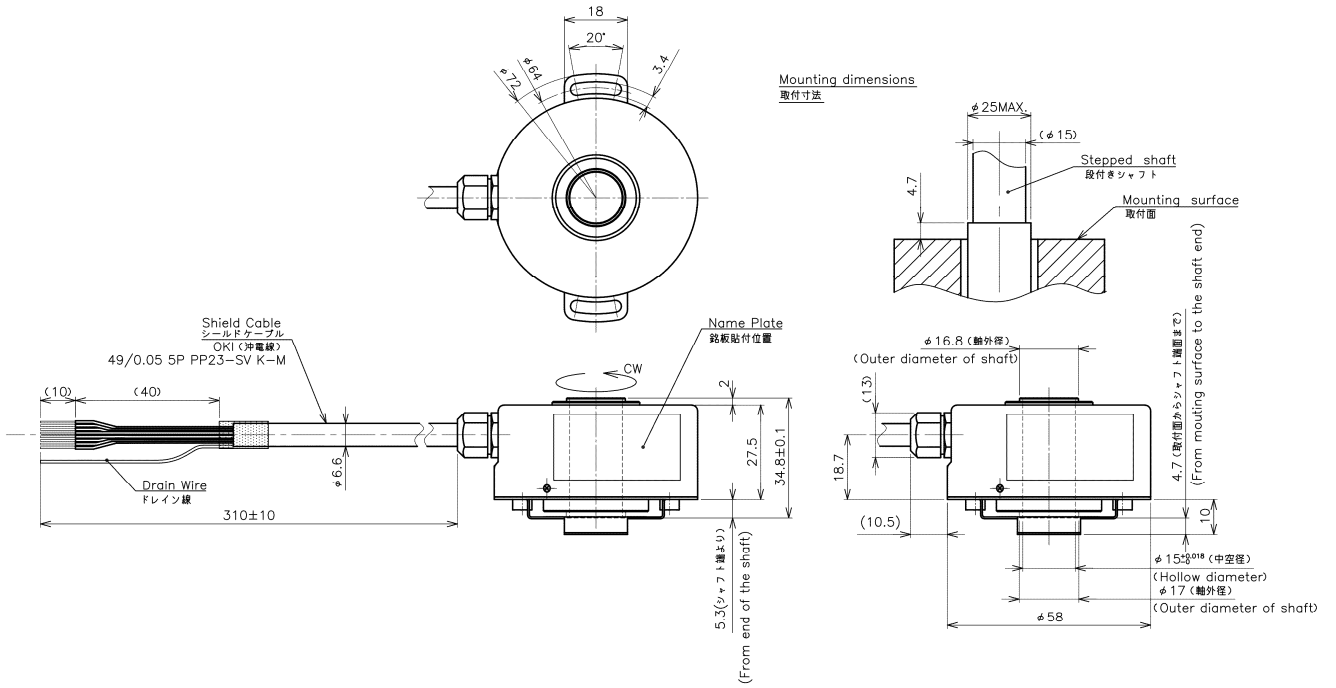
### ■ Specifications

Subjects		Single-turn (ST) type Absolute Encoder	Multi-turn (MT) type Absolute Encoder
Dimension		$\Phi 58 \times 27.5\text{mm}$	
Hollow shaft ID		$\Phi 15$	
Resolution		17bit/rev. (131072 counts per rev.)	17bit/rev. $\times$ 16bit (131072 counts $\times$ 65536 rev.)
Accuracy		$\pm 0.044^\circ$ (13bit equivalent)	
Output	Interface	RS-422	
	Format	ASI, SPI, SSI, BiSS	SSI
Internal Position Update Period		10kHz	
Power Supply		DC4.5~30V	
Max. Physical Speed		3000rpm	
Operating Temp. Range		$-20 \sim 80^\circ\text{C}$	
Storage Temp. Range		$-20 \sim 80^\circ\text{C}$	
Vibration		$196\text{m/s}^2$ (IEC 60068-2-6)	
Shock		$980\text{m/s}^2$ (IEC 60068-2-27)	
EMC		Emission : IEC61000-6-4 Immunity : IEC 61000-6-2	
IP Rating		IP50/IP65	
Materials		RoHS compliant	

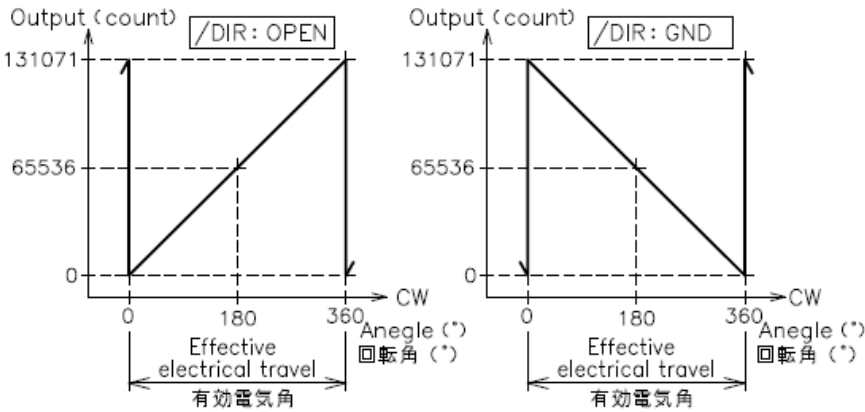
### ■ Function

Model	Function	Outline of Function
Single-turn (ST) Type Absolute Encoder	Zero Set (Input)	Zero position can be set any angle position.
	Direction Set (Input)	Standard Output is CW increase. Direction can be changed CCW increase.
Multi-turn (MT) Type Absolute Encoder	ST Zero Set (Input)	Zero position of ST can be set on any angle position.
	MT Zero Set (Input)	Zero position of MT can be set on any angle position.
	Battery Low Alert Output	Alert signal is output when back-up battery voltage is low.
	Battery Error Alert Output	A signal is output when back-up battery voltage is under termination voltage.
	Multi-turn Overflow Alert Output	Alert signal is output when out of turn limit.

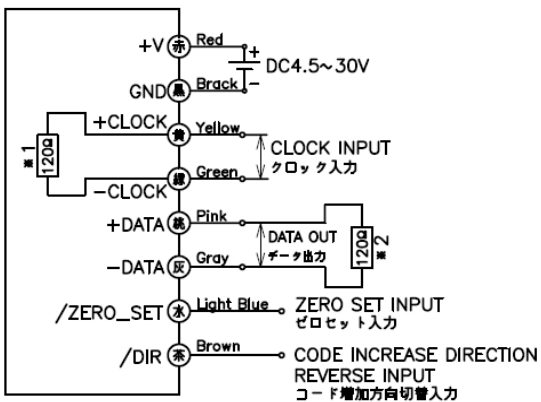
■ Dimension (mm) / ST Type



■ Output Characteristics / ST Type



■ Schematic

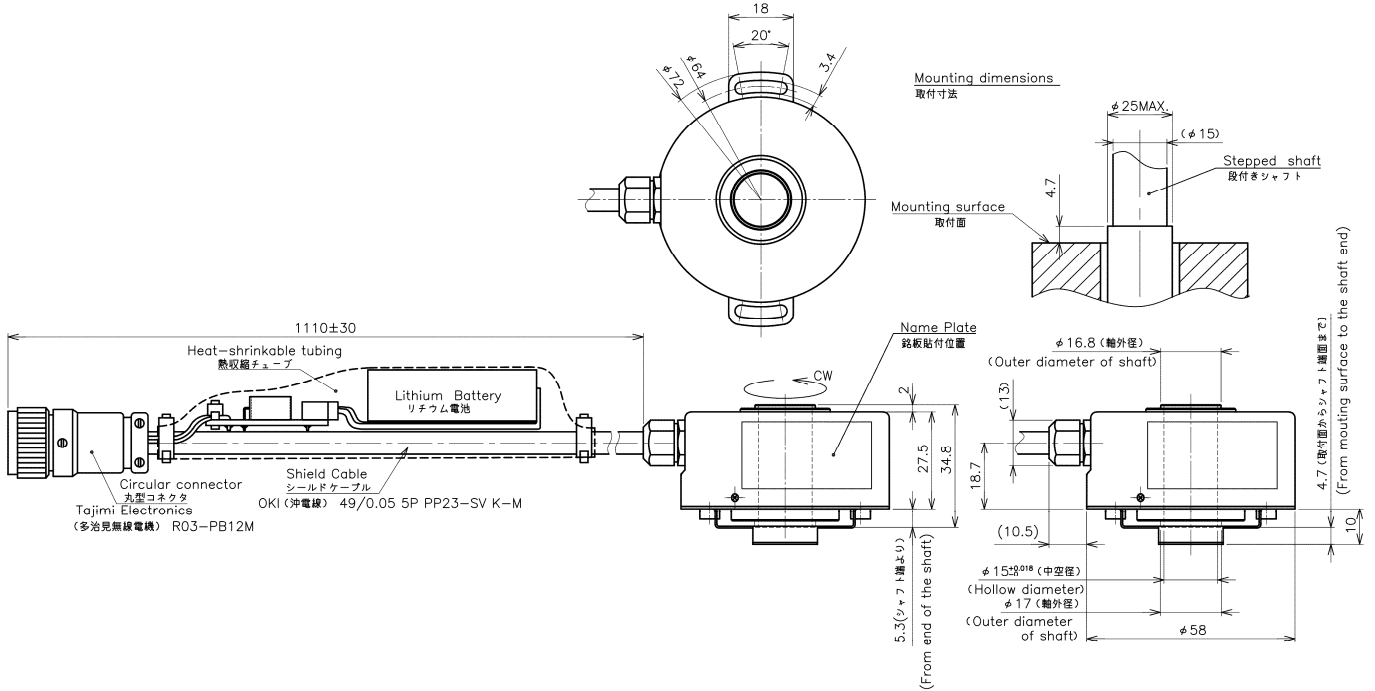


■ Signal and Connection

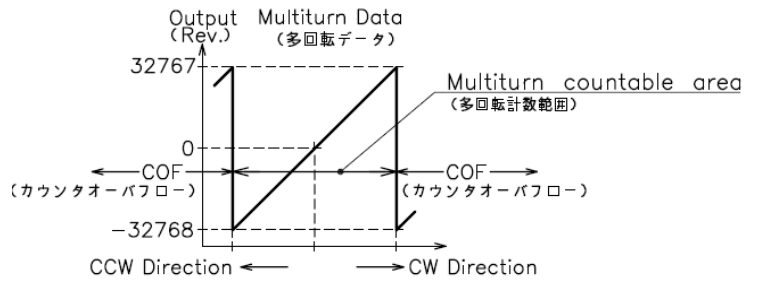
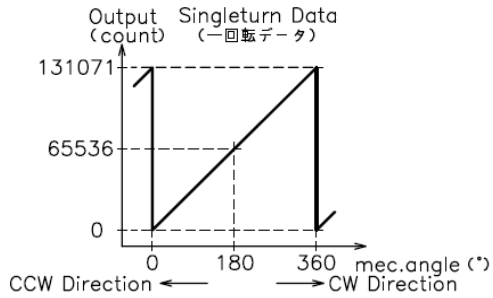
Cable Color	Red	Black	Pink	Gray	Yellow	Green	Light Blue	Brown
ASI Format	+V	GND	+DATA	-DATA	N.C*1	N.C*1	/ZERO_SET	/DIR
SPI Format	+V	GND	+DATA	-DATA	+CLOCK	-CLOCK		
SSI Format								
Biss Format								

\*1 N.C : No Connect

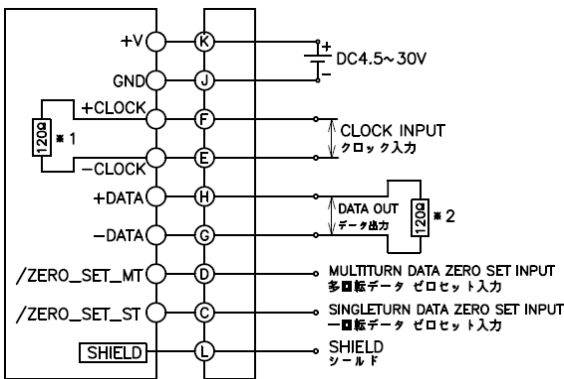
Dimension (mm) / MT Type



Output Characteristics / MT Type



Schematic



Signal and Connection

Pin.No.	A	B	C	D	E	F	G	H	J	K	L
SSI Format	N.C	N.C	/ZERO_SET_ST	/ZERO_SET_MT	-CLOCK	+CLOCK	-DATA	+DATA	GND	+V	Shield

\*1 N.C : No Connect

