



F13E Series Rotary Encoder

Rotary Potentiometer

Joystick

Slide Potentiometer

Trimmer Potentiometer

Encoder

Switch

Sensor



Feature

1. Rotary incremental encoders used in electronic equipment.
2. Endless 360 degree rotation with 12 pulses output.
3. SMD, reflow soldering compliance.

Application:

- notebook
- mini-UAVs
- Micro Aerial Vehicle

Recommended model:

- F13E-01

Electrical Characteristics

Rotaed Power	DC 5V 10mA (1mA Min.)
Fluttering	t1, t3 ≤ 3ms
Insulation Resistance	1MΩ Min.
Withstand Voltage	1 minute at AC 20V 1 mA
Sliding Noise	t2 ≤ 2ms
Phase Difference	Δ T ≥ 0.08T
Resolution	12/360° for each output channel

Output Signal Format	SIGNAL A		OFF		2 phase-different output signals (signal A and B). Details are shown in <Fig.1>.
	SIGNAL B		OFF		
	SIGNAL A		ON		
	SIGNAL B		ON		
	Shaft rotational direction	Signal	Output		
	C.W.	A (Terminal A-C)	OFF		
B (Terminal B-C)		OFF			
C.C.W.	A (Terminal A-C)	OFF			
	B (Terminal B-C)	OFF			

Measurement should be made under following conditions:
 1. Shaft rotation speed--- 360° / second
 2. Test Circuit--- as <Fig.2> shows

Note:
 Code-OFF area : The area where the voltage is 3.5V and more.
 Code-ON area : The area where the voltage is 1.5V and less.

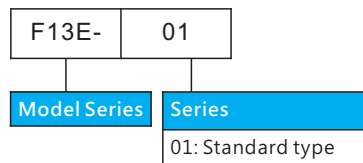
Mechanical Characteristics

Rotational Torque	0~5.0mN·m
Total Rotational Angle	360° Continuous
Push-Pull Strength	Pull: 2N Min. ; Push: 5N Min.

Durability

Rotational Life	Standard life: 10,000 Cycles
Total Temperature Range	-10° C ~ +70° C
Damp heat	40±2° C, RH90%-95%, 240±10hr
Dry heat	70±3° C, 240±10hr
Cold	-10±3° C, 240±10hr
Vibration	10HZ~55HZ~10HZ, 6hr

HOW TO ORDER



F13E

