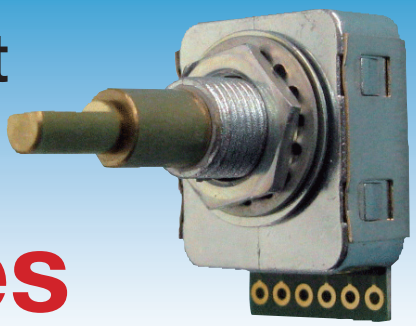
Rotary Encoder with Dual Functional Shaft

RE24 Series



Outline

RE24 rotary encoder series contain unique mechanism for its shaft; its rotational outer axis for rotary encoder and the inner axis for push switch. RE24 is designed for use in various industrial areas: measurement component, medical equipment, industrial machinery, telecommunication device and machine tool.

Features

- Dual inner/outer axes mechanism to help prevent misoperation
- Eco friendly:
  1) Low cost and lesser parts by VA design
  2) RoHS compliant
- Thin-line (18.8x25.5x8.9mm) and lightweight (18g)
- Long-lasting without “contact chatter” due to its optical switching function
- Specially designed knob (GG60) available

Specifications

1. Electrical and Mechanical specifications

Items			Rated Value	
Number of pulses			16PPR, 25PPR	
Supply voltage			3.3V±10%	5V±10%
			20mA	10mA
Output signals			two square wave output (A/B), CMOS chip	
Output voltage		High	(Supply Voltage − 0.5V) ≦	
		Low	≦ 0.5V	
Response frequency			200Hz	
Rotational torque		Light: S	4±1mN・m	
		Standard: C	6±2mN・m	
		Medium: M	10.5±3.5mN・m	
		High: H	16±5mN・m	
Push switch		Rating of contact	≦ DC12V	0.1 ～ 10mA
		Travel of switch	0.2±0.1mm	
	Operational Force	S	3.2±1N	
		M	4.0±1N	
		H	5.0±1N	
Weight			18g	

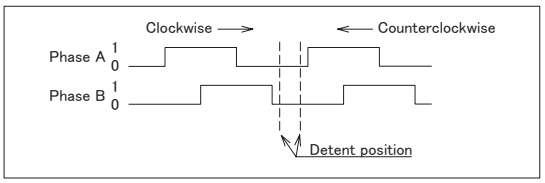
Note : In case Rotational Torque M or H, Operational Torque should be either M or H.

2. Reliability and Environmental specifications

Items			Rated Value
Durability of operating area	Thrust direction	Push	100N
		Pull	50N
	Radial		1N・m
Rotational durability	Light: S		1 million strokes (No load)
	Standard: C		
	Medium: M		
	High: H		100 thousand strokes (No load)
Screw Torque			Not more than 1N・m
Heat resistance of solder	Solder bit temp.: MAX 350℃		Within 3 seconds for each terminal
Operating temperature			0℃ ～ +55℃ 32F ～ 131F
Storage temperature			− 40℃ ～ +85℃ − 40F ～ 185F

Output Waveform

1) Turning the shaft clockwise will generate the signal A when the signal B outputs a low voltage (0);
2) Rotating the shaft counter-clockwise will generate the signal A when the signal B outputs a high voltage(1);
3) Detent positions are where both signal A and B are low (0).



Part Number Designation

RE24 N S 25 C S 16/24 R A

Series

	Waterproof
N	No

	Wiring
S	Standard
C	With Code
F	Front Mount
V	Vortical Mount

	Pulse
16	16PPR
25	25PPR

	Ckick	Rotation Torque
S	With	4mN・m
C		6mN・m
M		10.5mN・m
H		16mN・m
Non	W/O	≦ 4mN・m

	Push Switch Force
S	3.2N
H	5N

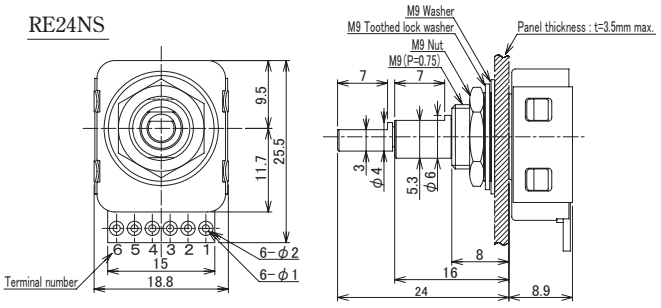
	Shaft length
16	16mm (inner)
20	24mm (outer)

	Shaft Shape
F	Flat

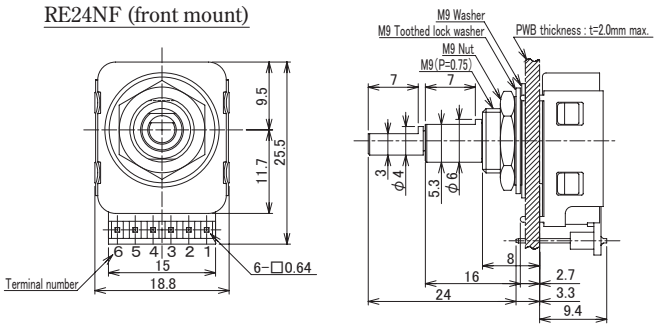
	Power Voltage
A	5V
B	3.3V

Dimensions (mm)

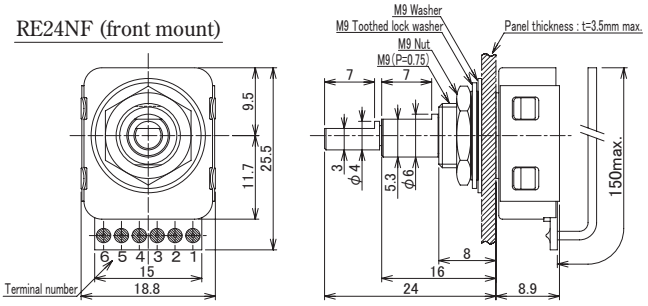
RE24NS



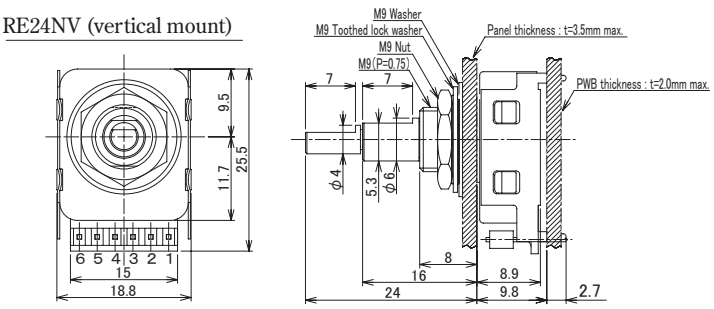
RE24NF (front mount)



RE24NF (front mount)

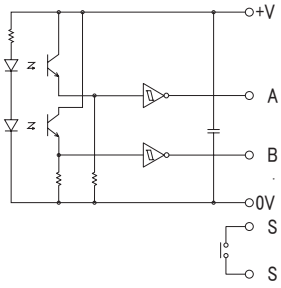


RE24NV (vertical mount)

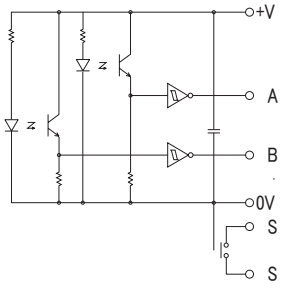


Circuitry

RE24 5V



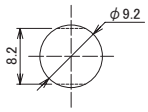
RE24 3.3V



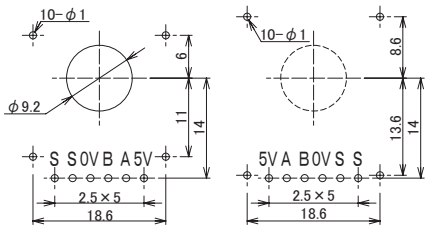
Terminal number

1	3.3V/5V	Supply
2	A	Signal A
3	B	Signal B
4	0V	Ground
5	S	Push Switch
6	S	Push Switch

Mounting hole dimensions (mm)



PWB mounting hole dimensions (mm)



RE24NF RE24NV

Precautions

Wiring	Use buffering amplifier when extending lead wire over 30cm.
Soldering	Do not put a load on the terminal area during and immediately after soldering.
Operation	Do not use flow/reflow soldering machines.
Power	Use under specified power voltage and connect properly.
Waterproofing	Do not fasten tighter with the torque of more than 1.5N・m.

Warranty

● 1 year from the date of shipment.

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