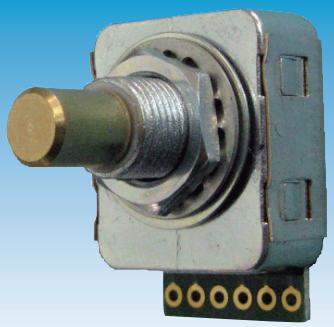
Optical Rotary Encoder

RE25 Series



Outline

RE25 is a VA designed eco friendly – power-saving and low cost with lesser parts – rotary encoder. Its size, mounting procedures and inner-structures have been designed for a wide-array of uses; measurement devices, medical equipments, industrial machineries, telecommunication devices and machine tools.

Features

- Eco friendly:
  1) Power-saving
  2) Low cost and lesser parts by VA design
  3) RoHS compliant
- Thin-line (18.8x25.5x8.9mm) and lightweight (18g)
- Various types of models with options: lead wire with or without connector, clamp for horizontal/vertical mounting
- Long-lasting without “contact chatter” due to its optical switching function
- Waterproofed model available

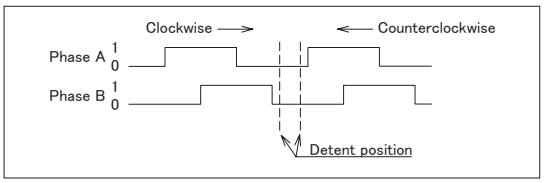
Specifications

1. Electrical and Mechanical specifications			
Items		Rated Value	
Number of pulses		16PPR, 25PPR	
Supply voltage		3.3V±10%	5V±10%
		20mA	10mA
Output signals		Channel A/B: Square Wave CMOS chip	
Output voltage	High	Supply Voltage(3.3V): − 0.3V ≦ , (5V): − 0.5V ≦	
	Low	≦ 0.4V	
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	
Weight		18g	

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

RE25 | N | S | 25 | C | 20 | R | A

Series

Waterproof

N	No
P	Yes

Wiring

S	Standard
C	With wire
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

Power Voltage

A	5V
B	3.3V

Shaft Shape

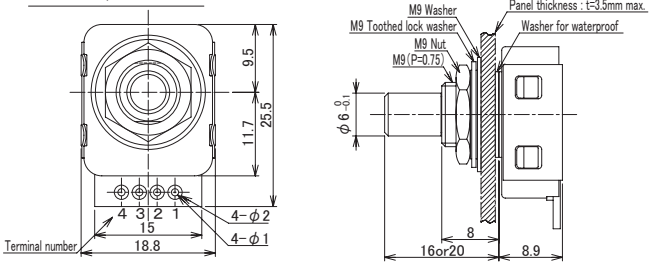
R	Round

Shaft length

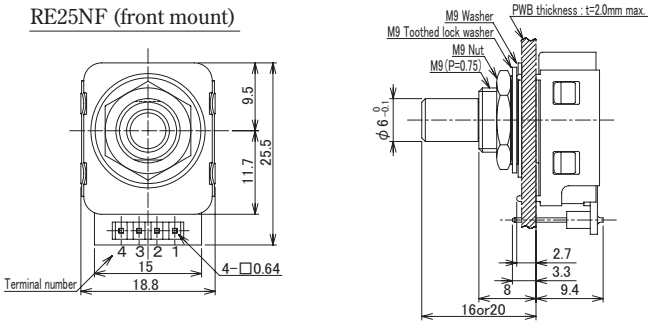
16	16mm
20	20mm

Dimensions (mm)

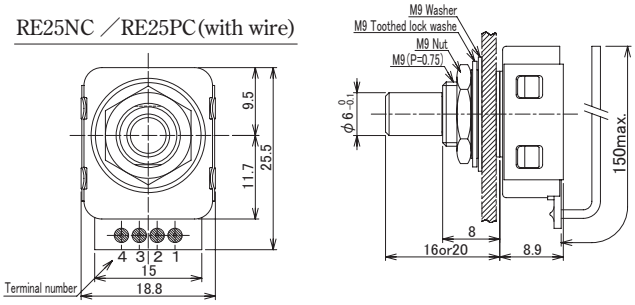
RE25NS／RE25PS



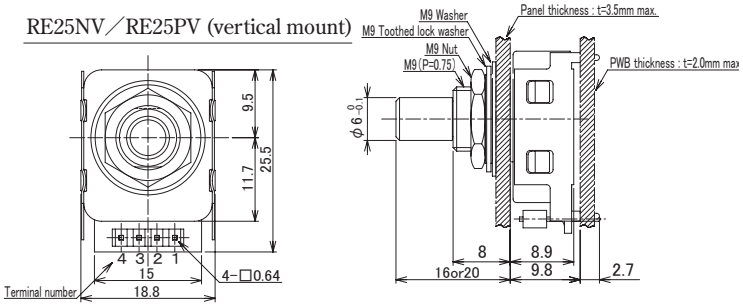
RE25NF (front mount)



RE25NC ／RE25PC (with wire)

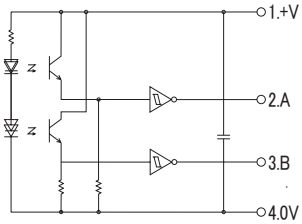


RE25NV／RE25PV (vertical mount)

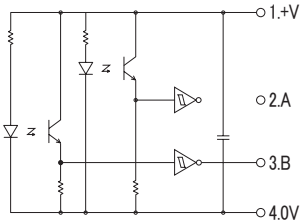


Circuitry

RE25 5V



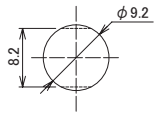
RE25 3.3V



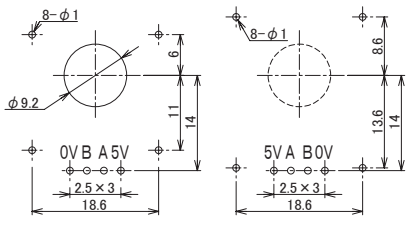
Terminal number

1	3. 3V／5V	Supply
2	A	Signal A
3	B	Signal B
4	0V	Ground

Mounting hole dimensions (mm)



PWB mounting hole dimensions (mm)



RE25NF RE25_V

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.