

# Incremental 38-mm-Dia. Rotary Encoder

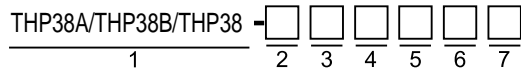
THP38A/THP38B/THP38

General purpose Encoder with External Diameter of 38mm

- Incremental model
- External diameter of 38mm
- Resolution up to 3600 ppr.
- Various output type
- Solid shaft with Dia at 6 mm



## Ordering Information



### Section 1: Basic model name

**THP38A:** 38mm Rotary Encoder(Mounting Type A)  
**THP38B:** 38mm encoder(IP64)(Mounting Type B)  
**THP38:** 38mm Rotary Encoder

### Section 2: Shaft Size

**6:** Solid shaft with Dia at 6 mm

### Section 3: Resolution

**10:** 10 ppr  
**20:** 20 ppr

40 50 60 80 100 120 125 150  
 200 225 240 250 256 300 360 400 450  
 480 500 512 600 625 720 750 800 900  
 1000 1024 1080 1200...up to 3600

Not indicated resolution is customizable

### Section 4: Output phase

**3:** A B Z  
**6:** A  $\bar{A}$  B  $\bar{B}$  Z  $\bar{Z}$

### Section 5: Output type

**C:** Complementary(also known as totem pole)  
**N:** NPN Open collector  
**P:** PNP Open collector  
**V:** Voltage output  
**L:** Line driver(**Power source 5VDC ONLY, Phase 6**)  
**T:** Push-Pull(**With inverted signal, Phase 6**)

### Section 6: Power Supply

**8:** 8-30 VDC(+/- 5%)  
**5:** 5 VDC(+/- 5%)

### Section 7: Cable outgoing type

**G:** Side entry cable  
**E:** Rear entry cable

▲ **Standard cable length is 2M**

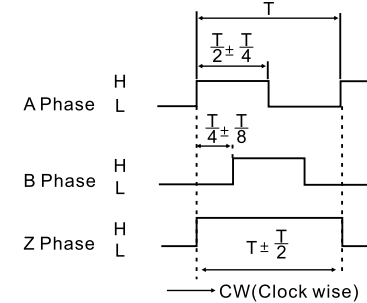
## Ratings and Specifications

- Power supply:** 5 VDC / 8-30 VDC  
**Resolution:** 5-3600 ppr  
**Current consumption:** 100mA(Load disconnected)  
**Load current:** 50mA maximum per channel 20mA maximum per channel (Line driver output)  
**Output type:** NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)  
**Frequency:** 100K HZ Frequency=RPM\*Resolution/60  
**Maximum permissible speed:** 6000 rpm  
**Shaft loading radial:** 10N  
**Shaft loading thrust:** 20N  
**Weight:** Approx 0.2KG  
**Protection level:** IP50  
**Temperature:** operation(-10°C~+70°C), storage(-30°C~+85°C)  
**Vibration resistance:** 50m/s, 10-65 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions  
**Shock resistance:** 980m/s, 6m/s 2 times each in X, Y, and Z directions  
**Starting torque:** 1.5 x 10<sup>-3</sup> N.m Maximum

## Output circuits and wave forms

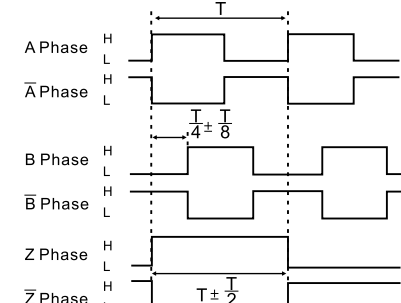
### Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output



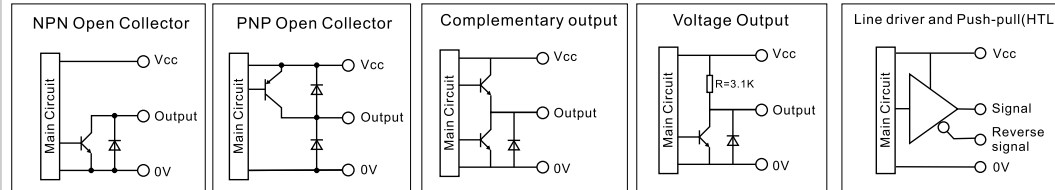
CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)



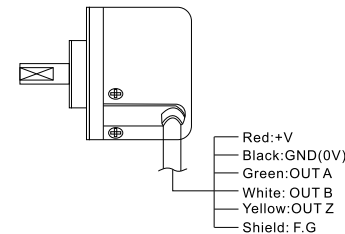
CW(Clock wise)

### Output circuits

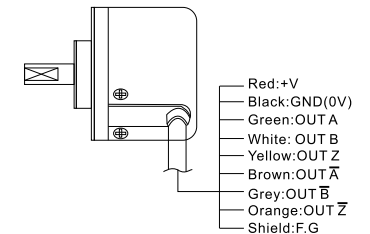


## Wiring Details

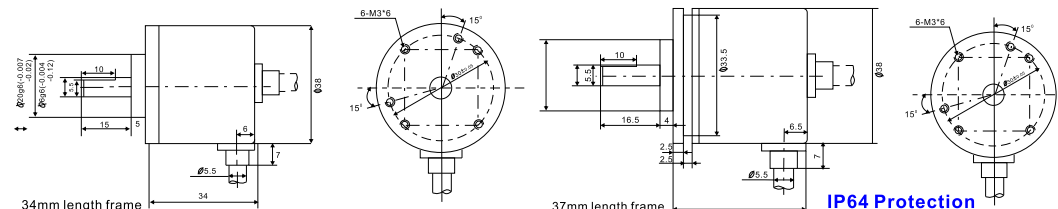
Complementary/Open collector(NPN/PNP)/Voltage output



Line Driver/Push-pull(HTL with reverse signal)

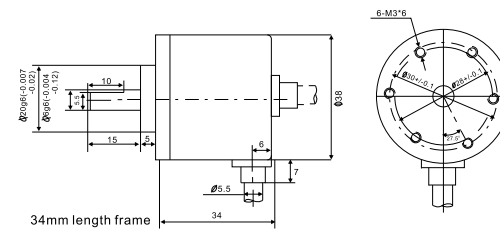


## Mounting and Dimensions



THP38A(mounting type A)

THP38B(mounting type B)



THP38

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