

Incremental 38-mm-Dia. Rotary Encoder

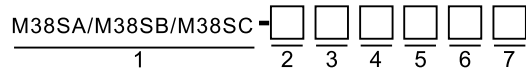
M38SA/M38SB/M38SC

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

- M38SA:** 38mm Rotary Encoder(Mounting Type A)
 - M38SB:** 38mm encoder(IP64)(Mounting Type B)
 - M38SC:** 38mm Rotary Encoder(Mounting Type C)
- Please refer to drawing for the difference between M38SA/M38SB/M38SC

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

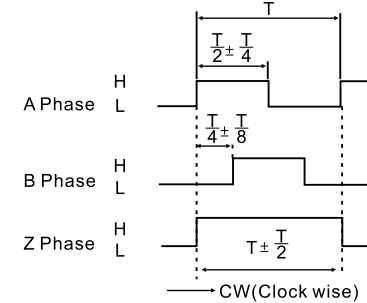
Ratings and Specifications

- 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 10⁻³ N.m Maximum

Output circuits and wave forms

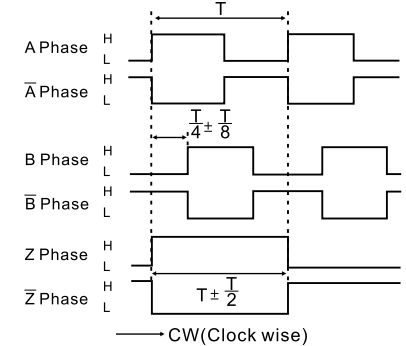
Wave forms

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

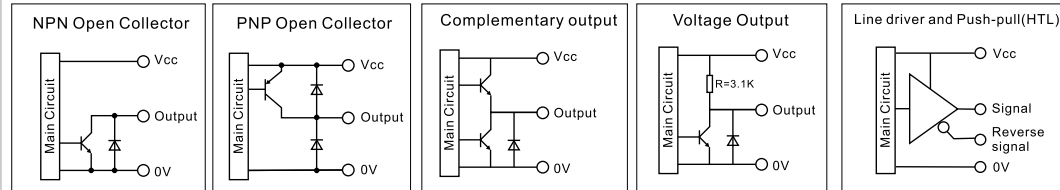


CW: As viewed from the shaft

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

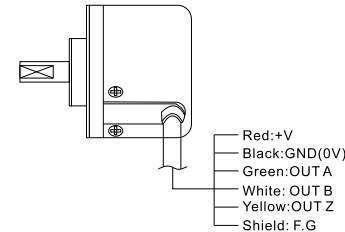


Output circuits

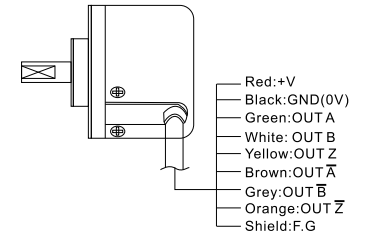


Wiring Details

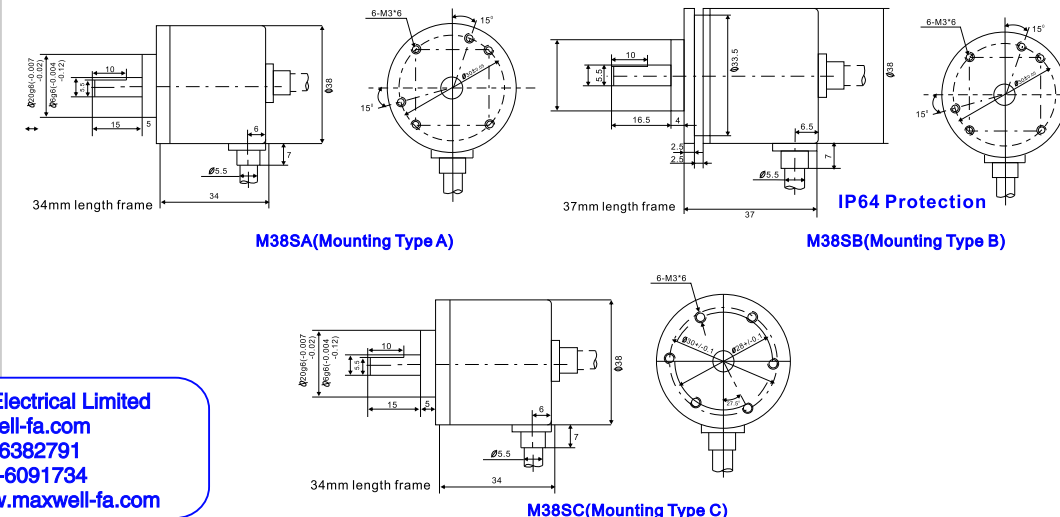
Complementary/Open collector(NPN/PNP)/Voltage output



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



Mounting and Dimensions



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