

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

M38SA/M38SB/M38SC

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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

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

Section 6: Power Supply

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

Section 7: Cable outgoing type

G: Side entry cable
E: Rear entry cable

▲ **Standard cable length is 2M**

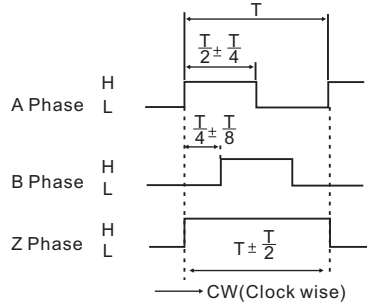
Ratings and Specifications

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: 1.5×10^{-3} N.m Maximum

Output circuits and wave forms

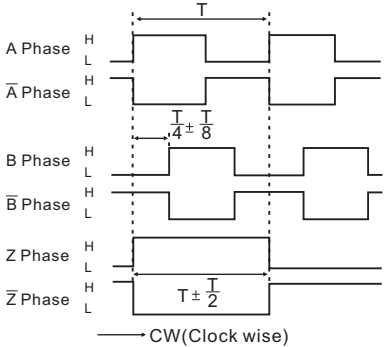
Wave forms

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

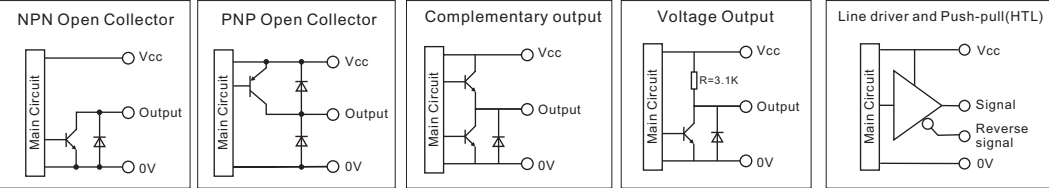


CW: As viewed from the shaft

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

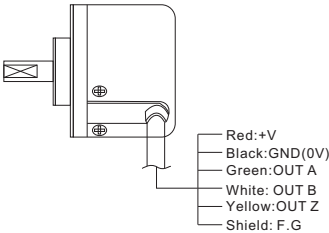


Output circuits

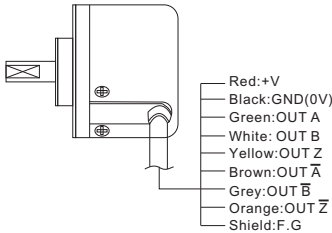


Wiring Details

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



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



Mounting and Dimensions

