

Incremental 40-mm-Dia. Rotary Encoder

M40SA/M40SB

General purpose Encoder with External Diameter of 40mm

- Incremental model
- External diameter of 40mm
- Resolution up to 3600 ppr.
- Various output type
- Solid shaft with Dia at 6 mm



Ordering Information

M40SA/M40SB

1 2 3 4 5 6 7

Section 1: Basic model name

M40SA: 40mm encoder
M40SB: 40mm encoder

Refer to drawings for the difference between M40SA/M40SB

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**)
T: Push-Pull(HTL with inverted signal)

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

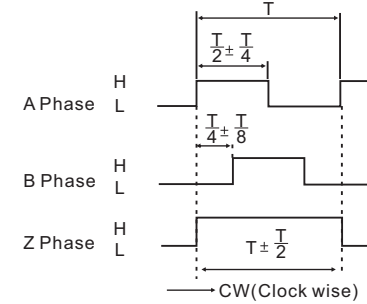
Ratings and Specifications

- 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:** 1.5×10^{-3} N.m Maximum

Output circuits and wave forms

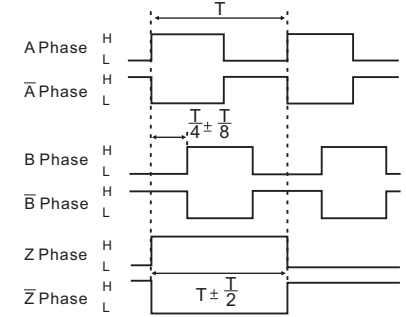
Wave forms

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



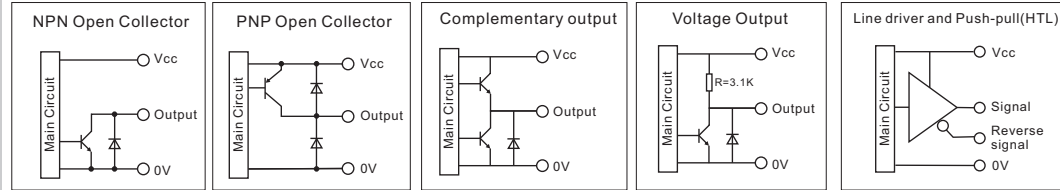
CW: As viewed from the shaft

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



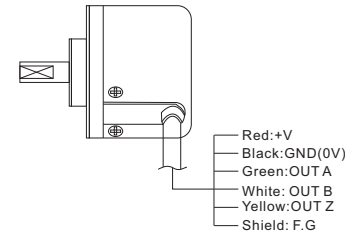
CW(Clock wise)

Output circuits

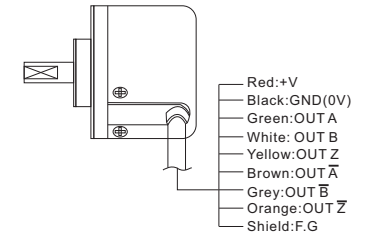


Wiring Details

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



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



Mounting and Dimensions

