



PART NUMBER: MED30

DESCRIPTION: incremental encoder

ELECTRICAL SPECIFICATIONS

output waveform	Square wave
output signals	A, B, Z phase
current consumption	≤60 mA
frequency response	50~100 kHz
output voltage	H: Vcc-1 V (voltage, open collector), ≥2.5 V (line driver) L: ≤0.5 V
supply voltage	5 V dc (line driver output only), 5 V ~ 12 V dc ± 10% (voltage output only), 5~12 V dc / 24 V dc ± 10% (open collector output only)
output resolution (ppr)	40, 72, 100, 180, 200, 250, 300, 360, 400, 500, 512, 600, 700, 800 1000, 1024, 1200, 1500, 1800, 2000, 2048, 2500*, 3600*, 4500*, 9000**
waveform rise/fall time	2μS or less

*line driver output not available, **+5V input only

MECHANICAL SPECIFICATIONS

max shaft load, radial:	19.6 N (2 kgf)	14.7 N (1.5 kgf) (600-3600 ppr)
axial:	9.8 N (1 kgf)	4.9 N (0.5 kgf) (600-3600 ppr)
starting torque	30 gf·cm	
max rotational speed	6000 RPM	
shock resistance	500 m/s ² (50 G), 3 times each on XYZ	
vibration proof	10~55 Hz, 1.5 mm, 2 hours each on XYZ	

ENVIRONMENTAL SPECIFICATIONS

operating temp	0° to +60° C
storage temp	-20° to +80° C
humidity	RH 90% non collecting

ORDERING INSTRUCTIONS

MED30 - XXXXP-XX-XXXX

- Resolution (PPR):
- 40 = 40 PPR 700 = 700 PPR
 - 72 = 72 PPR 800 = 800 PPR
 - 100 = 100 PPR 1000 = 1000 PPR
 - 180 = 180 PPR 1024 = 1024 PPR
 - 200 = 200 PPR 1200 = 1200 PPR
 - 250 = 250 PPR 1500 = 1500 PPR
 - 300 = 300 PPR 1800 = 1800 PPR
 - 360 = 360 PPR 2000 = 2000 PPR
 - 400 = 400 PPR 2048 = 2048 PPR
 - 500 = 500 PPR 2500 = 2500 PPR*
 - 512 = 512 PPR 3600 = 3600 PPR*
 - 600 = 600 PPR 4500 = 4500 PPR*
 - 9000 = 9000 PPR**

- Input Voltage:
- 1 = 5 V dc ±10%
 - 2 = 12 V dc ±10%
 - 3 = 5 ~ 12 V dc ±10%
 - 4 = 24 V dc ±10%

- Output Circuit:
- "no entry" = TTL voltage output
 - C = Open collector output
 - E = Line driver output

- Shaft Diameter:
- 3175 = 3.175 mm
 - 6 = 6 mm
 - 635 = 6.35 mm

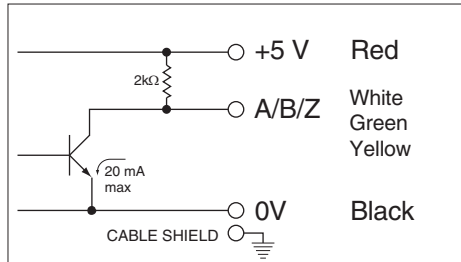
* line driver output not available
** +5 V input only

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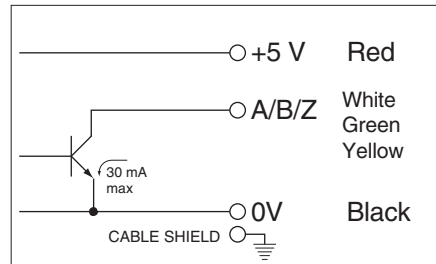
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CIRCUIT CONNECTIONS

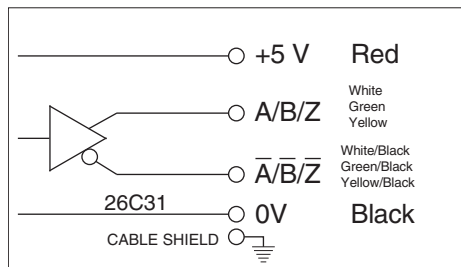
Voltage Output



Open Collector Output (C)

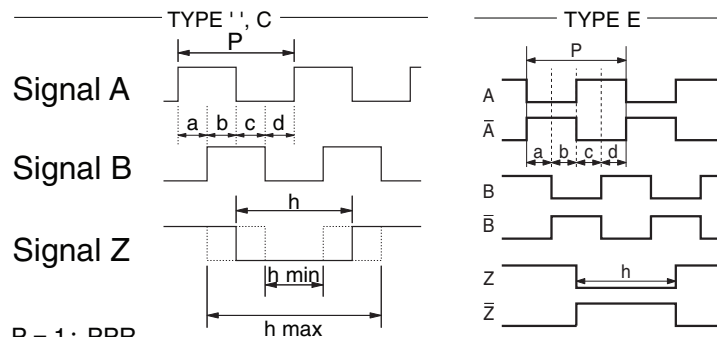


Line Drive Output (E)



OUTPUT WAVEFORM

(Clockwise rotation viewed from front)



$$P = 1 \div \text{PPR}$$

$$a, b, c, d = P/4 \pm P/8$$

$$h = P \pm 0.75P \quad \text{Wave Duty Ratio: } 50\% \pm 25\%$$

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MECHANICAL DRAWING

