



PART NUMBER: MED20

DESCRIPTION: incremental encoder

ELECTRICAL SPECIFICATIONS

output waveform	Square wave
output signals	A, B, Z phase
current consumption	≤60 mA (voltage, open collector), ≤150 mA (line driver)
frequency response	50~100 kHz
output voltage	H: V _{cc} -1 V (voltage, open collector), ≥4.2 V (line driver) L: ≤0.5 V
supply voltage	5 V dc ±5% (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, 50, 60, 100, 200, 250, 256, 300, 360, 400, 450, 500, 512, 600, 800, 1000, 1024, 1200, 1800, 2000, 2048, 2500, 3600*
waveform rise/fall time	2μS or less

*+5V or +12V fixed 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	2 x 10 ⁻³ N·m (20 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	-10° to +60° C
storage temp	-20° to +80° C
humidity	RH 90% non collecting

ORDERING INSTRUCTIONS

MED20 - XXXXP-XX

<p>Resolution (PPR):</p> <p>40 = 40 PPR 512 = 512 PPR 50 = 50 PPR 600 = 600 PPR 60 = 60 PPR 800 = 800 PPR 100 = 100 PPR 1000 = 1000 PPR 200 = 200 PPR 1024 = 1024 PPR 250 = 250 PPR 1200 = 1200 PPR 256 = 256 PPR 1800 = 1800 PPR 300 = 300 PPR 2000 = 2000 PPR 360 = 360 PPR 2048 = 2048 PPR 400 = 400 PPR 2500 = 2500 PPR 450 = 500 PPR 3600 = 3600 PPR* 500 = 500 PPR</p>	<p>Output Circuit:</p> <p>"no entry" = TTL voltage output C = Open collector output E = Line driver output</p>	<p>Input Voltage:</p> <p>1 = 5 V dc ±10% 2 = 12 V dc ±10% 3 = 5 ~ 12 V dc ±10% 4 = 24 V dc ±10%</p>
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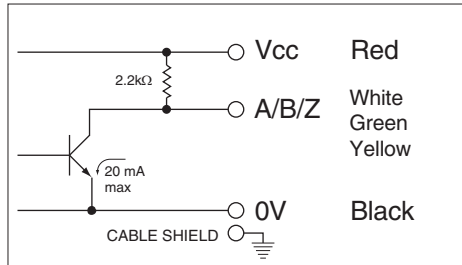
* +5 V or +12 V fixed input only

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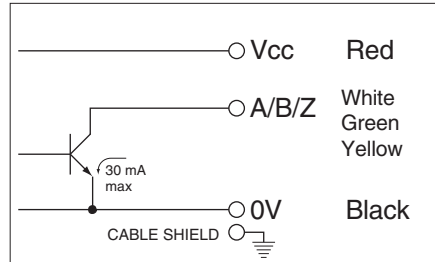
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CIRCUIT CONNECTIONS

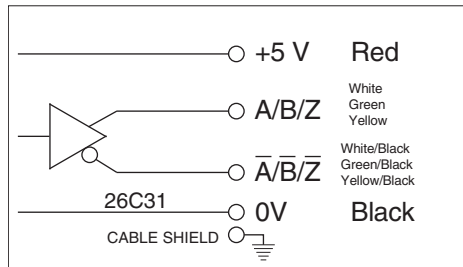
Voltage Output



Open Collector Output (C)

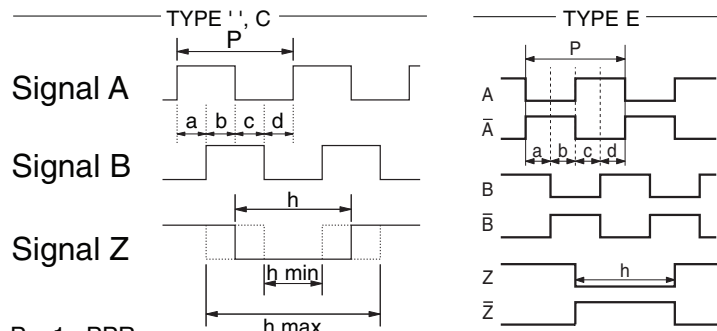


Line Drive Output (E)



OUTPUT WAVEFORM

(Clockwise rotation viewed from front)



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

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

$h = P \pm 0.75P$ Wave Duty Ratio: $50\% \pm 25\%$

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MECHANICAL DRAWING

