CUI INC

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: Vcc-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

Resolution (PPR):
40 = 40 PPR
50 = 50 PPR
60 = 60 PPR
100 = 100 PPR
200 = 200 PPR
250 = 250 PPR
256 = 256 PPR
300 = 300 PPR
360 = 360 PPR
400 = 400 PPR
450 = 500 PPR
500 = 500 PPR
512 = 512 PPR
600 = 600 PPR
800 = 800 PPR
1000 = 1000 PPR
1024 = 1024 PPR
1200 = 1200 PPR
1800 = 1800 PPR
2000 = 2000 PPR
2048 = 2048 PPR
2500 = 2500 PPR
3600 = 3600 PPR*

* +5 V or +12 V fixed input only

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

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

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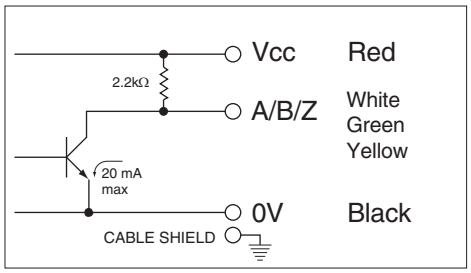
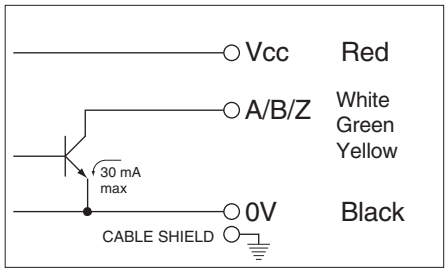
CIRCUIT CONNECTIONS

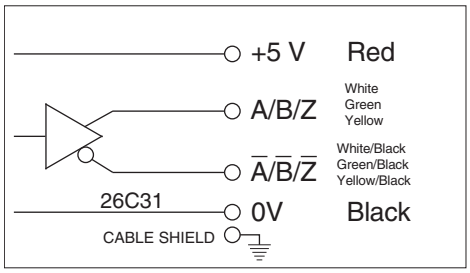
Voltage Output



Open Collector Output (C)

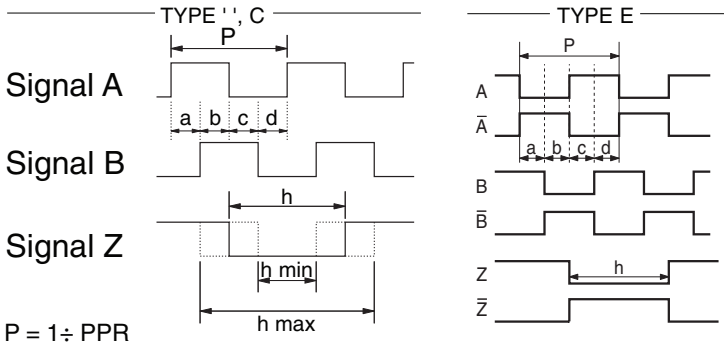


Line Drive Output (E)



OUTPUT WAVEFORM

(Clockwise rotation viewed from front)



P = 1÷ PPR

a,b,c,d = P/4 ± P/8

h = P ± 0.75P Wave Duty Ratio: 50% ± 25%

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MECHANICAL DRAWING