



PART NUMBER: MES50

DESCRIPTION: incremental encoder

ELECTRICAL SPECIFICATIONS

output waveform	Square wave
output signals	A, B, Z phase
current consumption	≤60 mA
frequency response	0~100 KHz
output phase difference	A, B phase difference 90° ± 45° (T/4±T/8) Z phase T±T/2 (see output waveform)
supply voltage	1: 5 V dc ±10% (line driver output only) 3: 5 V ~ 12 V dc ±10% 4: 24 V dc ±10% (open collector output only)
output resolution (ppr)	500, 1000, 1024, 2000, 3000, 3600, 4096, 5000, 5400, 6000, 10000, 10800
waveform rise/fall time	2μ or less (output cable 1m or less)

MECHANICAL SPECIFICATIONS

max shaft load, radial:	19.6N (2kgf)	9.8N (1kgf) (5000-10800 ppr)
axial:	9.8N (1kgf)	4.7N (0.5kgf) (5000-10800 ppr)
starting torque	10 x 10 ⁻³ N·m (100 gf·cm) (no oil seal)	
max rotational speed	6000 RPM	
shock resistance	500 m/s ² (50G), 3 times each on XYZ	
vibration proof	55 Hz, double amplitude 1.5mm, 2 hours each on XYZ	
weight	220 g (with 1m cable)	
cable	4.2mm outside diameter, 5 core vinyl wire insulated shield cable (1m)	

ENVIRONMENTAL SPECIFICATIONS

operating temp	0° to +60° C
storage temp	-20° to +80° C
humidity	RH 35%~90% non collecting

ORDERING INSTRUCTIONS

MES50 - XXXXXP - XX

Resolution (PPR):

500 = 500 PPR	4096 = 4096 PPR
1000 = 1000 PPR	5000 = 5000 PPR
1024 = 1024 PPR	5400 = 5400 PPR
2000 = 2000 PPR	6000 = 6000 PPR
3000 = 3000 PPR	10000 = 10000 PPR
3600 = 3600 PPR	10800 = 10800 PPR

Output Circuit:

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

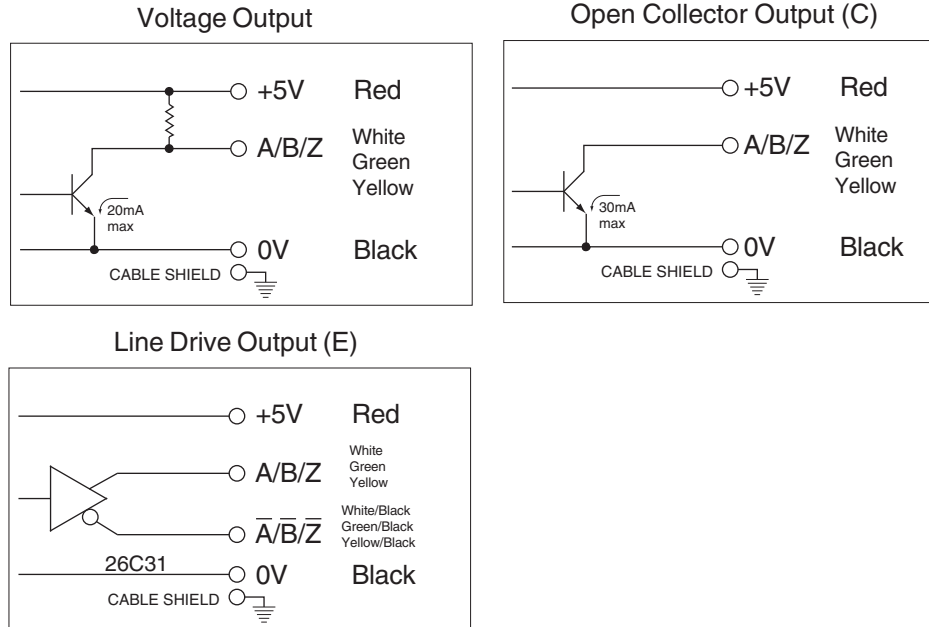
Input Voltage:

1 = 5VDC ±10% (line driver output only)
3 = 5 ~ 12VDC ±10%
4 = 24VDC ±10% (open collector output only)

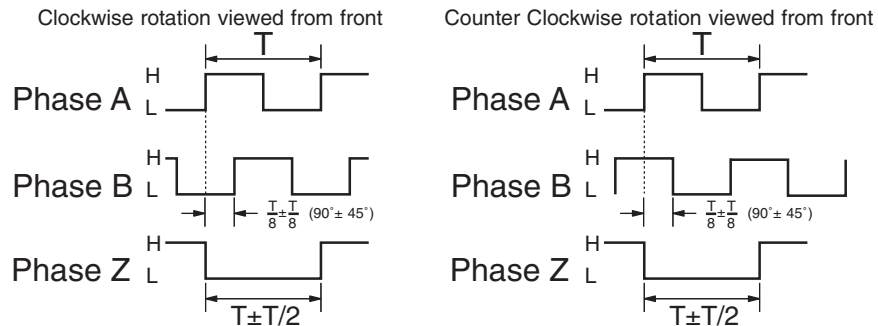
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CIRCUIT CONNECTIONS

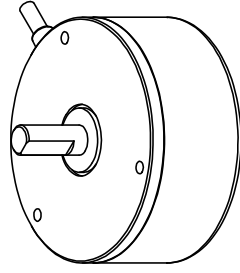
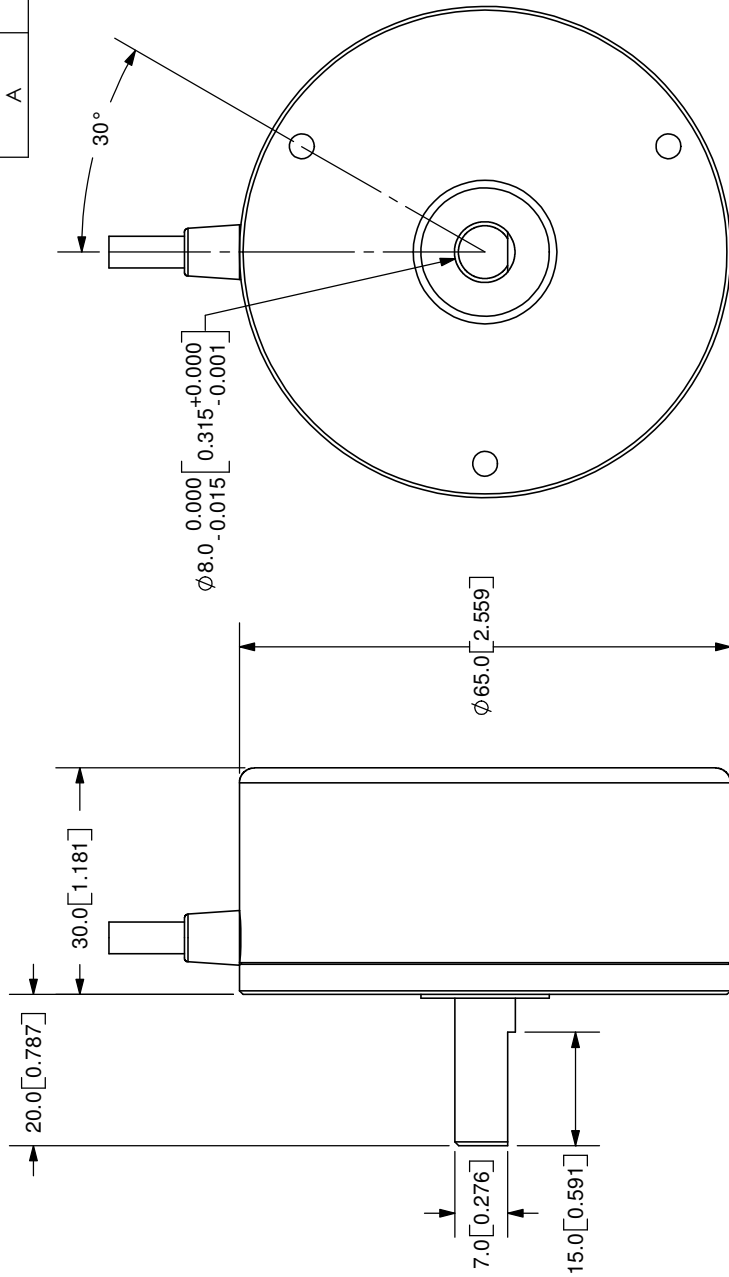


OUTPUT WAVEFORM



The position of Z phase against A, B phase is not specified

REV.	DESCRIPTION	DATE
A	NEW DRAWING	7/30/2007



Scale 1:2

TOLERANCE:
±0.3mm UNLESS OTHERWISE
SPECIFIED

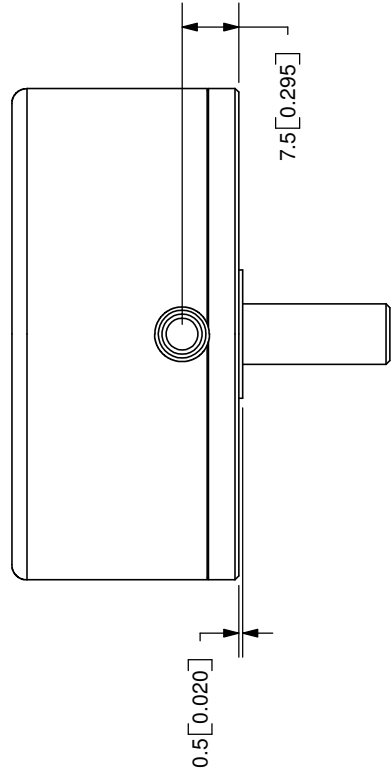


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TITLE: Incremental Encoder REV: A

PART NO: MES50 UNITS: MM [INCHES]

DRAWN BY: JMS APPROVED BY: SCALE: 1:1



PC FILE NAME: MES50
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Cable Color	Red	White	Green	Yellow	Black
Output Type	Power	A-Phase	B-Phase	Z-Phase	0V
	-	-	-	-	-