



**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 <sup>-3</sup> N·m (100 gf·cm) (no oil seal)	
max rotational speed	6000 RPM	
shock resistance	500 m/s <sup>2</sup> (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

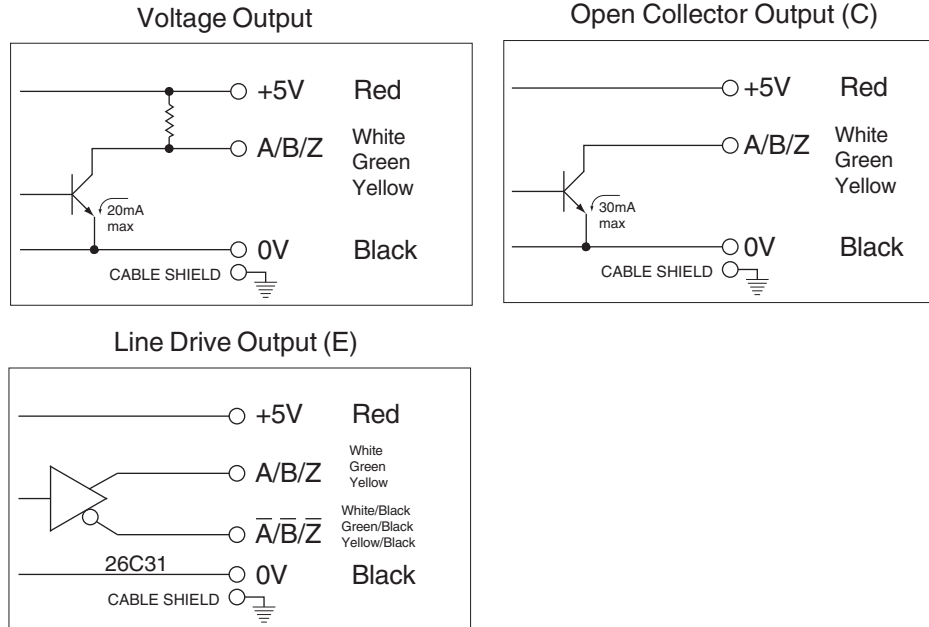
Input Voltage:

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

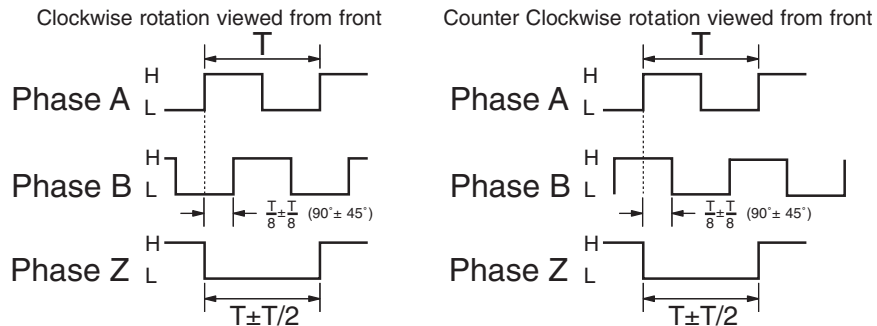
**PART NUMBER:** MES50

**DESCRIPTION:** incremental encoder

### CIRCUIT CONNECTIONS

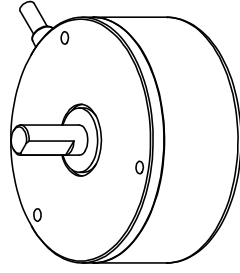
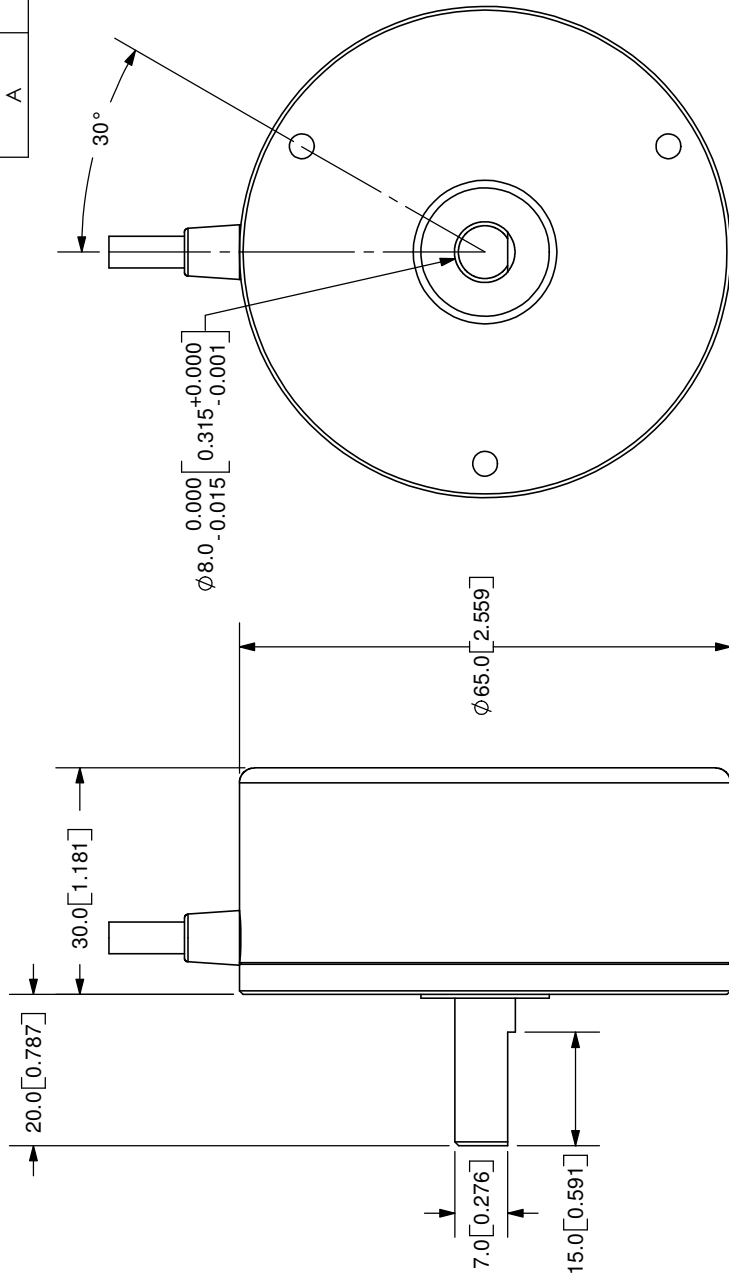


### OUTPUT WAVEFORM



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

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

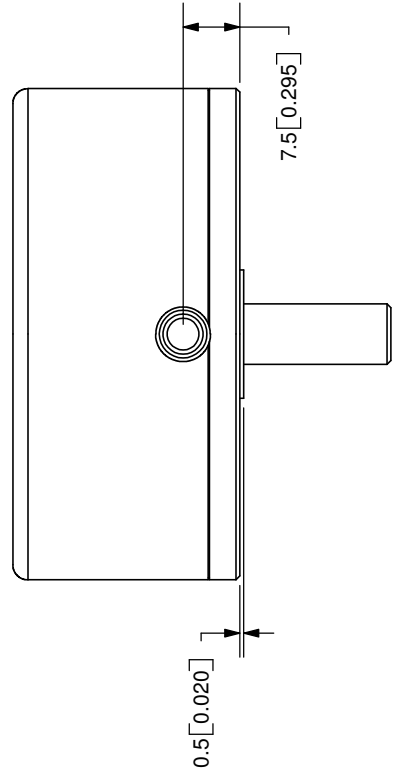


Scale 1:2

TOLERANCE:  
±0.3mm UNLESS OTHERWISE  
SPECIFIED



20050 SW 112th Ave.  
Tualatin, OR 97062  
Phone: 503-612-2300  
800-275-4899  
Fax: 503-612-2383  
Website: www.cui.com



TITLE:	Incremental Encoder	REV:	A
PART NO:	MES50	UNITS:	MM [INCHES]
DRAWN BY:	JMS	APPROVED BY:	
SCALE:	1:1		

Cable Color	Red	White	Green	Yellow	Black	-	-	-
Output Type	Power	A-Phase	B-Phase	Z-Phase	0V	-	-	-

COPYRIGHT 2007  
BY CUI INC.

PC FILE NAME:  
MES50