



PART NUMBER: MES20-PS

DESCRIPTION: sine wave encoder

ELECTRICAL SPECIFICATIONS

output waveform	A, B phase sine wave, Z phase square wave
output signals	A, B, Z phase
current consumption	≤40 mA
frequency response	0~50 KHz
output phase difference	A, B phase difference 90° ± 45° (T/4±T/8) Z phase T±T/2 (see output waveform)
supply voltage	5 V dc ± 5%
output resolution (ppr)	1000, 2000, 2500

MECHANICAL SPECIFICATIONS

max shaft load, radial:	14.7N (1.5kgf)
axial:	4.9N (0.5kgf)
starting torque	2 x 10 ⁻³ N·m (20 gf·cm)
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	70g (with 1m cable)
cable	4.2mm outside diameter, 5 core vinyl wire insulated shield cable (1m)

ENVIRONMENTAL SPECIFICATIONS

operating temp	0° ~ +50° C
storage temp	-20° ~ +80° C
humidity	RH 35%~90% non collecting

ORDERING INSTRUCTIONS

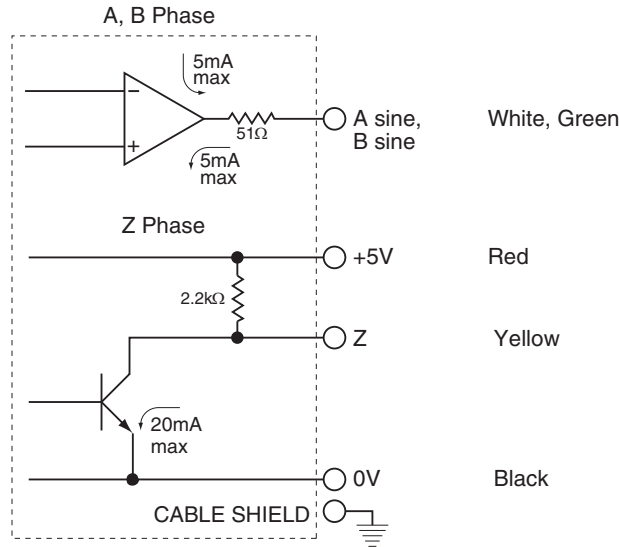
MES20 - XXXXPS

Resolution (PPR):
1000 = 1000 PPR
2000 = 2000 PPR
2500 = 2500 PPR

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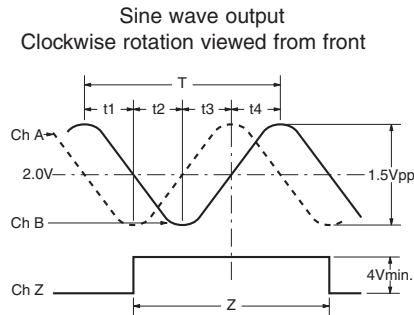
DESCRIPTION: sine wave encoder

CIRCUIT CONNECTIONS



A capacitor (0.1 μ F) is connected between 0 V and FG (frame ground).

OUTPUT WAVEFORM



$$T = 360^\circ / \text{divisions} \quad t_1, t_2, t_3, t_4 = \frac{T}{4} \pm \frac{T}{8}$$

$$Z = T \pm 0.50T$$

$$M = M \times 20\% \text{ or less}$$

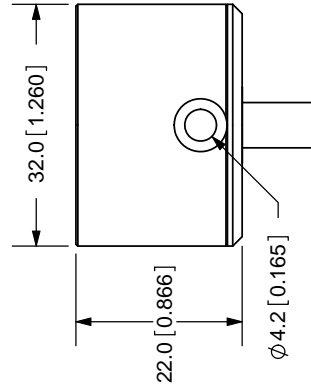
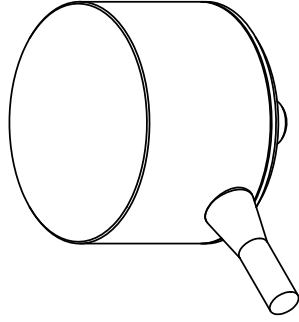
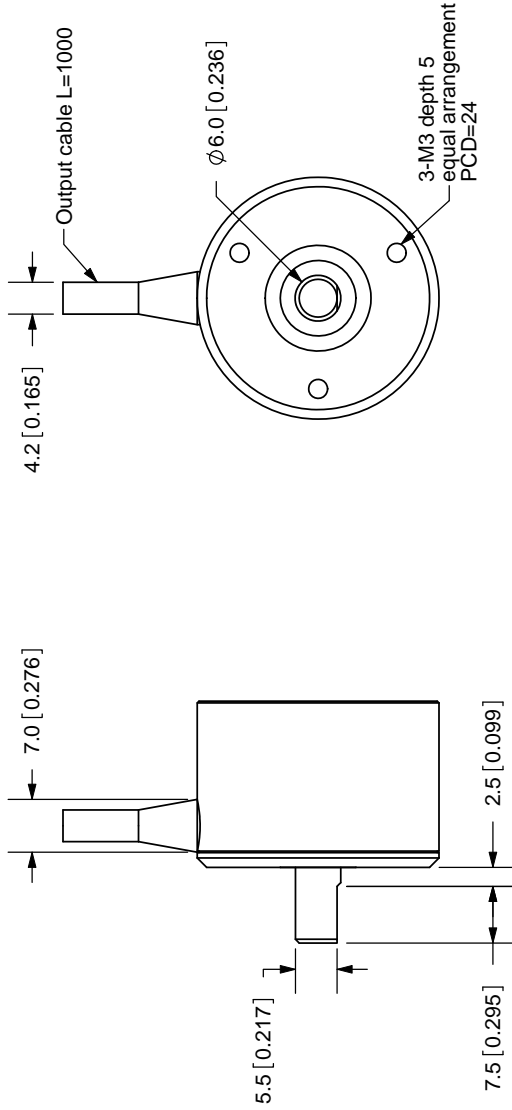
Amplitude variation rate

Amplitude waviness

A/B Phase amplitude ratio

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

REV.	DESCRIPTION	DATE
A	NEW DRAWING	7/27/2007



TOLERANCE:
#0.3mm UNLESS OTHERWISE
SPECIFIED



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TITLE: Incremental Encoder
REV: A

PART NO: MES20-PS
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	-	-	-

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PC FILE NAME:
MES20-PS