

SERIES: MES3 | **DESCRIPTION:** INCREMENTAL ENCODER

FEATURES

- 5 mm diameter
- 64, 100, or 1024 ppr resolution
- square wave output


ELECTRICAL

parameter	conditions/description	min	nom	max	units
power supply	3.2 Vdc ±5% (open collector) 5 Vdc - 5% ~ 12 Vdc + 10% (voltage output, open collector) ¹ 5 Vdc ±5% (line driver) ¹				
current consumption	P models PST models			15 20	mA mA
output signals	A, B, Z (voltage output, open collector) A, \bar{A} , B, \bar{B} , Z, \bar{Z} (line driver)				
output waveform	square wave				
output resolutions	P models PST models	64, 100 1024 (64 x 16)			PPR PPR
output voltage	V_{OL} V_{OH}	$V_{CC}-0.3$		0.3	V V
output current				20	mA
output phase difference	A,B phase difference: $T/4 \pm T/8$ Z phase width: $T \pm 0.5T$				
frequency response				100	kHz
waveform rise/fall time	output cable 300 mm or less			2	μ s

Notes: 1. Requires I/F interface module (page 4)

MECHANICAL

parameter	conditions/description	min	nom	max	units
max. shaft load	radial and axial			0.98 100	N gf
starting torque			5×10^{-4} 5		N·m gf·cm
max. rotational speed				6,000	RPM

ENVIRONMENTAL

parameter	conditions/description	min	nom	max	units
operating temperature		0		60	°C
storage temperature		-20		80	°C
humidity	non-condensing	30		95	%
vibration	1.5 mm, 55 Hz, 2 hours each on XYZ				
shock	3 times each on XYZ			50	G

PART NUMBER KEY

MES3 - XXX P XX XX

Base Number

Output Resolution:

64(P) = 64 ppr
 100(P) = 100 ppr
 64(P)ST = 1,024 ppr

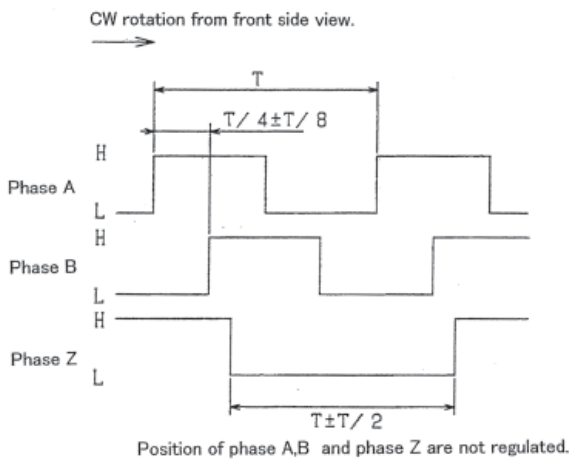
Output Options:

"blank" = 3.2 V Open Collector without I/F box
 3 = Option 5 ~ 12 V Voltage Output with I/F box
 C3 = Option 5 ~ 12 V Open Collector with I/F box
 E = Option 5 V Line Driver with I/F box

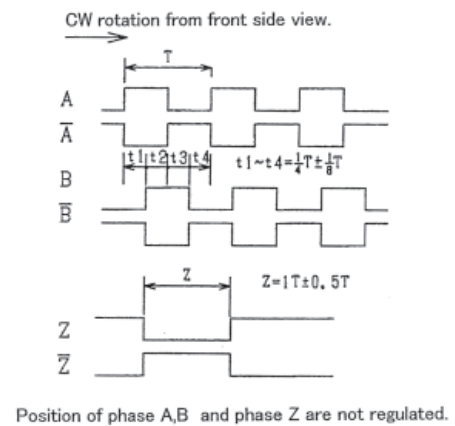
OUTPUT WAVEFORM

MES3-P

voltage output / open collector output

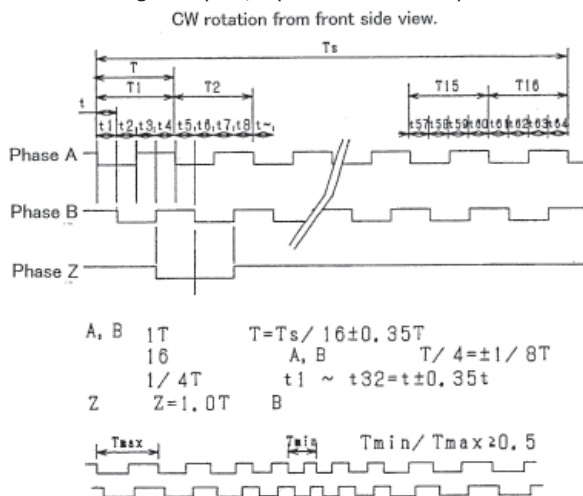


line driver output

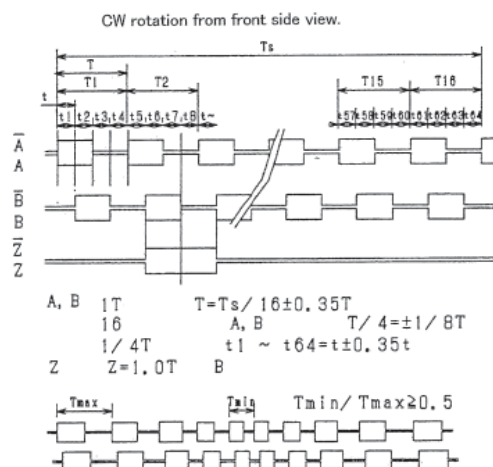


MES3-PST

voltage output / open collector output

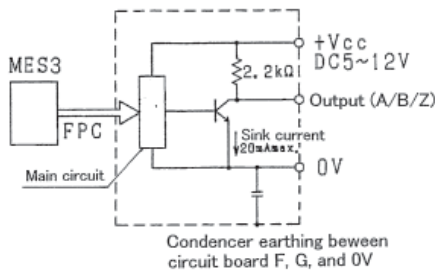


line driver output

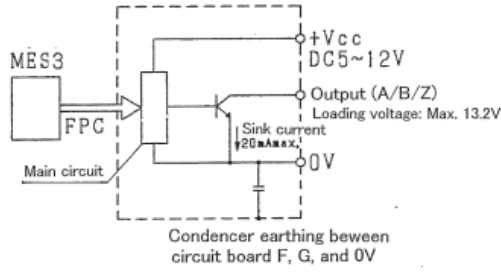


CIRCUIT DIAGRAM

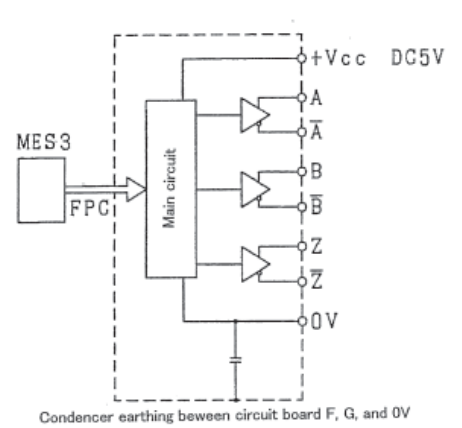
Voltage output



Open collector output



Line driver output

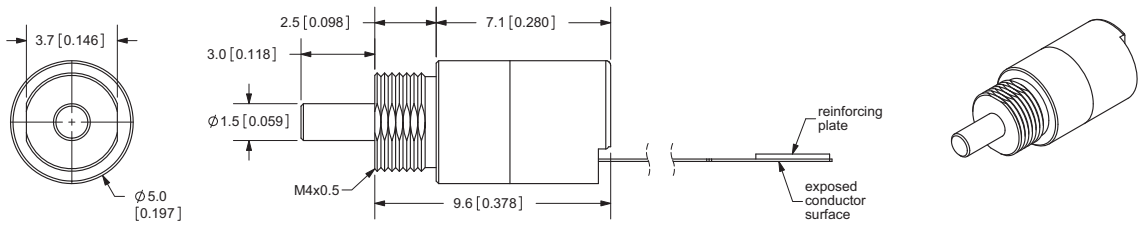


Output IC

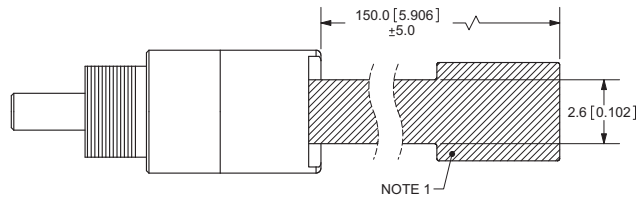
SN75ALS192(TI) or same kind

MECHANICAL DRAWING

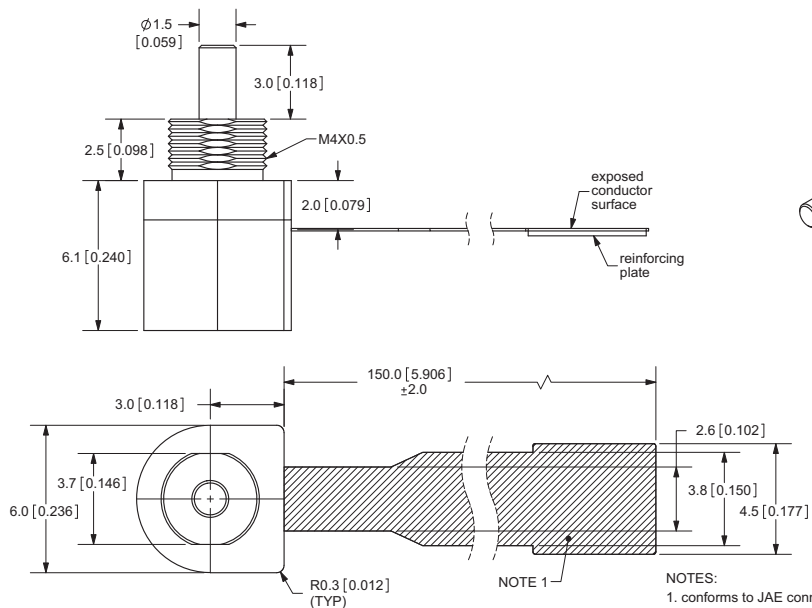
units: mm[inches]
TOLERANCE: $\pm 0.3\text{mm}$



MES3-P

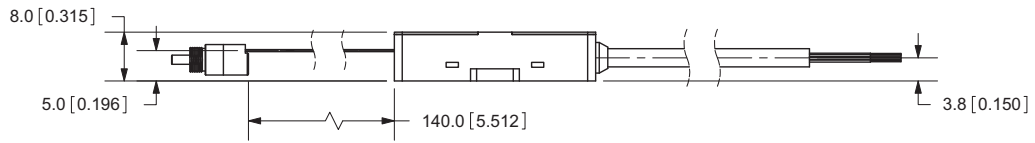
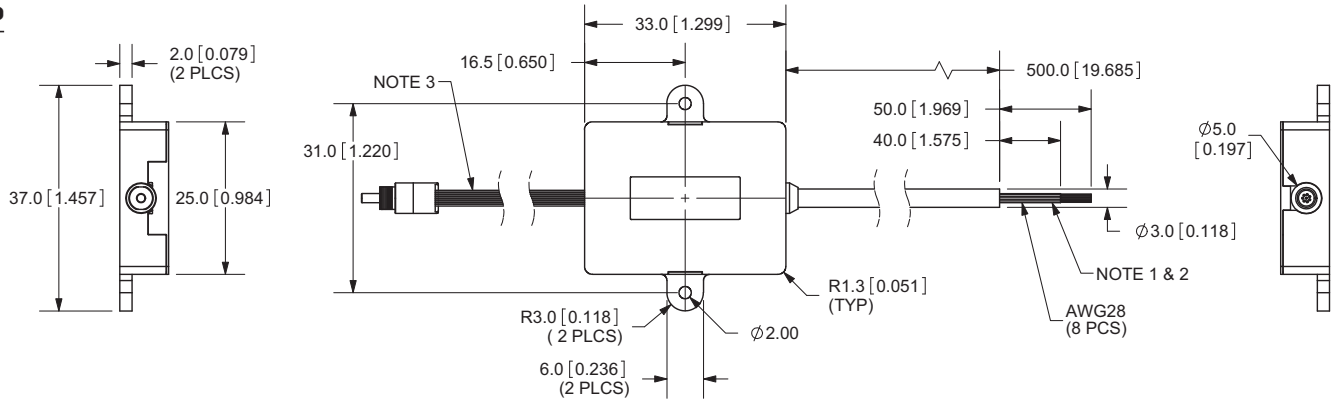


MES3-PST



I/F BOARD

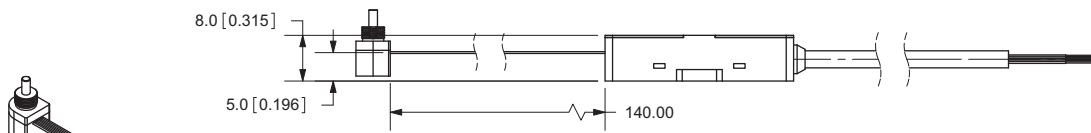
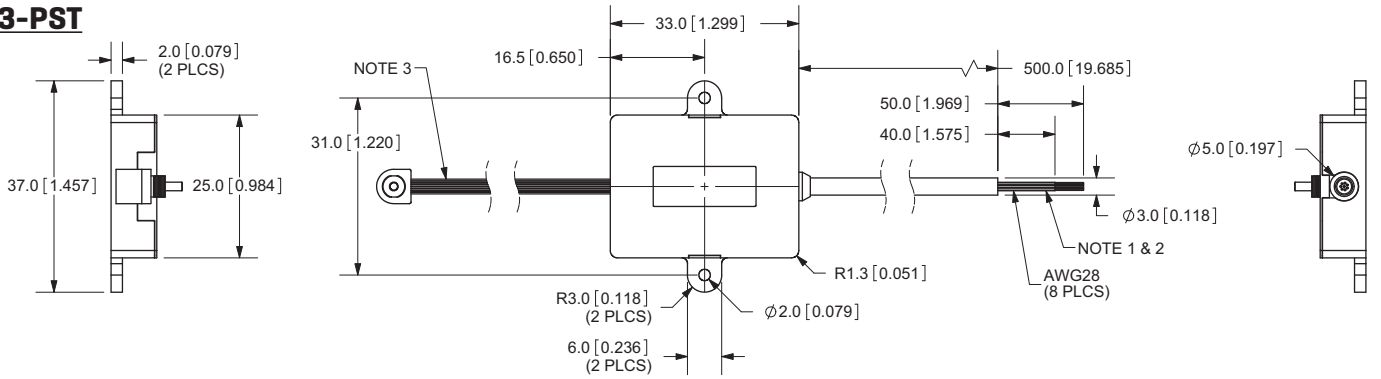
MES3-P



NOTES:

1. 8 core (line driver output)
- 5 core (voltage output, open collector output)
2. twisted 2-3mm soldered tip finish
3. FPC cable (encoder side)

MES3-PST



REVISION HISTORY

rev.	description	date
1.0	initial release	10/08/2009
1.01	applied new template	05/14/2012

The revision history provided is for informational purposes only and is believed to be accurate.



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