CUI INC®

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

FEATURES

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

RoHS

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, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$ (line driver)				
output waveform	square wave				
output resolutions	P models 64, 100 PST models 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 ± T/8 Z phase width: T ± 0.5T				
frequency response				100	kHz
waveform rise/fall time	output cable 300 mm or less			2	µs

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

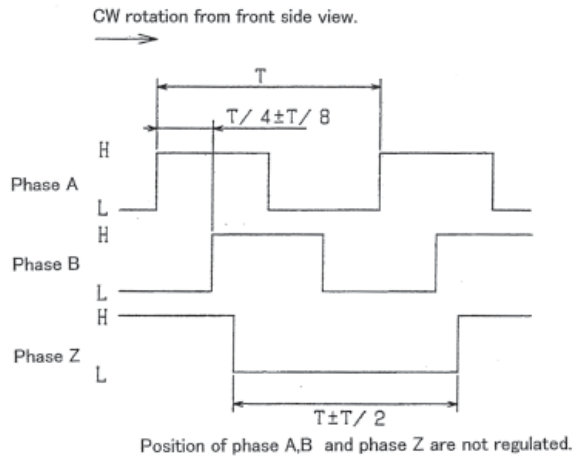
Output Resolution:
64(P) = 64 ppr
100(P) = 100 ppr
64(P)ST = 1,024 ppr

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

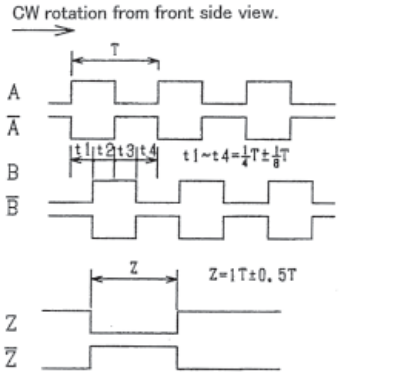
MES3-P

voltage output / open collector output



Position of phase A,B and phase Z are not regulated.

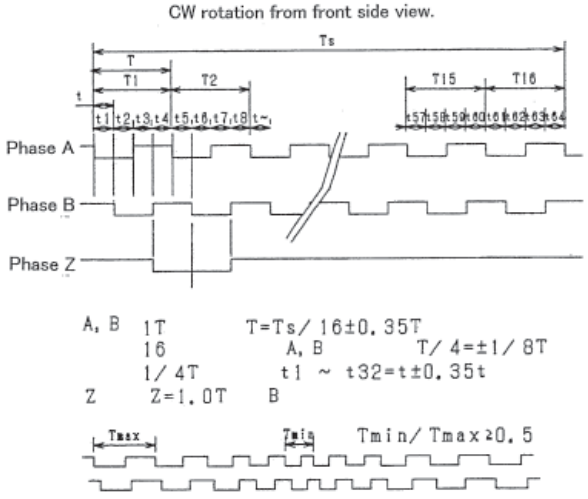
line driver output



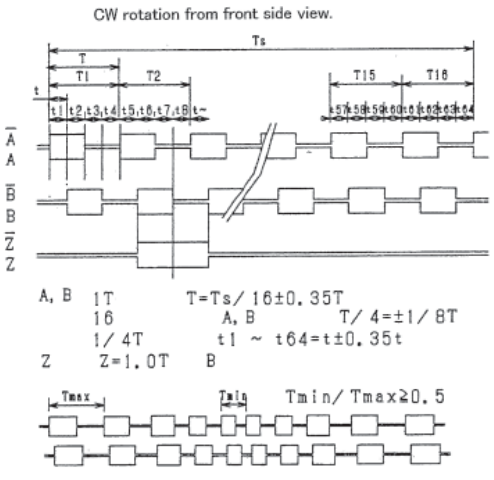
Position of phase A,B and phase Z are not regulated.

MES3-PST

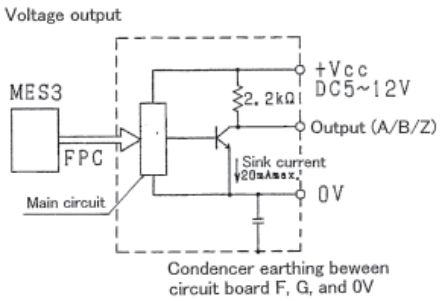
voltage output / open collector output

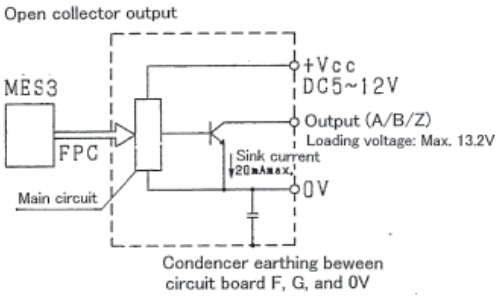


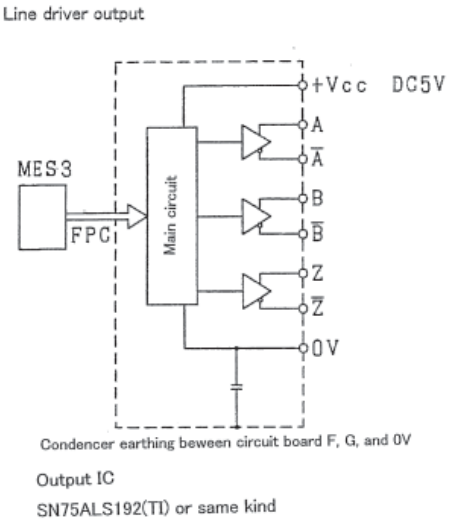
line driver output



CIRCUIT DIAGRAM



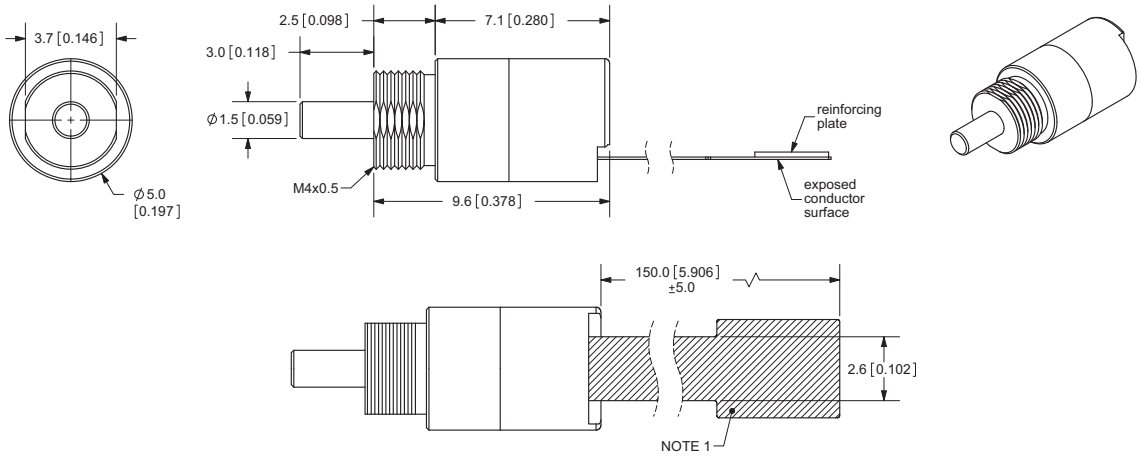




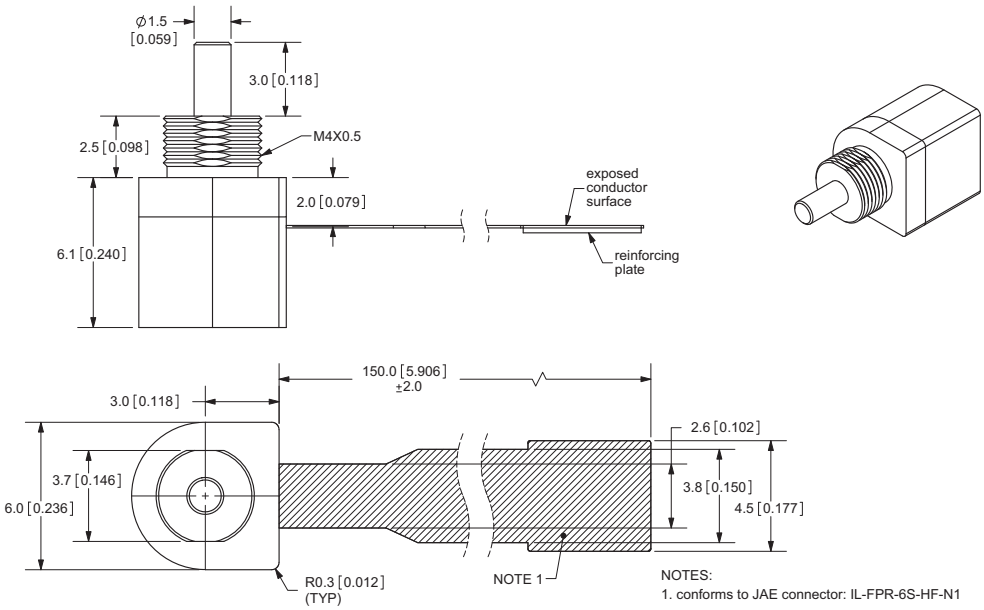
MECHANICAL DRAWING

units: mm[inches]
TOLERANCE: ±0.3mm

MES3-P

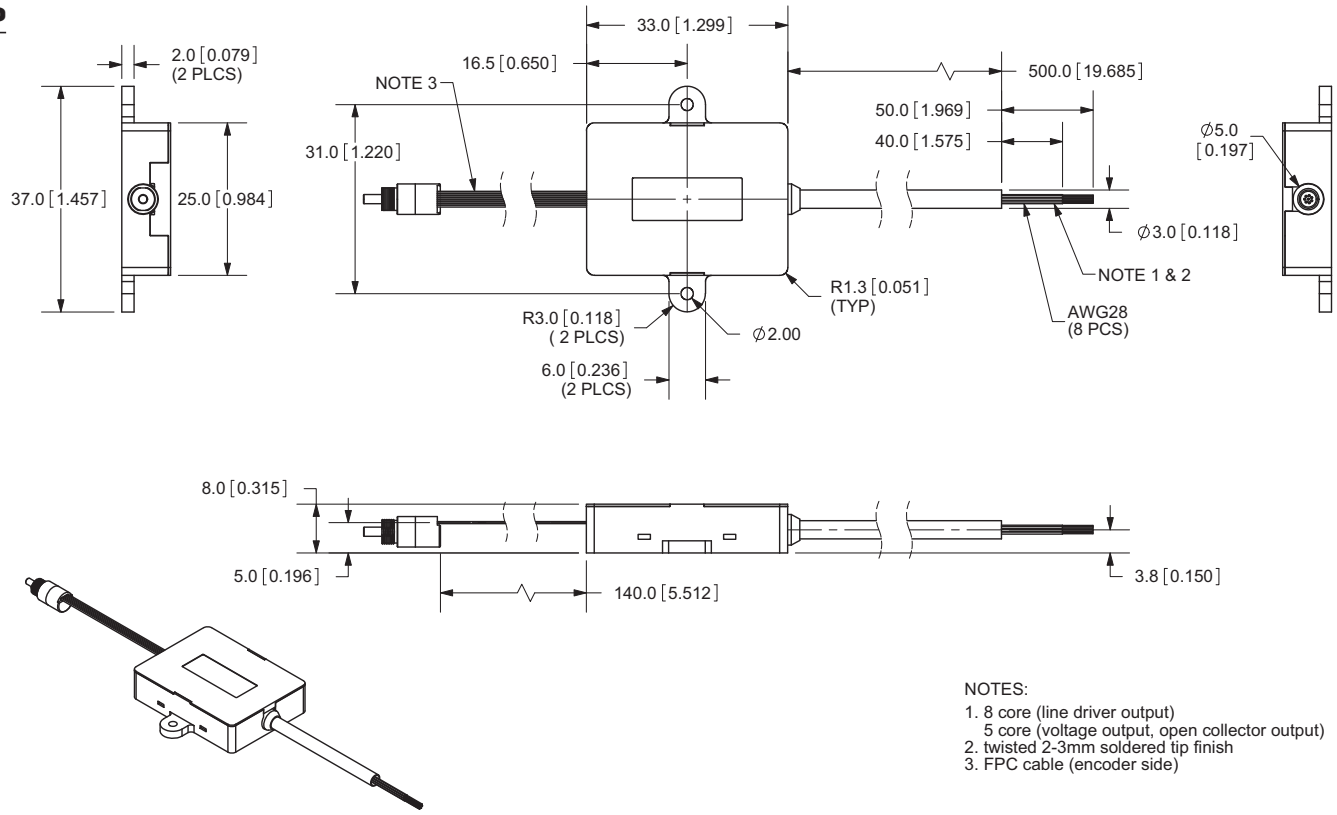


MES3-PST



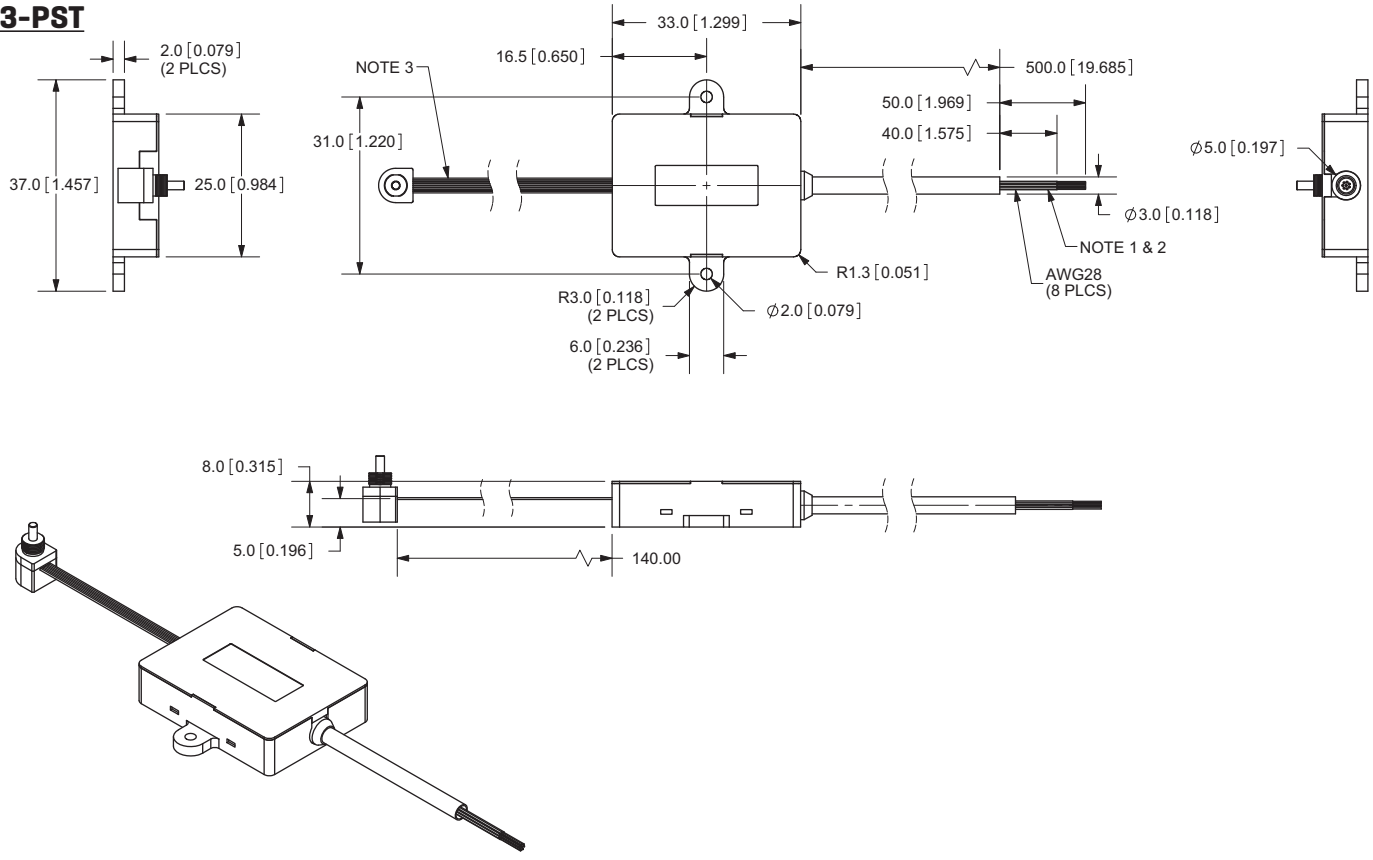
I/F BOARD

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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