

# Panel Potentiometer

Model P270 / P271 / P272 / P278



## Features:

- 1,000,000 Cycle Life
- Sealed unit available
- Conductive Plastic element
- Dual Gang available
- Center Tap available
- Several electrical angles available to cross to Honeywell 380, RV4, 485, 53C and 385 Series
- **Meets MIL-PRF-94 requirements.**



## Description:

27,8mm Diameter Conductive Plastic Potentiometer for Heavy Duty Applications and Long Life

## Applications:

- Machine Controls
- Welding equipment
- Foot pedal controls

## Model Styles Available

Solder Lugs, Single Gang	P270
Solder Lugs, with Center Tap	P271
Solder Lugs, Dual Gang	P272
Solder lugs, Single Gang for heavy side load applications	P278

## Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

Resistance Range	200 ohms-1MEG (for "B" taper) 1K-1MEG (for other tapers)
Standard Resistance Tolerance	1K to 1 MEG: ±10% <500 ohms: ±20%
Residual Resistance	6 ohms max.
Nominal Electrical Travel,	See Page 3 for available Electrical angles
Input Voltage, maximum	500 Vdc not to exceed power rating
Rated Power	2.0 Watts @70°C for "B" Taper, 1.0 Watt for other tapers
Dielectric Strength	1000 VAC, 1 minute
Rotational Noise	100mV max.
Insulation Resistance	50M ohms at 500 Vdc
Gang Error (Dual Unit)	±3dB (-40dB to 0dB)

### General Note

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## Mechanical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

Mechanical Travel	312° ± 5°
Rotational Torque, single gang	Dust Proof: 1.0 oz-in. max. Sealed: 1.0 to 2.5 oz-in.
Rotational Stop Strength	200 oz-in
Nut Tightening Strength	25 lb-in max.
Rotational Life	1,000,000 Cycles (10% ΔR)

## Environmental Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

Operating Temperature	-55°C to +120°C
IP Rating	Dust proof: IP50 Sealed: IP64
Soldering Condition	Wave Soldering 260 °C maximum for 1-3 seconds Hand Soldering 300 °C maximum for 3 seconds
RoHS	Please refer to TT Electronics Website
REACH	Please refer to TT Electronics Website

## Packaging

Standard Packaging	Plastic Trays
Hardware	Lock washer and mounting nut

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## Ordering Information

P270	-	S	F	2	2	B	R	100K	274
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**Part Family**

- P270
- P271 (Center Tap)
- P272 (Dual gang)
- P278 (Heavy Duty)

**Seal Type**

- D - Dust proof
- S - Sealed

**Shaft Type (See page 4)**

- S - Slotted
- F - Flatted
- P - Plain

**Shaft Length - "L"**

- 1 - .625"
- 2 - .875"
- 3 - 1.000"
- 4 - 2.000"
- 5 - .750"

**Bushing Length "M"**

- 1 - .250"
- 2 - .375"
- 3 - .500"
- 4 - .312"

**Resistance Taper (See page 7)**

- A - Audio (15A)
- B - Linear (1B)
- C - Reverse Audio (15C)
- D - Audio (10A)

**Resistance**

See Resistance Table

**Electrical Angle**

- Blank = 300°
- 292 = 292°                      263 = 263°
- 284 = 284°                      112 = 112°
- 274 = 274°                      045 = 45°
- 270 = 270°

Resistance Table												
Resistance (Ohms)	200	500	1,000	2,000	5,000	10,000	20,000	50,000	100,000	200,000	500,000	1,000,000
Code	200	500	1K	2K	5K	10K	20K	50K	100K	200K	500K	1MEG

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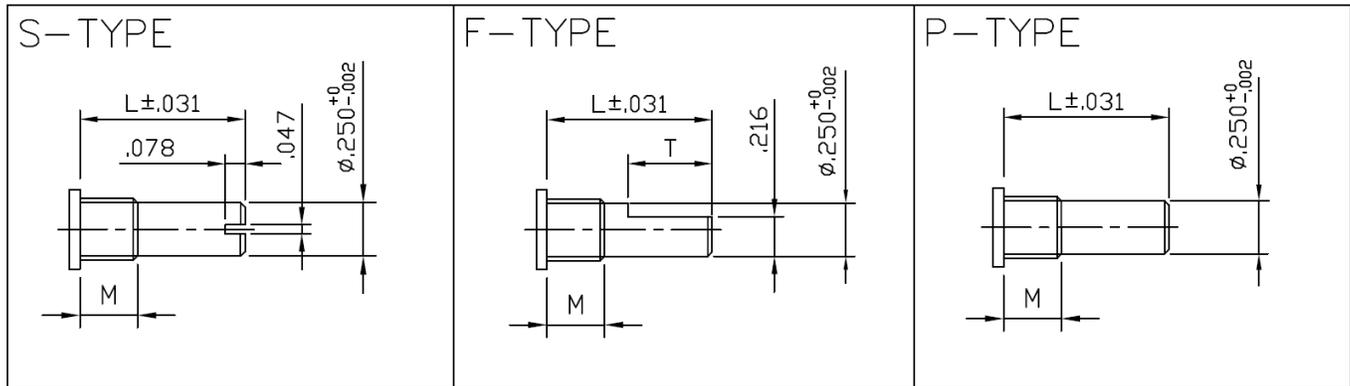
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## Shaft Types

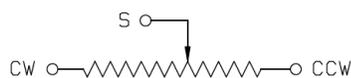


### F-TYPE Shaft – Bushing Combinations

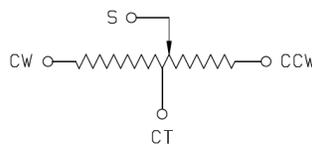
Shaft Length (L)	Bushing Length (M)	Flat Length (T)
(1) = .625	(1) = .250	.315
(1) = .625	(4) = .312	.250
(1) = .625	(2) = .375	.200
(1) = .625	(3) = .500	Not Available
(5) = .750	(2) = .375	.315
(5) = .750	(3) = .500	.200
(2) = .875	(3) = .500	.315
All Other	Combinations	.375

## Circuit Diagrams

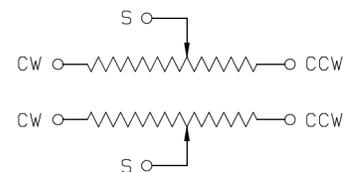
P270 (without Center Tap)



P271 (with Voltage Center Tap)



P272 (Dual Gang)



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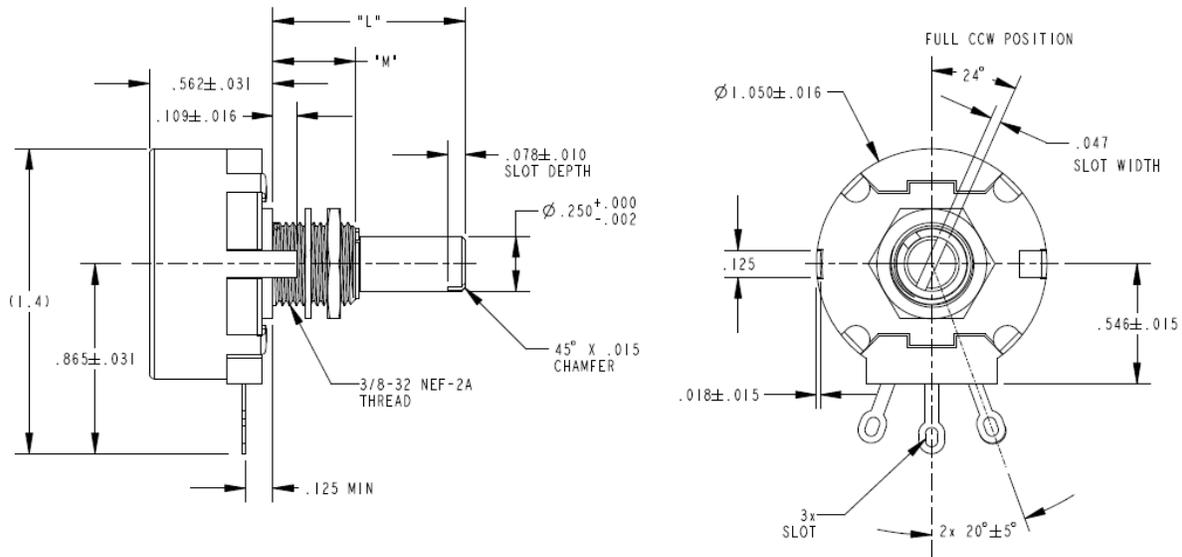
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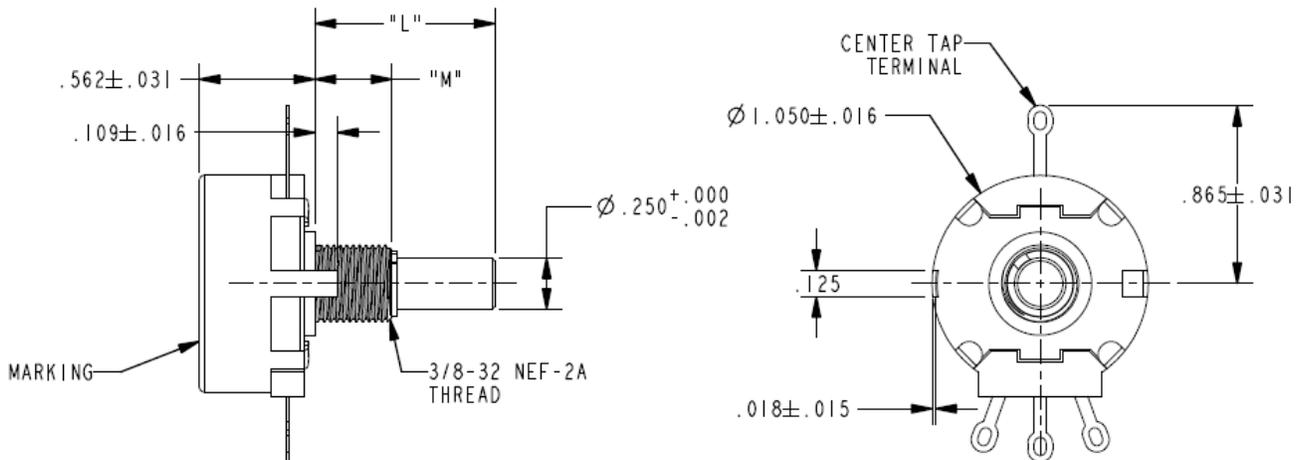


## Outline Dimensions

### Model P270



### Model P271 (Center Tap)



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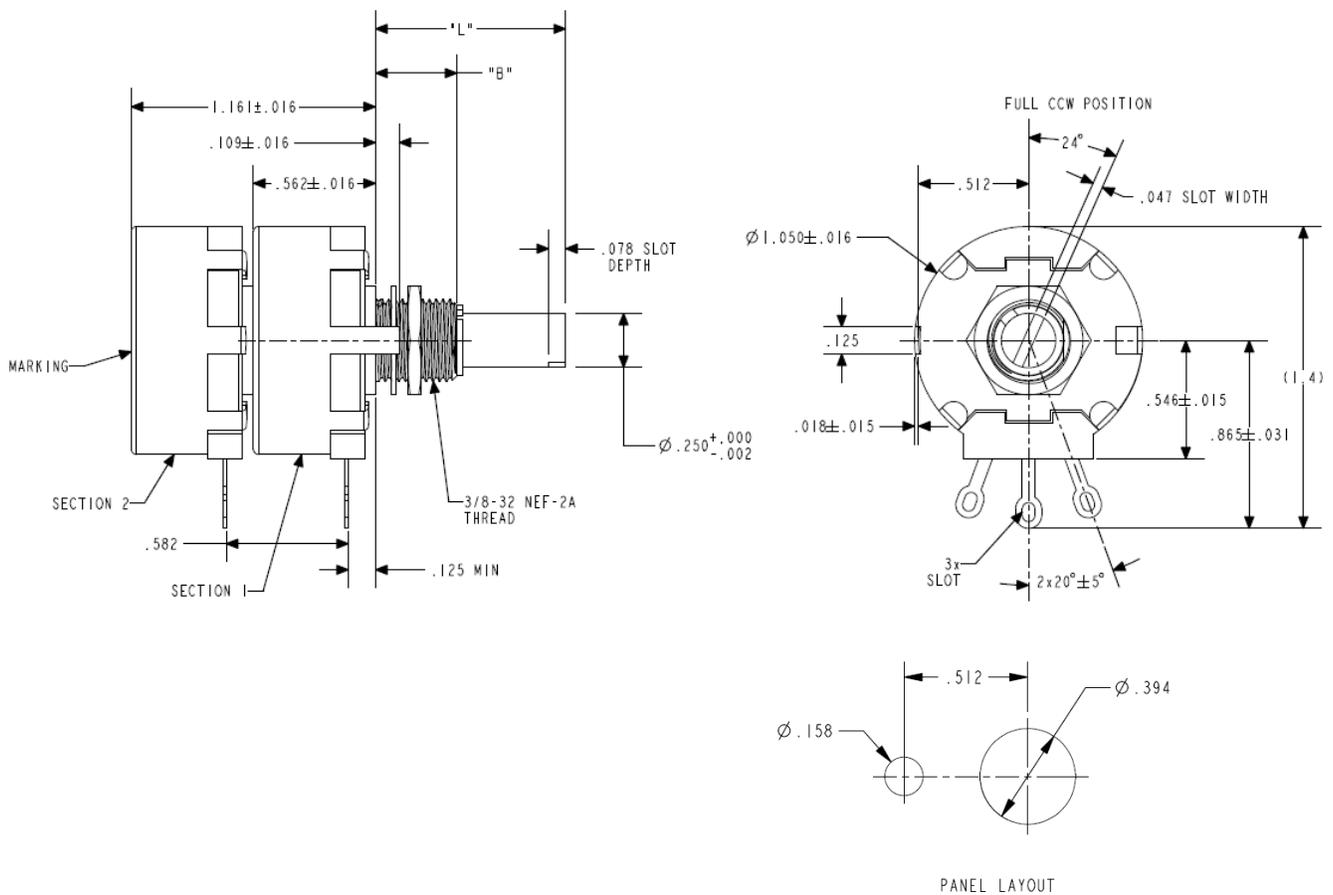
# Panel Potentiometer

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## Outline Dimensions

### Model P272 (Dual Gang)



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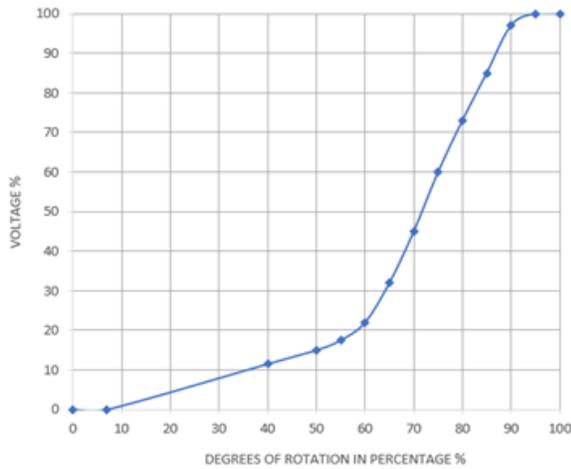
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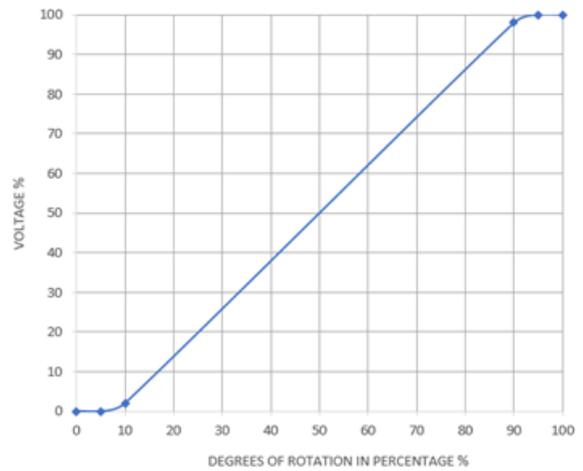


## Standard Tapers

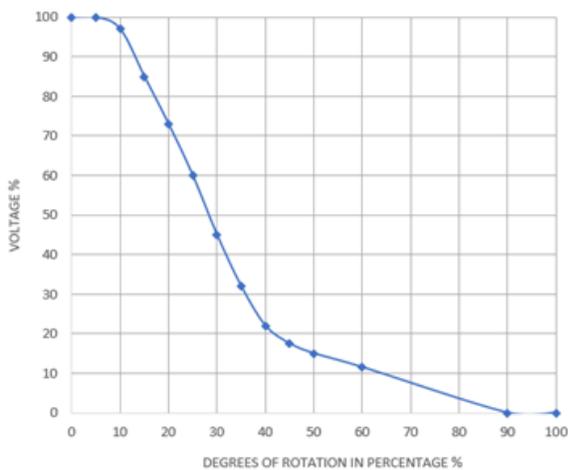
"A" AUDIO (15A)



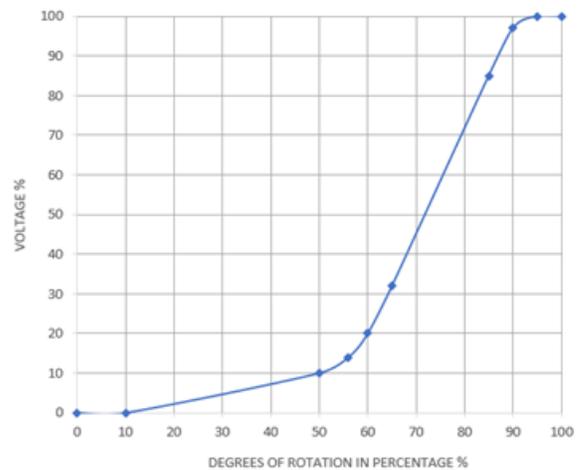
"B" LINEAR (1B)



"C" REVERSE AUDIO (15C)



"D" AUDIO (10A)



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