

# PZ34 Series Linear Potentiometers With Cylindrical Case



## Features

- PZ34 models feature a 0.75 in [19.05 mm] cylindrical housing
- Rod eye mounting system adds versatility for a wide range of applications
- Designed for easy installation thanks to an absence of electrical signal variation in output
- Ideal for applications such as wood and glass working, finishing machinery, and car test benches
- All potentiometers are individually tested at the manufacturer, and an individualized Linearity Error Chart is included with each unit

## PZ34 Series Linear Potentiometers Selection Chart

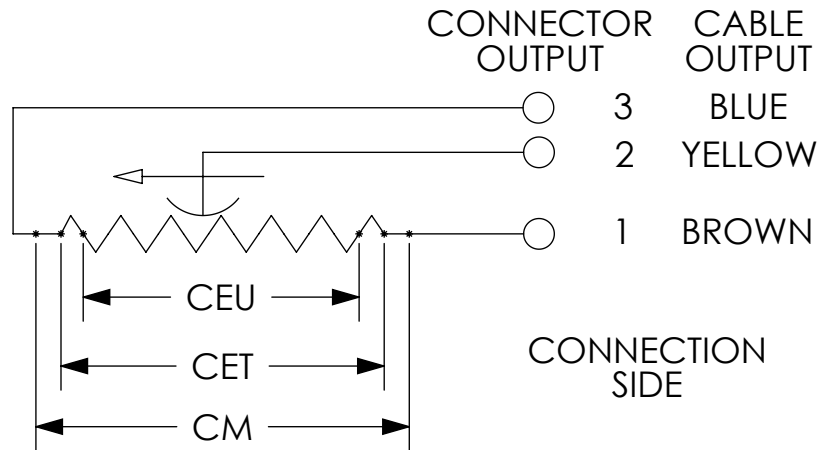
Part Number	Price	Drawing Link	Useful Electrical Stroke (CEU) mm [in]	Theoretical Electrical Stroke (CET) mm [in]	Resistance (CET)	Mechanical Stroke (CM) mm [in]	Case Length (A) mm [in]	Minimum Distance Between Rod Eyes (C) mm [in]
<a href="#">PZ34-A-0025-L</a>	\$198.00	<a href="#">PDF</a>	25 [0.98]	26 [1.02]	1KΩ	30 [1.18]	110 [4.33]	163 [6.42]
<a href="#">PZ34-A-0050-L</a>	\$207.00	<a href="#">PDF</a>	50 [1.97]	51 [2.01]	2KΩ	55 [2.17]	135 [5.31]	188 [7.40]
<a href="#">PZ34-A-0075-L</a>	\$210.00	<a href="#">PDF</a>	75 [2.95]	76 [2.99]	3KΩ	80 [3.15]	160 [6.30]	213 [8.39]
<a href="#">PZ34-A-0100-L</a>	\$215.00	<a href="#">PDF</a>	100 [3.94]	101 [3.98]	4KΩ	105 [4.13]	185 [7.28]	238 [9.37]
<a href="#">PZ34-A-0125-L</a>	\$218.00	<a href="#">PDF</a>	125 [4.92]	126 [4.96]	5KΩ	130 [5.12]	210 [8.27]	263 [10.35]
<a href="#">PZ34-A-0150-L</a>	\$221.00	<a href="#">PDF</a>	150 [5.91]	151 [5.94]	6KΩ	155 [6.10]	235 [9.25]	288 [11.34]
<a href="#">PZ34-A-0200-L</a>	\$225.00	<a href="#">PDF</a>	200 [7.87]	201 [7.91]	7KΩ	205 [8.07]	285 [11.22]	338 [13.31]
<a href="#">PZ34-A-0250-L</a>	\$235.00	<a href="#">PDF</a>	250 [9.84]	251 [9.88]	8KΩ	255 [10.04]	335 [13.19]	388 [15.28]

## PZ34 Series Linear Potentiometers Specifications

Model PZ34-A-xxxx-L	0025	0050	0075	0100	0125	0150	0200	0250
Independent Linearity (Within CEU)	± 0.2%	± 0.1%	± 0.1%	± 0.1%	± 0.05%	± 0.05%	± 0.05%	± 0.05%
Resolution	Infinite							
Repeatability	-							
Electrical Connections	PVC, 1m [3.28 ft] 3-wire axial cable, 24AWG (0.25 mm <sup>2</sup> )							
Displacement Speed	≤ 10 m/s [32.81 ft/s]							
Protection Level	IP60							
Life	> 25x10 <sup>6</sup> strokes or > 100x10 <sup>6</sup> maneuvers, whichever is less (within CEU)							
Displacement Force	≤ 0.5 N							
Vibrations	5-2000 Hz: A <sub>max</sub> =0.75 mm [0.03 in], a <sub>max</sub> =20g							
Shock	50g, 11ms							
Acceleration	-							
Tolerance on Resistance	±20%							
Recommended Cursor Current	< 0.1 μA							
Maximum Cursor Current	10mA							
Maximum Applicable Voltage	20V	40V	60V	60V	60V	60V	60V	60V
Electrical Isolation	>100MΩ at 500V~, 1bar, 2s							
Dielectric Strength	< 100μA at 500V~, 50Hz, 2s, 1bar							
Dissipation at 40 °C [104 °F] (0W at 120 °C [248 °F])	0.8 W	1.6 W	2.6 W	3W	3W	3W	3W	3W
Thermal Coefficient of Resistance	-							
Actual Temperature Coefficient of Output Voltage	≤ 1.5 ppm/°C							
Working Temperature	-30 to +100°C [-22 to +212°F]							
Storage Temperature	-50 to +120°C [-58 to 248°F]							
Case Material	Anodized aluminum, Nylon 66							
Shaft Material	Stainless steel AISI 303							
Mounting	Self-aligning rod eyes							

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## Electrical Connections



### When choosing a transducer, it is important to remember that three different strokes exist:

- Mechanical Stroke (CM): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (CEU): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Theoretical Electrical Stroke (CET): Stroke expressed in mm or angular degrees between the electrical zero ( $V_{out}=0$ ) and the electrical limit switch ( $V_{out}=V_s$ ), which physically is equal to the distance between the silver pitches at the ends of the resistive track.

Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.