

PZ34 Series Linear Potentiometers With Cylindrical Case



Features

- PZ34 models feature a 0.75 [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

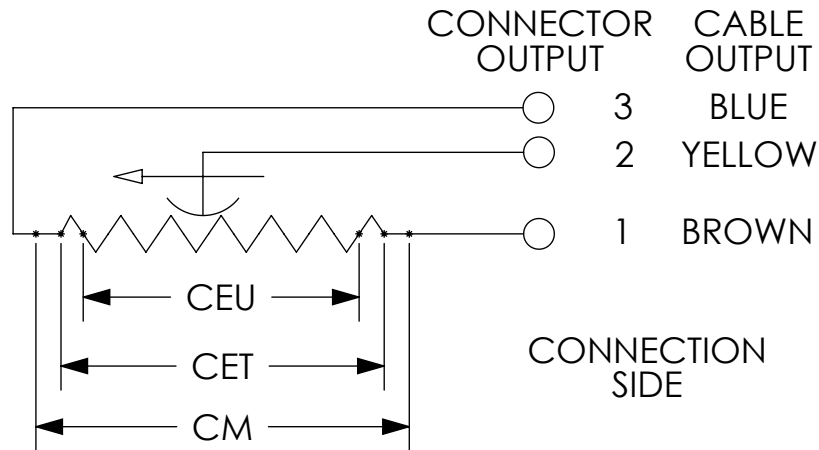
| Part Number | Price | Drawing Link | Useful Electrical Stroke (CEU) mm [in] | Theoretical Electrical Stroke (CET) mm [in] | Resistance (CET) | Mechanical Stroke (CM) mm [in] | Case Length (A) mm [in] | Minimum Distance Between Rod Eyes (C) mm [in] |
|-------------------------------|----------|---------------------|---|--|------------------|-----------------------------------|----------------------------|--|
| PZ34-A-0025-L | \$185.00 | PDF | 25 [0.98] | 26 [1.02] | 1KΩ | 30 [1.18] | 110 [4.33] | 163 [6.42] |
| PZ34-A-0050-L | \$192.00 | PDF | 50 [1.97] | 51 [2.01] | 2KΩ | 55 [2.17] | 135 [5.31] | 188 [7.40] |
| PZ34-A-0075-L | \$195.00 | PDF | 75 [2.95] | 76 [2.99] | 3KΩ | 80 [3.15] | 160 [6.30] | 213 [8.39] |
| PZ34-A-0100-L | \$200.00 | PDF | 100 [3.94] | 101 [3.98] | 4KΩ | 105 [4.13] | 185 [7.28] | 238 [9.37] |
| PZ34-A-0125-L | \$203.00 | PDF | 125 [4.92] | 126 [4.96] | 5KΩ | 130 [5.12] | 210 [8.27] | 263 [10.35] |
| PZ34-A-0150-L | \$206.00 | PDF | 150 [5.91] | 151 [5.94] | 6KΩ | 155 [6.10] | 235 [9.25] | 288 [11.34] |
| PZ34-A-0200-L | \$210.00 | PDF | 200 [7.87] | 201 [7.91] | 7KΩ | 205 [8.07] | 285 [11.22] | 338 [13.31] |
| PZ34-A-0250-L | \$218.00 | PDF | 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 ²) | | | | | | | |
| Displacement Speed | ≤ 10 m/s [32.81 ft/s] | | | | | | | |
| Protection Level | IP60 | | | | | | | |
| Life | > 25x10 ⁶ strokes or > 100x10 ⁶ maneuvers, whichever is less (within CEU) | | | | | | | |
| Displacement Force | ≤ 0.5 N | | | | | | | |
| Vibrations | 5-2000 Hz: Amax=0.75 mm [0.03 in], amax=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.