Cable-Extension Position Transducer

- Short to Medium Range
- Precision Potentiometric Output

**PT101**

The PT101 is available with full-scale measurement ranges from 2 to 100 inches, providing a voltage feedback signal that is linearly proportional to the position of a traveling stainless steel extension cable. The PT101 has been applied to literally thousands of applications, including automotive suspension testing, saw-blade depth, valve stem opening and aircraft structural testing.

The PT101 installs in minutes by mounting its base to a fixed surface and attaching its cable to the movable object. The PT101 works without perfect parallel alignment, and when its stainless steel cable is retracted, its height is less than 5".

### Standard Specifications:

**GENERAL**
- **Range:** 0-2, -5, -10, -15, -20, -25, -30, -40, -50, -60, -75, -100 inches
- **Weight:** 2 lb. typical
- **Enclosure Materials:** powder coated or anodized aluminum
- **Sensor:** plastic-hybrid precision potentiometer
- **Electrical Connector:** MS3102E-14S-6P
- **Mating Plug (included):** MS3106E-14S-6S

**ELECTRICAL**
- **Sensor Resistance:** 500, 1K, 5K & 10K ohms
- **Optional Bridge Circuits:** 2mV/V & adjustable 0-30 mV/V
- **Power Rating, Watts:** 2.0 at 70°F (derated to 0 watts at 250°F)
- **Recommended Maximum Voltage:** 30V

**PERFORMANCE**
- **Accuracy:**
  - 2 and 5 inch ranges: +/- 0.25% full stroke
  - 10, 15 and 25 inch ranges: +/- 0.15% full stroke
  - 20 inch, 30 inch, and greater: +/- 0.10% full stroke
- **Resolution:** essentially infinite
- **Repeatability:** Greater of ± 0.001 inches or 0.02% full stroke

**MECHANICAL**
- **Electrical Output Signal**

<table>
<thead>
<tr>
<th>Measurement Range (Inches)</th>
<th>Cable Tension (Ounces, ±30%)</th>
<th>Max. Cable Acceleration (Gravities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2, -10, -20</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>0-5, -25, -50</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>0-15, -30</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>0-40</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>0-60</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>0-75</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>0-100</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>

Optional Cable Tension specified see order code

Measuring Cable: 0.019-inch dia. nylon-coated stainless steel
Measuring Cable Fitting: crimp and swivel

**ENVIRONMENTAL**
- **Operating Temperature:** -40°F to +200°F
- **Temperature Coefficient of Sensing Element:** 88 P.P.M./°F
- **Humidity:** 100% RH at 90°F
- **Vibration:** up to 10 G’s to 2000 Hz
- **Enclosure:** NEMA 1
PT101 Short to Medium Range / Precision Potentiometric Output

Ordering Information / Model Number:


- Full Stroke Range
  0002 = 2 inches
  0005 = 5 inches
  0010 = 10 inches
  0015 = 15 inches
  0020 = 20 inches
  0025 = 25 inches

- Measuring Cable Tension
  1 = standard (see MECHANICAL specifications)
  2 = increased (approx. 6 x standard cable tension, 0.024 inch dia. measuring cable)*
  3 = high (approx. 12 x standard cable tension, 0.024 inch dia. measuring cable)*
  7 = decreased (same as standard cable tension)

- Measuring Cable Exit
  1 = top exit
  2 = front exit
  3 = rear exit
  4 = bottom exit

- Sensing Circuit
  1 = 500 ohm potentiometer
  2 = 1K ohm potentiometer
  3 = 5K ohm potentiometer
  4 = 10K ohm potentiometer
  5 = 2 mV/V bridge
  6 = 0-30 mV/V adjustable bridge

- Electrical Connection
  1 = 6-pin plastic connector and mating plug
  2 = terminal strip
  3 = 6-pin metal connector and mating plug
  4 = 25 ft. instrumentation cable

* note: mechanical dimensions may vary from outline drawing above

A 2.00 (50.8)
1.37 (34.8)
4.75 (120.7)
1.88 (47.8)
0.20 (5.1) dia. [4 places]

"A" DIMENSION
RANGE INCHES (MM)
2", 10", 20" 0.66 (16.7)
5", 25", 50" 0.17 (4.3)
15", 30" 0.44 (11.2)
40" 0.36 (9.2)
ALL DIMENSIONS ARE IN INCHES (MM)
tolerances ±0.02 in. (+0.5mm) unless otherwise noted

Full Stroke Range
0002 = 2 inches
0030 = 30 inches
0005 = 5 inches
0040 = 40 inches
0010 = 10 inches
0050 = 50 inches
0015 = 15 inches
0060 = 60 inches
0020 = 20 inches
0075 = 75 inches
0025 = 25 inches
0100 = 100 inches

NOTE: options 2, 3, and 7 below are available for RE-ORDER only!

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Sensing Circuit
+IN
-OUT

Mating Plug

Instrumentation Cable

Electrical Connection

Celesco

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