



# Potentiometer Linear Position Sensors LSR-33P Series

## Overview

The ProSense LSR-33P series offers easy installation with fixing brackets. This series is available in 30 to 1,000mm stroke measurement with an infinite resolution and IP65 protection rating. The LSR-33P series linear position sensors offer similar form factors as competitors and are available at a less expensive cost.

## Features

- Fixed slide
- 30 to 1,000mm stroke measurement
- IP65 protection rating
- Easy installation with fixing brackets
- Mounting hardware and connectors (LSR33-ACC-KIT) included



**LSR-33P-0030-A5-C1**

## Potentiometer Linear Position Sensors LSR-33P Series Selection Chart

| Part Number                         | Price    | Action      | Resistance | Useful Stroke (US)<br>mm [in] | Mechanical Stroke (MS)<br>mm [in] | Linearity | Housing Size          | Drawing Link        | Weight<br>kg [lb] |
|-------------------------------------|----------|-------------|------------|-------------------------------|-----------------------------------|-----------|-----------------------|---------------------|-------------------|
| <a href="#">LSR-33P-0030-A5-C1</a>  | \$94.00  | Fixed slide | 5kΩ        | 30 [1.18]                     | 34 [1.33]                         | +/- 0.5%  | 33 x 33 x 110mm body  | <a href="#">PDF</a> | 0.22 [0.48]       |
| <a href="#">LSR-33P-0050-A5-C1</a>  | \$95.00  |             |            | 50 [1.97]                     | 54 [2.12]                         | +/- 0.5%  | 33 x 33 x 130mm body  | <a href="#">PDF</a> | 0.25 [0.55]       |
| <a href="#">LSR-33P-0100-B5-C1</a>  | \$102.00 |             |            | 100 [3.94]                    | 104 [4.09]                        | +/- 0.2%  | 33 x 33 x 180mm body  | <a href="#">PDF</a> | 0.35 [0.77]       |
| <a href="#">LSR-33P-0130-C5-C1</a>  | \$107.00 |             |            | 130 [5.12]                    | 134 [5.27]                        | +/- 0.1%  | 33 x 33 x 210mm body  | <a href="#">PDF</a> | 0.45 [0.99]       |
| <a href="#">LSR-33P-0150-C5-C1</a>  | \$110.00 |             |            | 150 [5.91]                    | 154 [6.06]                        | +/- 0.1%  | 33 x 33 x 230mm body  | <a href="#">PDF</a> | 0.5 [1.1]         |
| <a href="#">LSR-33P-0200-C5-C1</a>  | \$117.00 |             |            | 200 [7.87]                    | 204 [8.03]                        | +/- 0.1%  | 33 x 33 x 280mm body  | <a href="#">PDF</a> | 0.6 [1.32]        |
| <a href="#">LSR-33P-0250-D5-C1</a>  | \$124.00 |             |            | 250 [9.84]                    | 254 [10.00]                       | +/- 0.05% | 33 x 33 x 330mm body  | <a href="#">PDF</a> | 0.7 [1.54]        |
| <a href="#">LSR-33P-0300-D5-C1</a>  | \$133.00 |             |            | 300 [11.81]                   | 304 [11.97]                       | +/- 0.05% | 33 x 33 x 380mm body  | <a href="#">PDF</a> | 0.8 [1.76]        |
| <a href="#">LSR-33P-0350-D5-C1</a>  | \$138.00 |             |            | 350 [13.77]                   | 354 [13.93]                       | +/- 0.05% | 33 x 33 x 430mm body  | <a href="#">PDF</a> | 0.9 [1.98]        |
| <a href="#">LSR-33P-0400-D5-C1</a>  | \$145.00 |             |            | 400 [15.75]                   | 404 [15.90]                       | +/- 0.05% | 33 x 33 x 480mm body  | <a href="#">PDF</a> | 1.0 [2.2]         |
| <a href="#">LSR-33P-0450-D5-C1</a>  | \$148.00 |             |            | 450 [17.71]                   | 454 [17.87]                       | +/- 0.05% | 33 x 33 x 530mm body  | <a href="#">PDF</a> | 1.1 [2.42]        |
| <a href="#">LSR-33P-0500-D5-C1</a>  | \$151.00 |             |            | 500 [19.69]                   | 504 [19.84]                       | +/- 0.05% | 33 x 33 x 580mm body  | <a href="#">PDF</a> | 1.2 [2.64]        |
| <a href="#">LSR-33P-0550-D5-C1</a>  | \$158.00 |             |            | 550 [21.65]                   | 554 [21.81]                       | +/- 0.05% | 33 x 33 x 630mm body  | <a href="#">PDF</a> | 1.3 [2.86]        |
| <a href="#">LSR-33P-0600-D5-C1</a>  | \$168.00 |             |            | 600 [23.62]                   | 604 [23.77]                       | +/- 0.05% | 33 x 33 x 680mm body  | <a href="#">PDF</a> | 1.4 [3.08]        |
| <a href="#">LSR-33P-0650-D10-C1</a> | \$182.00 |             | 10kΩ       | 650 [25.59]                   | 654 [25.74]                       | +/- 0.05% | 33 x 33 x 730mm body  | <a href="#">PDF</a> | 1.5 [3.3]         |
| <a href="#">LSR-33P-0700-D10-C1</a> | \$191.00 |             |            | 700 [27.56]                   | 704 [27.71]                       | +/- 0.05% | 33 x 33 x 780mm body  | <a href="#">PDF</a> | 1.6 [3.52]        |
| <a href="#">LSR-33P-0750-D10-C1</a> | \$198.00 |             |            | 750 [29.53]                   | 754 [29.68]                       | +/- 0.05% | 33 x 33 x 830mm body  | <a href="#">PDF</a> | 1.7 [3.74]        |
| <a href="#">LSR-33P-0800-D10-C1</a> | \$207.00 |             |            | 800 [31.50]                   | 804 [31.65]                       | +/- 0.05% | 33 x 33 x 880mm body  | <a href="#">PDF</a> | 1.8 [3.96]        |
| <a href="#">LSR-33P-0850-D10-C1</a> | \$215.00 |             |            | 850 [33.46]                   | 854 [33.62]                       | +/- 0.05% | 33 x 33 x 930mm body  | <a href="#">PDF</a> | 1.9 [4.18]        |
| <a href="#">LSR-33P-0900-D10-C1</a> | \$230.00 |             |            | 900 [35.43]                   | 904 [35.59]                       | +/- 0.05% | 33 x 33 x 980mm body  | <a href="#">PDF</a> | 2.0 [4.4]         |
| <a href="#">LSR-33P-1000-D10-C1</a> | \$248.00 |             |            | 1000 [39.37]                  | 1004 [39.52]                      | +/- 0.05% | 33 x 33 x 1080mm body | <a href="#">PDF</a> | 2.1 [4.84]        |

## Potentiometer Linear Position Sensors Accessory Kit

| Part Number                   | Price   | Drawing Link        | Description                                                                                   |
|-------------------------------|---------|---------------------|-----------------------------------------------------------------------------------------------|
| <a href="#">LSR33-ACC-KIT</a> | \$28.00 | <a href="#">PDF</a> | ProSense mounting hardware, replacement. For use with ProSense LSR-33P Linear Potentiometers. |



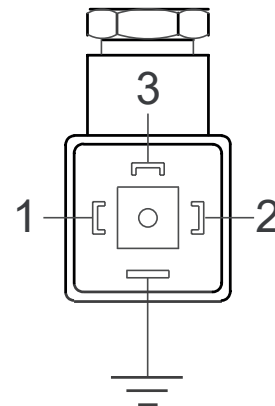
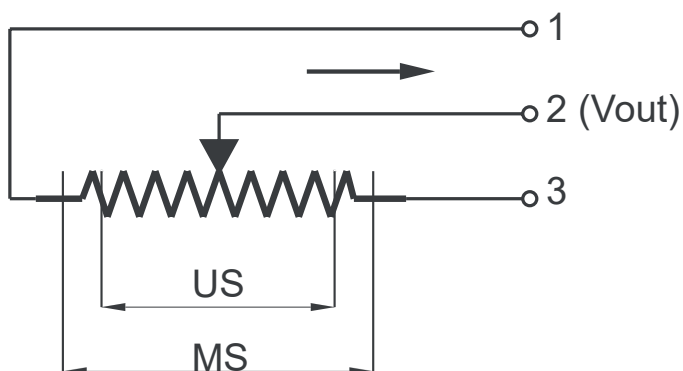
**LSR33-ACC-KIT**



# Potentiometer Linear Position Sensors LSR-33P Series

| Potentiometer Linear Position Sensors LSR-33P Series Specifications |                                                                                    |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Repeatability                                                       | 0.01 mm [0.0004 in]                                                                |
| Resolution                                                          | Infinite                                                                           |
| Permissible Applied Voltage                                         | 28VDC max.                                                                         |
| Resistance Tolerance                                                | ±20%                                                                               |
| Load Resistance                                                     | 100kΩ min.                                                                         |
| Displacement Speed                                                  | < 5m/s                                                                             |
| Mechanical Life                                                     | 100 million movement                                                               |
| Displacement Force                                                  | 3.5N (typical) IP60 version, 15N (typical) IP65 version                            |
| Vibration (According to EN 60068-2-6)                               | 5-2000 Hz, 200m/s <sup>2</sup> (20g) 2h 30min each axis (x,y,z)                    |
| Shock (According to EN 60068-2-2:2007)                              | 11ms. (x,y,z axis) 500 m/s <sup>2</sup> (50g)                                      |
| Recommended Wiper Current                                           | < 1μA                                                                              |
| Operating Temperature                                               | -20 to 80°C [-4 to 176°F]                                                          |
| Storage Temperature                                                 | -30 to 90°C [-22 to 194°F]                                                         |
| Case Material                                                       | Anodized aluminum                                                                  |
| Rod Material                                                        | Stainless steel AISI 303                                                           |
| Rod Diameter                                                        | Ø6 mm                                                                              |
| Cap Material                                                        | ABS plastic                                                                        |
| Head Type                                                           | M6                                                                                 |
| Connection                                                          | 18mm DIN 43650 Form A                                                              |
| Mounting                                                            | Brackets with adjustable distance between centers, or with M5 screw ISO4017-DIN933 |
| Agency Approval                                                     | CE                                                                                 |

## Electrical Connections



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

- Mechanical Stroke (MS): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (US): The part of the mechanical stroke in which transducer linearity is guaranteed.
- 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.