

# Linear Potentiometer

with Voltage / Current Conditioner Circuit

## PRODUCT OVERVIEW

The Linear Potentiometer is a precision displacement sensor designed to convert linear mechanical movement into a proportional electrical signal. It offers high accuracy, excellent repeatability, and reliable performance for industrial, aerospace, and automation applications.

## OPERATING PRINCIPLE

The sensor operates on the voltage divider principle. Linear movement of the actuator causes the wiper to traverse along a uniform resistive track, resulting in an output voltage proportional to the displacement relative to the total stroke length.



## SCOPE

This document defines the technical, electrical, mechanical, and environmental specifications of the Linear Potentiometer used for precise linear displacement measurement in industrial and control applications.

## SPECIFICATIONS

| #  | Description                 | Parameters                 |
|----|-----------------------------|----------------------------|
| 1  | Measurement stroke          | 30 to 1250 mm              |
| 2  | Linearity                   | ± 0.05 %                   |
| 3  | Repeatability               | < 0.01 mm                  |
| 4  | Resolution                  | Infinite                   |
| 5  | Output                      | 4–20 mA, 0–20 mA or 0–10 V |
| 6  | Permissible applied voltage | 15 – 30 VDC                |
| 7  | Electrical connections      | 4-pin connector            |
| 8  | Displacement speed          | < 5 m/s                    |
| 9  | Mechanical life             | 100 million cycles         |
| 10 | Case dimensions             | 33 mm x 33 mm              |
| 11 | Case material               | Anodized aluminium         |
| 12 | Rod diameter                | Ø6 mm                      |
| 13 | Rod material                | Stainless steel            |
| 14 | Mechanical fixing           | Variable brackets          |
| 15 | IP degree                   | IP 65                      |
| 16 | Operating temperature       | -20 °C ... +80 °C          |
| 17 | Storage temperature         | -30 °C ... +90 °C          |
| 18 | Connector                   | 4-pin connector            |