

# RPPS-FS Series Flat Shaft Rotary Potentiometer Angle Position Sensor

## Features

- 0° to 200° rotational angle
- 200° rotation technology
- Non-linearity less than  $\pm 0.5\%$  of FRO
- Environmentally sealed to IEC IP61
- DC-in / DC-out electronics

## Applications

- Quarter-turn valves
- Flue dampers
- Throttle position
- Dancer arm tensioning



## Overview

The HGSI RPPS-FS series rotary position potentiometer sensors are used to track the rotational position of a target. They provide an analog voltage output proportional to shaft rotation over a total range of 200°. Typical termination for this sensor is a 3-wire 1 meter (36 in) cable, custom options may be available upon request.

RPPS-FS series sensors are enclosed in a 40mm diameter housing, with a centered flat shaft. Mechanically, the sensor can rotate 200° before it reaches mechanical stops on both ends of the measuring range. The measuring range is indicated by the flats on the shaft of the sensor. The output signal is ratiometric; from 0% to 100% of excitation voltage, increasing as it is rotated counter-clockwise.

This RPPS-FS has an absolute output characteristic, which is a benefit over incremental output sensors like optical encoders that lose their position information in the event of a power failure.

## Specifications

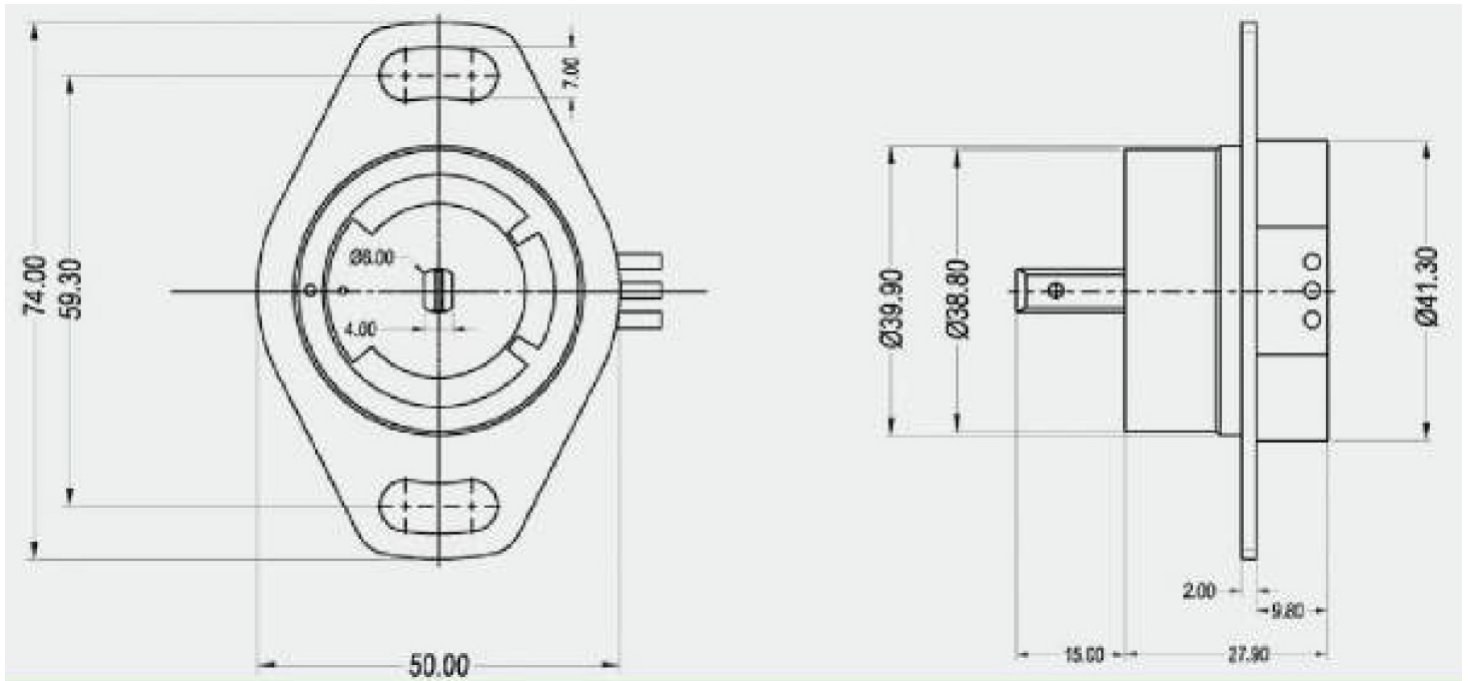
<b>Input Voltage:</b>	10 VDC max
<b>Full Scale Output:</b>	0 to 100% of input voltage (potentiometer circuit)
<b>Resolution:</b>	Infinite
<b>Element Type:</b>	Conductive plastic
<b>Operating Current:</b>	Input voltage / Potentiometer resistance value

**Non-linearity, Full stroke:  
Best Fit Straight Line (BFSL)** < $\pm 0.5\%$  (typical), < $\pm 1.0\%$  (max)

**Operating temperature:** -40°C to 85°C (-40°F to 185°F)  
**Temperature coefficient:**  $\pm 0.03\%$  of FSO/°C nominal  
**Resistance:** 5,000 $\Omega$   $\pm 20\%$   
**Repeatability:** 0.1°

**Shock Rating:** 50g (single hit) / IEC68-2-29  
**Vibration Rating:** 20g / IEC68-2-6  
**IP Rating:** IP61

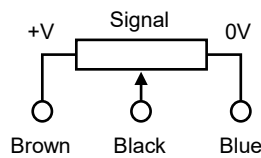
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Dimensions in mm

## Wiring Pin Out

	Integral Cable
DC Power In	Brown
Signal Output	Black
Ground	Blue



**IMPORTANT !**  
DO NOT CONNECT THE BLACK WIRE TO POWER SUPPLY  
THIS WILL CAUSE DAMAGE TO THE SENSOR

## Ordering Information

Model	Body OD	Measuring Range	Cable Length	Termination
RPPS-FS	- □ □	- □ □ □	- □ □ □	- □
	<b>40</b> 40 mm	<b>200</b> 200°	<b>036</b> 36 inch	<b>N</b> Leads

## Ordering Example

**RPPS-FS-40-200-036-N:** 40 mm diameter body, 200° measuring range, 36 inch cable with leads