

Rotary Position Sensor RPS-F



This sensor is designed to measure rotational movement of throttle position.

The electrical circuit is designed with a magnetic rotary sensor using a Hall element and digital signal processing; sensor output is ratiometric. The angular position is provided by a two pole magnet integrated in the sensor shaft.

The main benefit of this sensor is its contactless Hall effect technology and its robust design for motorsport applications which includes fully redundant power and ground.

Application

Application	0 to 360° possible
Operating temperature range	0 to 150°C
Max. vibration	200 m/s ² at 5 to 2,000 Hz

Technical Specifications

Mechanical Data

Weight w/o wire	< 36 g
Protection class	IP58
Mounting	2 x M4 screw
Lifetime	5 x 10 ⁶ operations of ±65°
Housing	Aluminum

Electrical Data

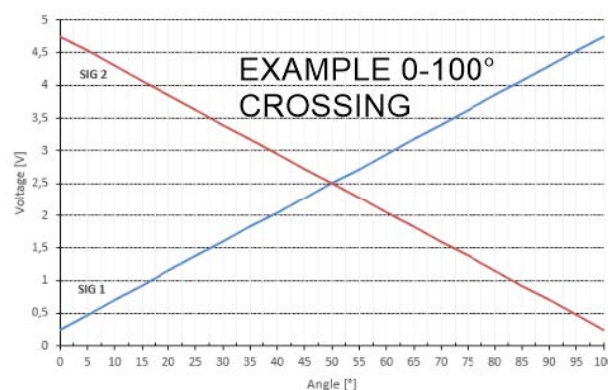
Power supply U _s	5 ± 0.5 V regulated
Max. overvoltage	24 V
Half voltage tolerance	± 2°
Supply current	< 12.5 mA
Resolution	< 0.1°

- ▶ Rotational movement measurement
- ▶ Hall effect technology
- ▶ Measurement range: 0 to 360° possible
- ▶ Analog output 0.2 to 4.8 V
- ▶ Dual output, fully redundant possible

Output voltage range	Ratiometric analog
Output load	> 10 kOhm

Characteristic

Max. rotation speed	600 ^{RPM}
Temp. coefficient	± 0.008° Rotation/°C 30°C nominal
Direction of rotation	Both
Redundancy	Yes



Flying lead and Wires

Red	U _s 1
Blue	Gnd 1
White	Sig 1
Orange	U _s 2
Green	Gnd 2
Yellow	Sig 2
Sleeve	DR-25
Wire size	AWG 26
Wire length L	100 cm

Installation Notes

The products of the RP series can be connected directly to most control units.

The sensor is designed with contactless Hall effect technology.

Any mounting orientation is possible.

Sensor is at mid point of electrical angle when shaft and wire exit are aligned as shown in the offer drawing.

Please find further application hints in the offer drawing at our homepage.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Fulfilled Legal Standards/Legal Requirements

EMC Requirement	UNECE10
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Legal Restrictions

Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

Ordering Information

Rotary Position Sensor RPS-F

Single output, 360° range

Order number **F02U.V0U.400-02**

Rotary Position Sensor RPS-F

Dual output, 100° range, crossing signals (throttle)

Order number **F02U.V0U.401-02**

Rotary Position Sensor RPS-F

Dual output, 40° range, second signal 50 % of first (pedal)

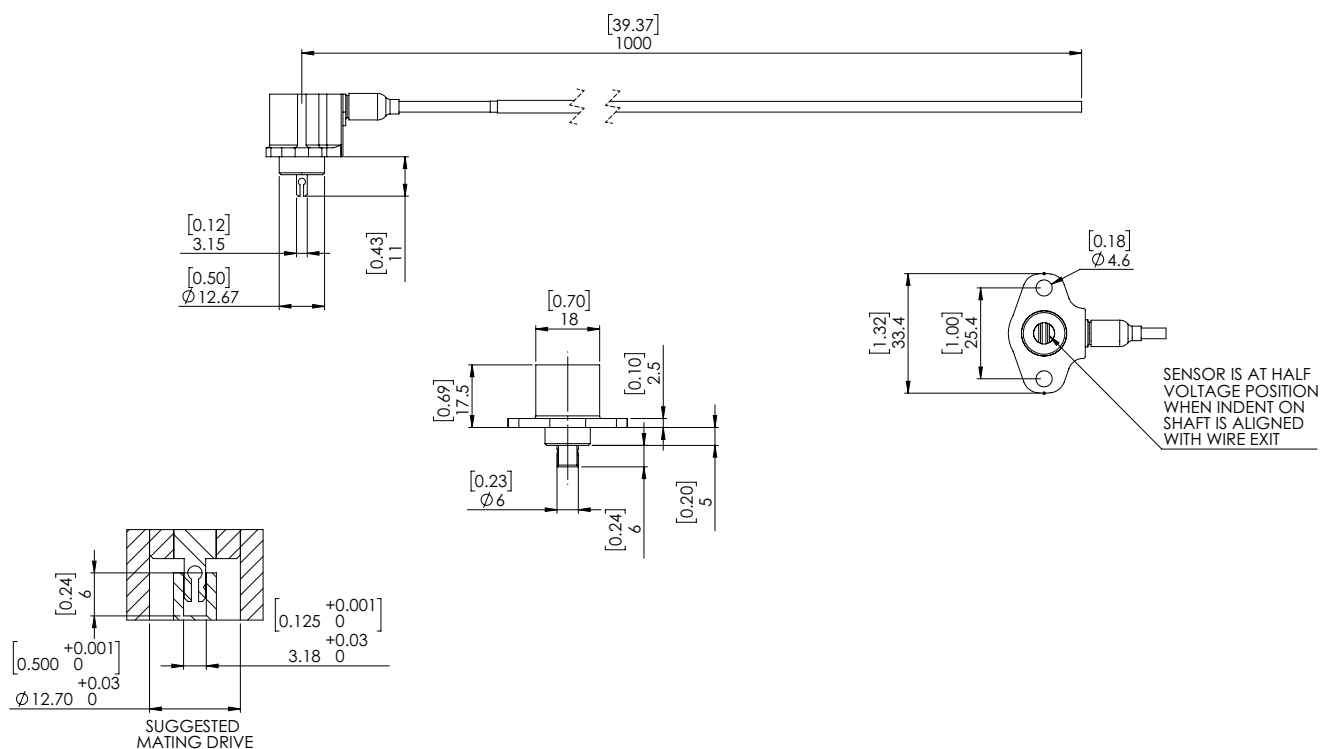
Order number **F02U.V0U.402-02**

Rotary Position Sensor RPS-F

Dual output, 100° range, second signal 50 % of first (pedal)

Order number **F02U.V0U.403-02**

Dimensions



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