

# Rotary Position Sensor RP 100 twin

www.bosch-motorsport.com



**BOSCH**  
Invented for life



- ▶ Rotational movement measurement
- ▶ Dual output
- ▶ Measurement range: 0 to 100°
- ▶ Wide operating temperature range

This sensor is designed to measure rotational movement, e.g. gearbox position or throttle angle. A throttle rotation moves an internal slider (wiper) on a resistive element which is supplied with voltage. Thus voltage proportional to the angle can be measured. The housing and the bearings are made of high temperature resistant plastic. The mounting plate is protected with a metal cover to ensure a good fixation. The sensor is fitted in a shrink down boot for additional protection. The main benefit of this sensor is the extremely high reliability through the redundant sensor design.

## Application

Application	0 to 100°
Operating temperature range	-40 to 150°C
Max. vibration	200 m/s <sup>2</sup> at 5 to 2,000 Hz

## Technical Specifications

### Mechanical Data

Weight w/o wire and w/o connector	32 g
Protection class	IP65

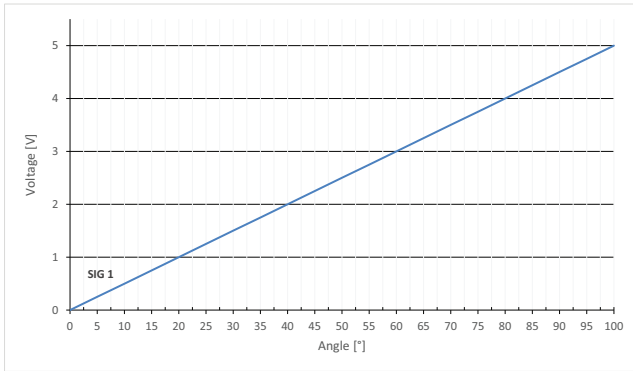
Mounting	2 x M4
Lifetime	50 x 10 <sup>6</sup> rotations
Housing	Synthetic material

### Electrical Data

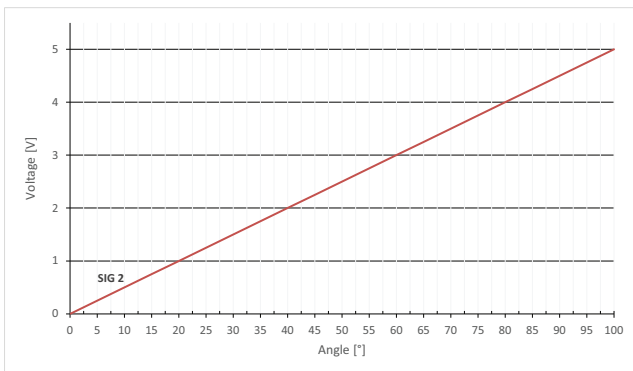
Power supply U <sub>s</sub>	5 V
Max. power supply	42 V
Total resistance	3 kOhm ±20 %
Current I <sub>S</sub>	1 µA
Max. allowable contact current	10 mA

### Characteristic

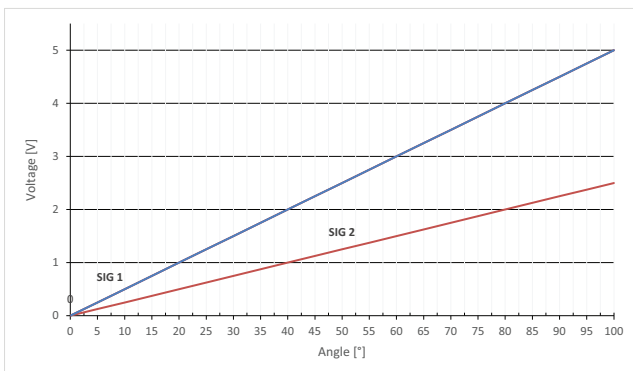
Max. rotation speed	120 min <sup>-1</sup>
Temp. coefficient	5 ppm/°K
Direction of rotation	Clockwise
Both rotation directions are available on request	
Redundancy	



Signal 1 without Connector



Signal 2 without Connector



Signal 1 and Signal 2 with AS Connector

Reduction of Signal 2 caused by voltage divider inside AS Connector.

### Connectors and Wires

#### Sensor without Connector

Black wire	U <sub>s</sub>
Red wire	Gnd
White wire	Sig1
Black wire	U <sub>s</sub>
Red wire	Gnd
White wire	Sig2

#### Sensor with AS Connector

Connector	AS 6-07-35PN
Mating connector	F 02U 000 238-01
PIN 1	U <sub>s</sub>
PIN 2	Gnd
PIN 3	Sig1
PIN 4	U <sub>s</sub>
PIN 5	Gnd
PIN 6	Sig2

#### In general

Sleeve	DR-25
Wire size	AWG 24
Wire length L	16 to 30 cm
Various motorsport and automotive connectors on request.	
Please specify the requested wire length with your order.	

### Installation Notes

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

The sensor has no internal mechanical stops.

Each mounting orientation is possible.

The sensor meets all EMV, EMC and ESD automotive standards.

Please find further application hints in the offer drawing ([www.bosch-motorsport.com](http://www.bosch-motorsport.com)).

Both rotation directions and other rotation angles available on request.

Free download of the sensor configuration file (\*.sdf) for the Bosch Data Logging System at our homepage.

### Safety Note

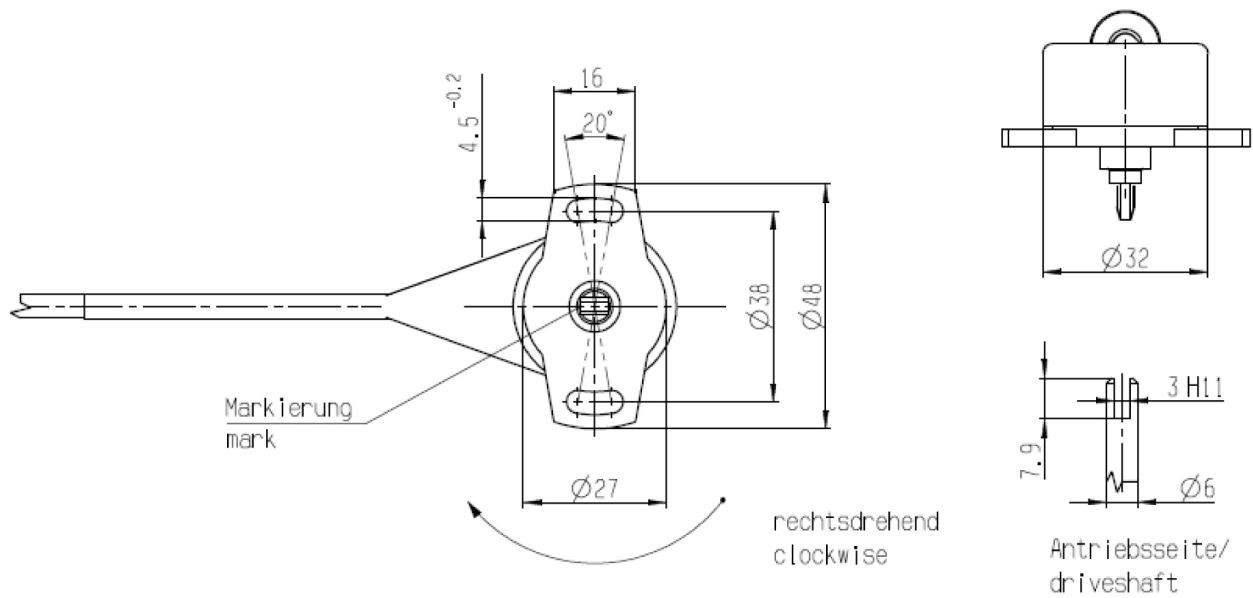
The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

### Ordering Information

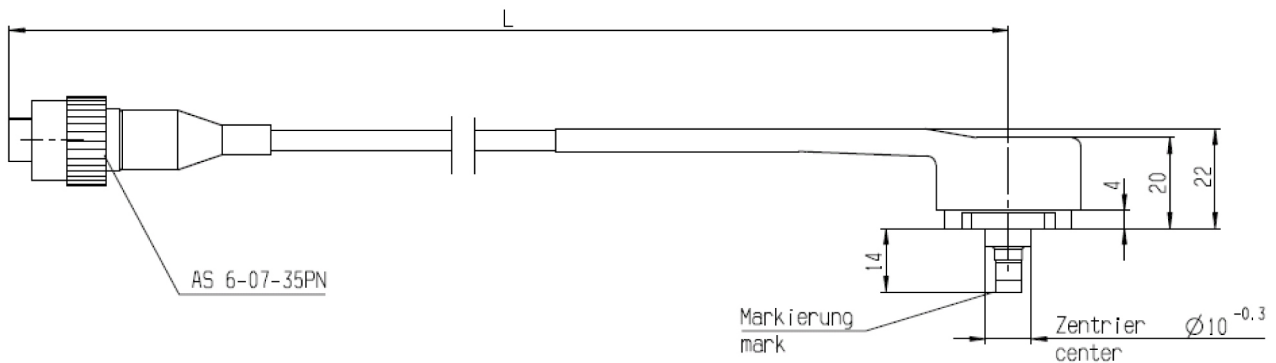
**Rotary Position Sensor RP 100 twin**  
Sensor without Connector  
Order number **B 261 209 591-90**

**Rotary Position Sensor RP 100 twin**  
Sensor with AS Connector  
Order number **B 261 209 591-02**

Dimensions



Sensor without Connector



Sensor with AS Connector

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