

SD-VOP02-000

Optical speed sensor

Function

- Contact-free detecting system
- Signals are measured and processed
- Minimum size of detectable objects: 4 mm

General information

If an object is placed within the working range of the sensor, the evaluation electronic switches the output. The sensor detects objects with a minimal size of 4 mm within a range of 30-120 mm.

The sensor is equipped with an LED to indicate the switching signal respective the status of the contamination warning. The sensing range is almost entirely independent of the shape and the color of the object which is detected, because the background suppression can be electronically adjusted.



Technical specifications

Electrical characteristics			Mechanical characteristics		
Supply voltage	V dc	10-30	Dimensions	mm ³	32x16x12
Beam spot diameter:			Measuring distance	mm	18-120
Distance	mm	30 75 120	Minimum detectable objects	mm ²	4x4
Diameter Ø	mm	4 6 10	Weight	g	Approx. 14
Switching frequency	Hz	1300	Cable & connector		
Response time	ms	0.8	Type		PUR
Current consumption	mA	30	Wire cross section	mm ²	3x0.08
Voltage drop	V	<2.5	Length	mm	300
Maximum switching current	mA	100	Connector (standard)		Binder 719 4PM
Hysteresis	%	<15	Environmental data		
Temperature drift	%	<5	Protection class		IP67
Type of light	nm	640 (red light)	Ambient operating range	°C	-25 to +60
Short circuit proof		Yes	humidity	%	0-95
Reverse polarity proof		Yes			

Ordering information

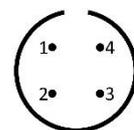
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Connector layout

Connector type

Binder 719 4PM

Pin	Name	Description	Color
1	DGND	Digital ground	blue
2	Vcc	Power supply	brown
3	Signal	Digital signal	black
4	n.c.	Not connected	



front view



Possible options concerning connector and cable on customer request!

Please note:

For the first order of special customer options please use the following order code: **SD-VOP02-000**
After the first order you will get a uniquely order code for your next orders.

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Adjustment

The reflex sensor emits red light. The sensor has to be mounted so that this light falls on the object, which is being monitored.

Object recognition on a background or an underlying surface

1. Adjust the beam spot on the object and fix the sensor.
2. Remove the object and turn back the adjustment screw until the output switches. The background and the underlying surface are now suppressed.
3. Put the object back under the beam and check, if the sensor switches again.

Object recognition without disturbing background

1. Adjust the beam spot on the object and fix the sensor.
2. Turn back the screw until the sensor switches off.
3. Turn the screw inversely until the switches on.
4. Turn the screw a bit further to increase the reliability of the switching process.

Appropriate signal transmitter

- Mounting parts of the brake disc
- The brake disc itself
- Additional mounted signal emitter

Contamination warning



If the sensor is being contaminated, the switching process may not work properly. To avoid malfunction, check the 2-color signal LED on the backside of the sensor.

- If the LED flashes yellow, the sensor is working properly.
- If the LED flashes yellow/red, there is beginning contamination at the light emitting area.
- If the LED shows no color, the light emitting area is contaminated too much and has to be cleaned.

Set-up

- Choose the formula below from sensor list, open parameter and put inside the circumference of the tire and the number of pulses.
- SD-VOP02