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**SA-Dist05b-000****Non-contact ride height / distance sensor**

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**Key Features**

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- High quality sensor for contactless distance measurement
- Wide measuring range of 50 - 500mm
- Measurement range teachable in steps of 10mm
- High suppression of interfering light (100000 Lux, sunlight)
- High sampling rate of 400Hz possible
- Designed for harsh environments IP67 / operating temperature 0 to +70°C
- High vibration resistance

**Options:**

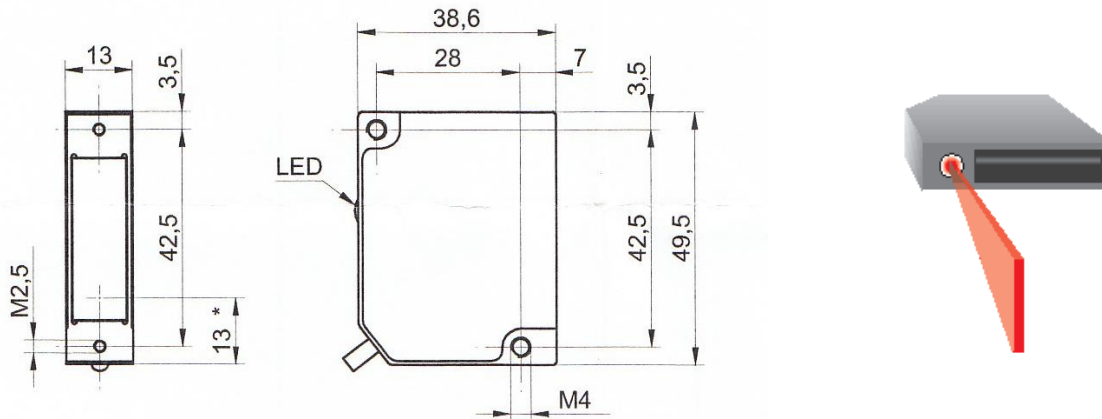
- Connector and cable length can be modified on customer request

## Technical specifications

<b>Measurement ranges</b>			<b>Electrical characteristics</b>		
Total range std. type (factory default)	mm	50 to 500	Supply voltage	V	10 to 28
Min. teach in range	mm	10	Current consumption	mA	<80
<b>Measurement tolerances</b>			Reverse battery protection		Built in
Resolution (matt white ceramics).	mm	0.02 to 1.00	Short circuit protection		Built in
Linearity error (matt white ceramics)	mm	±0.08 to ±3.00	Analog output	V	0.2 to 4.8
Offset tolerance *1	mm	±0.15 + 1.00	Load resistance analog output	kΩ	>100
Repeatability *3	mm	±2.00	<b>Mechanical characteristics</b>		
Temperature coefficient*2	%/°C	0.06	Housing Material		Aluminum
<b>Response time (typ)</b>			Dimensions	mm	50x40x13
Black surface (30% reflection)	ms	<2.5	Weight	g	75
<b>Slew rate (90% signal output)</b>			Cable		
Black surface (30% reflection)	ms	<10	Wire cross section		4 x AWG24
<b>Optical characteristics</b>			Type		Raychem DR25
Light source: pulsed red laser diode			Length	mm	1500
Laser	class	2	Connector type		open wire
Wavelength	nm	650	<b>Environmental data</b>		
Laserbeam height	mm	3 to 10	Protection class	IP	67
Laserbeam width	mm	2	Ambient operating range	°C	0 to +70
Sensor element		Photodiode line	<b>Vibration resistance</b>		
Suppression of interfering light			Shock	G	100
50-450mm	Lux	100000	During time period of	ms	11
450-500mm	Lux	85000	Vibration tested at	G	12
<b>Operational status indicator</b>			Measured with	Hz	1000
LED green/red blinking			<b>Ordering information</b>		
			Art. No. SA-Dist05b-000		

\*1 If sensor is calibrated to other than factory default measurement range: ± (0.15 + 0.2 resolution step full scale of the measurement range)

## Dimensions



\*optical axis of laser beam

laser beam alignment

## Calibration

	SA-Dist05b-xxx		Multiplicator			Offset
12 Bit A/D	Measuring range [mm]	=	4500 / 37674	*	Digits	+ 30.4348
16 Bit A/D	Measuring range [mm]	=	4500 / 602922	*	Digits	+ 30.4348
Voltage	Measuring range [mm]	=	4500 / 46	*	Volt	+ 30.4348

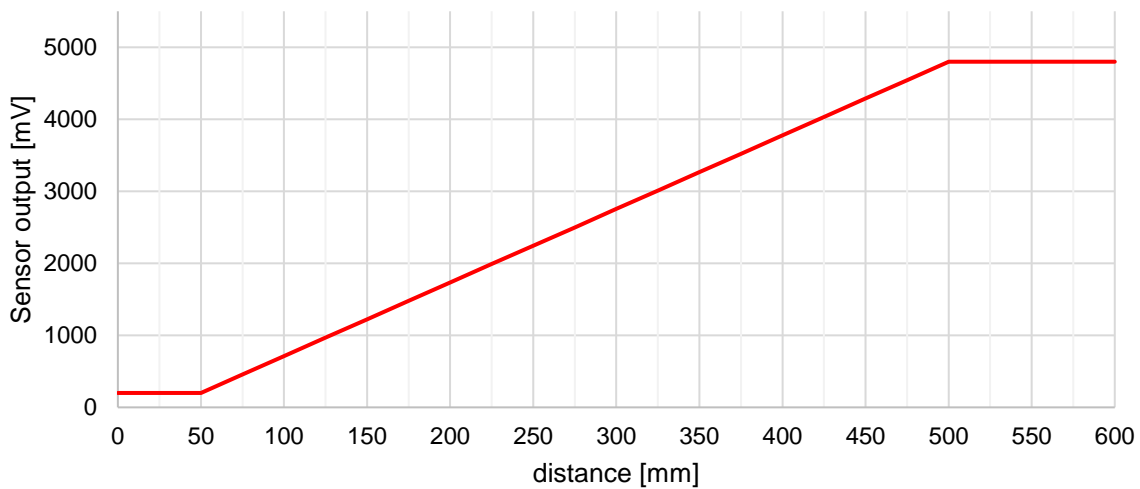
### Recalibration



Changing the measuring range causes a change of the formula. The Formula is needed to calculate the physical values.

Adapt the formula to the change measuring range!

### SA-Dist05b-xxx



## Connector layout

## Connector type

### Analog line, open wires

Name	Description	Color
Power	Power supply 12 – 28V	red
Teach IN	External teach input	blue
Signal	Analog Out 0.5-5.0V	white
GND	Ground	black

no connector  
open wires

## Laser Warning

