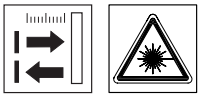
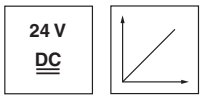
rotoScan ROD-4 — Optical distance sensors



0 … 50m



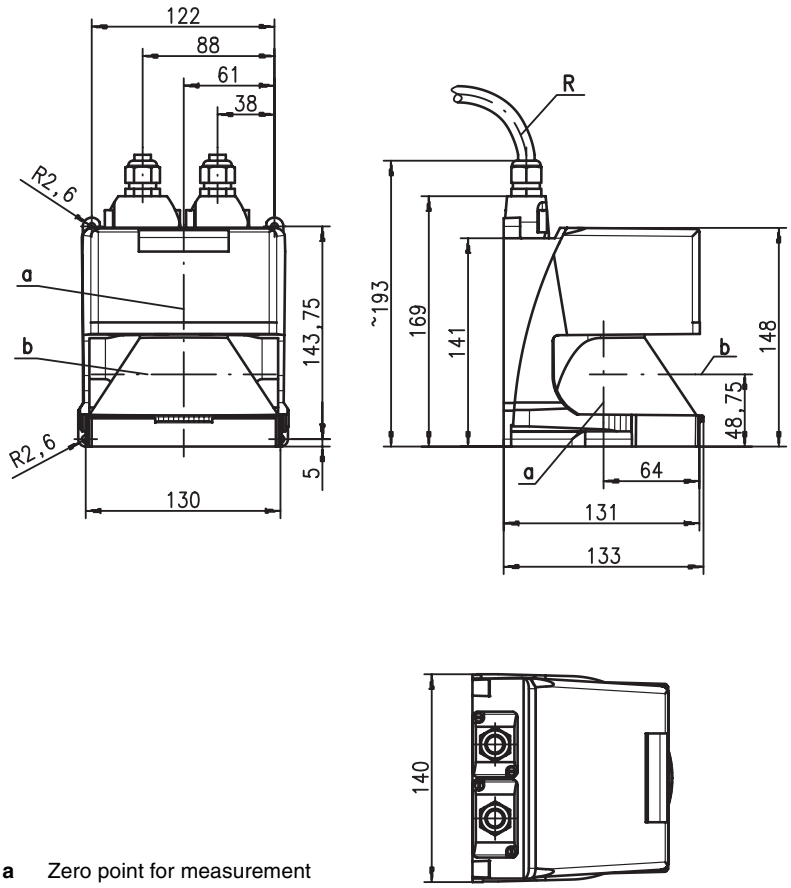
- The rotoScan ROD-4 is an area scanning distance sensor for the detection of objects. The light beam is reflected by a rotating mirror and directed over a semicircular area (190°) with a radius of max. 50m.
- The area is divided into two detection areas, each with a radius of 50m. The size of the area to be evaluated can be freely defined in each detection area.
- It is possible to store 4 detection area pairs in the ROD-4 and to switch between these pairs, for example, to define various heights or allowed overhangings.
- ROD-4 with U_L approval
- ROD-4-06 with heating and ROD-4-08 with heating, dust-insensitive version.
- Plug-in dll file for measurement processing on the PC

Accessories:

(available separately • see page 74)

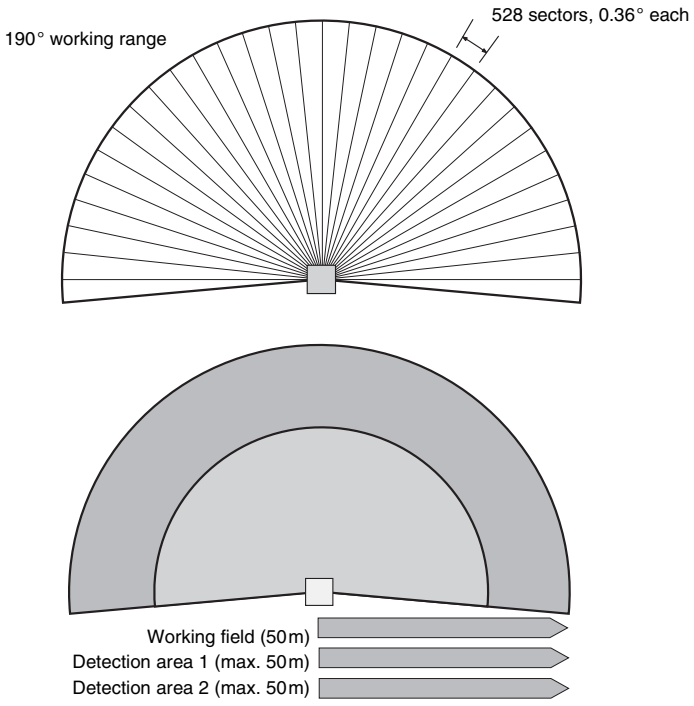
- Mounting systems
- Configuration software
- Various connection cables
- Measurement-DLL for PC

Dimensioned drawing



a Zero point for measurement
b Scanning plane
R Smallest bending radius = 50mm

Measurement principle



Specifications

Optical data

Scanning range (per detection area)	0 … 50m (ROD-4-08 … 25m)
Angular range	max. 190°
Angular resolution	0.36°
Scanning rate	25 scans/s or 40ms/scan
Transmitter	infrared laser diode (eye safe), wavelength = 905nm beam divergence = 2mrad time base = 100s

Detection area 1 and 2

Reflectivity	from at least 1.8% (matte black) ROD-4-08 from 6% (dark grey)
Object size	> 20mm at distance of 4m > 100mm at distance of 15m
Response time	at least 40ms (corresponds to 1 scan)
Number of detection area pairs	4 (selectable via switching inputs)
Output	3x PNP transistor output 24V/250mA
Measurement value resolution per sector	5mm
Repeatability	10 … 90% diffuse reflection at 4m distance ± 15mm / ± 20mm

Electrical data

Voltage supply	+24VDC +20%/-30%
Overcurrent protection	via fuse 2A semi time-lag in the switching cabinet
Current consumption	approx. 400mA (use 1A power supply), approx. 2A with heating
Power consumption	< 60W at 24V including the outputs
Overvoltage protection	overvoltage protection with protected limit stop

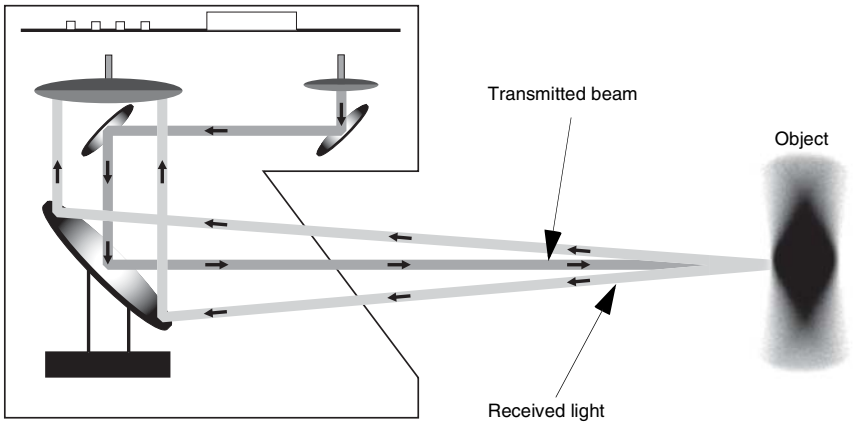
Mechanical data

Housing	diecast aluminium, plastic
Weight	2.0kg
Connection type	2 connectors (can be plugged from above, solder connection)

Environmental data

Ambient temp. (operation/storage)	-0°C … +50°C/-20°C … +50 C -20°C … +50°C/-20°C … +50 C (ROD-4-06, ROD-4-08)
VDE safety class	II, all-insulated
Protection class	IP 65
Laser class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

Operating principle



Order guide

	Designation	Part No.	UL
	ROD-4	500 36010	●
With heating	ROD-4-06	500 38614	
With heating/dust-insensitive	ROD-4-08	500 41423	

Tables

Remarks

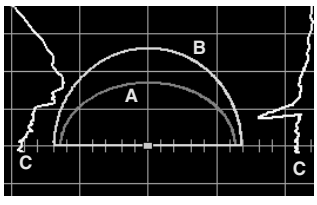
"RODsoft" configuration software

The configuration software "RODsoft" runs under Windows 95/98/NT/2000/XP and offers the following possibilities:

- Programming of the detection areas
- Parameterisation of other data
- Visualisation of the detection area with measurement values
- Error code display
- Support of various languages

There are various methods with which detection areas can be programmed, for example:

- "Teach-in" function
- Numerical and graphical entry of the detection areas
- "Edit" function



A Detection area 1
B Detection area 2
C Current measurement values