

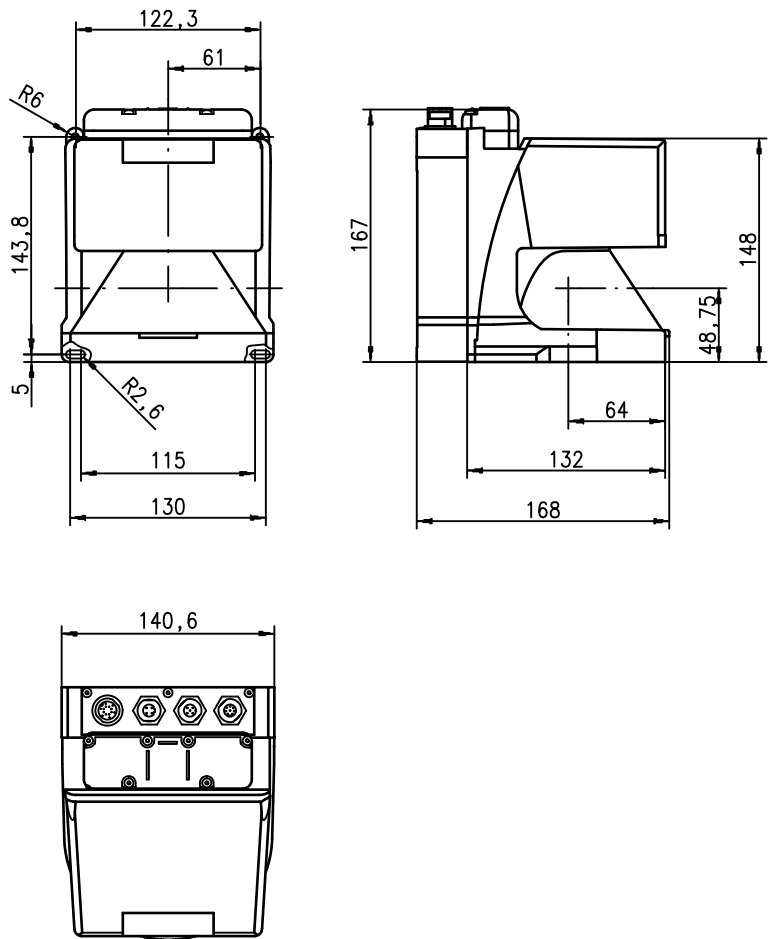
rotoScan ROD 4plus

Optical Distance Sensors

Art. Nr. 501 08253



Dimensioned drawing

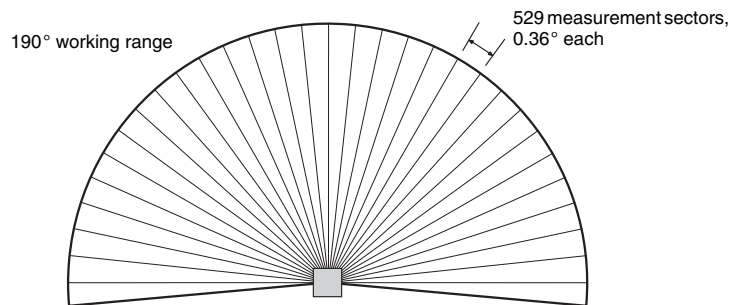


0 ... 65m

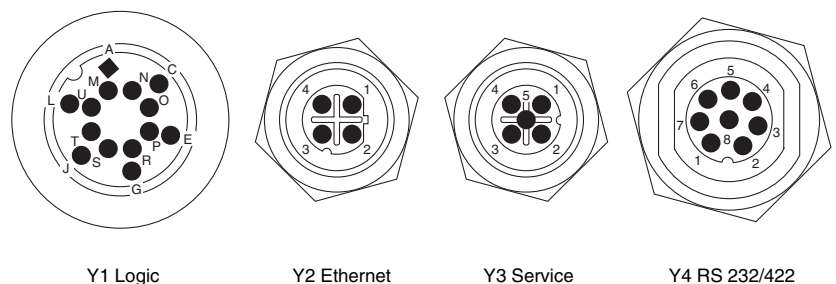


- Measurement data transmission via Fast Ethernet 100MBit/s
- Measurement data transmission via RS 232/422 serial interface
- Measurement data reduction, measurement data processing and measurement data filtering in the interface box
- Service interface for configuring measurement applications and detection fields.
- With the ROD 4plus, it is possible to save and switch between 4 detection fields for object detection.
- ROD 4-08plus with heating, dust-insensitive version.
- RODplussoft software for configuring measurement applications
- RODsoft software for configuring detection fields

Measurement principle



Electrical connection



We reserve the right to make changes • ROD4_plus_01gb.fm



Accessories:

- (available separately)
- Mounting system
 - Configuration software
 - Various connection cables

Specifications

Optical data

Measurement range	0 ... 65m (ROD 4-08plus ... 25m)
Angular range	max. 190°
Angular resolution	0.36°
Scanning rate	25 scans/s or 40ms/scan
Transmitter	infrared laser diode, laser class 1 (EN 60815-1), wavelength = 905 nm, P _{max} = 15W, pulse duration: 3ns, average output power: 12µW

Detection fields

Reflectivity	from min. 1.8% (matte black), ROD 4-08plus 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 field pairs	4 (selectable via switching inputs)
Switching inputs	4x +24VDC (FPS1 ... 4 at Y1 for switching between detection fields) additional restart input at Y1 and interface box
Switching outputs	4x PNP transistor output 24V/250mA
Measurement value resolution per sector	5mm
Repeatability	10 ... 90% diffuse refl. at op. range of 4m: ±15mm / ±20mm

Electrical data

Voltage supply	+24VDC +20% / -30%
Overcurrent protection	via fuse 2.5A semi-time-lag in the switching cabinet
Current consumption	approx. 1A (use power supply with 1.5A), approx. 2.5A with heating
Power consumption	< 75W at 24V including the outputs
Overvoltage protection	overvoltage protection with protected limit stop

Mechanical data

Housing	diecast aluminium, plastic
Weight	2.3kg
Connection type	4 connectors (can be plugged from above)

Environmental data

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

Interface assignments

Y1 Logic	
PIN	Function
A	+U _B
C	GND_IN
E	FPS1
G	FPS2
J	FPS3
L	FPS4
M	Restart_IN
N	Near field 1
O	Near field 2
P	Alarm
R	Warn
S	Din
T	D _{out1}
U	D _{out2}

Y2 Ethernet	
PIN	Function
1	Tx+
2	Rx+
3	Tx-
4	Rx-

Y3 Service	
PIN	Function
1	NC
2	TxD
3	GND
4	RxD
5	NC

Y4 RS 232/422	
PIN	Function
1	TX+ / TxD
2	Tx-
3	Rx-
4	Rx+ / RxD
5	GND/shield
6	RS 422 detection
7	NC
8	NC

Order guide

	Designation	Part No.
With heating/dust-insensitive	ROD 4plus	501 06481
	ROD 4-08plus	501 06480

Tables

Remarks

"RODplussoft" Configuration Software

The configuration software runs under Windows 2000/XP and offers the following features:

- Interface configuration of the ROD 4plus...
- Measurement data visualisation
- Configuration of measurement segments
- Filtering data output
- Start of RODsoft for definition of detection fields

There are a variety of options available for defining detection fields. These include e.g.:

- "Teach-In" function
- Numeric and graphical input of the detection fields
- "Edit" function



A Near detection field
B Far detection field
C Current measurement values

- **Approved purpose:**
The ROD 4 distance sensors are optical electronic sensors for the optical, contactless measurement of distance to objects.