ROD 4, ROD 4plus
Area-scanning laser distance sensors for object detection and measurement
BROADER VISION FOR OBJECT DETECTION

ROD 4 and ROD 4plus laser distance sensors.

FAST, PRECISE, LIGHT AND SIMPLE

ROD 4 and ROD 4plus are contactless laser distance sensors for area-scanning object detection and measurement. A light beam produced by laser diodes is deflected by a rotating mirror and covers an area of 190° with a radius of up to 65 m. Up to 4 mutually independent detection fields can be defined and up to 8 detection field pairs can be stored in the sensor.

ROD 4 is designed for object detection. With the Config-Plug configuration memory, even more efficient functions of the RODsoft configuration software and excellent handling properties, ROD 4 leads its class.

ROD 4plus is specially designed for measurement technology. With integrated FAST Ethernet and decoupled data transmission and data collection, ROD 4plus is the system with the fastest data transmission on the market. This offers considerable performance advantages for measuring applications.
BROADER VISION FOR OBJECT DETECTION AND MEASUREMENT

ROD 4 and ROD 4 plus laser distance sensors.

AREAS OF APPLICATION

- Position determination
- Projection monitoring
- Load monitoring
- Fill level measurement
- Access control
- Object and volume detection
- Contour measurement
- Manipulator control
- Control of driverless transportation systems (DTS)
ROD 4
Maximum power for the detection of objects.

PROPERTIES
- Lightweight – total weight of just 2 kg
- High availability due to short boot time of 6 s and extended cleaning intervals
- Extremely simple device exchange with ConfigPlug configuration memory
- Convenient configuration software RODsoft permits 8 detection field pairs and 4 detection fields, simultaneously
- Detection fields up to 50 m
- Scanning angle 190°
- Angular resolution 0.36°
- Scanning rate 25 scans/s

With the intelligent ConfigPlug device plug, device exchange is child’s play
AREAS OF APPLICATION

ROD 4 area-scanning laser distance sensors.

- Projection monitoring in high-bay warehouse
- Presence monitoring on conveyor systems
- Height and position detection of objects for collision prevention
- Projection monitoring in parking systems under changing environmental conditions
ROD 4plus
High operating ranges with large viewing angles.

PROPERTIES

- Unbeatably fast through integrated 100 Mbit Fast Ethernet
- Data transmission and data collection are decoupled, thereby up to 10 x faster
- Configuration during operation via online commands
- Integrated measurement data processing (e.g., x-, y-coordinates) without additional hardware
- Range: 65 m
- Scanning angle 190°
- Angular resolution 0.36°
- Scanning rate 25 scans/s
AREAS OF APPLICATION

ROD 4plus area scanning laser distance sensors.

- Access control
- Collision protection of driverless transportation systems
- Object measurement
- Gripper positioning
- Configuration during operation
- Simple network integration through Fast Ethernet
- Compact design, low weight
- Transmission of x- and y-coordinates
- Collision protection of driverless transportation systems
- Access control
## TECHNICAL DATA

### ROD 4 and ROD 4plus.

<table>
<thead>
<tr>
<th>Technical data</th>
<th>ROD4-3x</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>Distance measurement, scanner, optical</td>
</tr>
<tr>
<td>Dimensions without connector, W x H x D</td>
<td>140 x 170 x 135 mm</td>
</tr>
<tr>
<td>Voltage supply</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Scanning angle</td>
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<tr>
<td>Outputs</td>
<td>Ethernet/RS 232/RS 422, 4x PNP</td>
</tr>
<tr>
<td>Connection type</td>
<td>Sub-D</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 65</td>
</tr>
<tr>
<td>Certifications</td>
<td></td>
</tr>
<tr>
<td>Operating range*</td>
<td>Up to 65,000 mm</td>
</tr>
<tr>
<td>Detection field pairs (reversible)</td>
<td>8</td>
</tr>
<tr>
<td>Measurement principle</td>
<td>Optical, laser – 905 nm</td>
</tr>
<tr>
<td>Resolution</td>
<td>5 mm</td>
</tr>
<tr>
<td>Repeatability</td>
<td>10 – 90 % diffuse reflection, ± 15 mm at operating range of 4 m</td>
</tr>
<tr>
<td>Operation</td>
<td>WIN 98/2000/NT/XP configuration software</td>
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### Detection area

| Scanning range                 | Max. 50,000 mm                                                         |
| Reflectivity                   | From 1.8%                                                              |
| Response time                  | From 40 ms                                                             |
| Object size                    | > 70 mm at distance of 6 m                                             |
|                                | > 250 mm at 22 m                                                       |
| Output                         | 2/4 x PNP transistor                                                   |
| Ambient temperature            | −20°C … +50°C                                                          |

### Features

- Optional: heating
- Powerful dust suppression of particles in the air
- Zone pair changeover possible during operation
- Compact design and easy-to-use software
- Automatic configuration on device exchange with intelligent ConfigPlug
- Open data interface
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- Open data interface
CONFIGURATION MADE EASY

The RODsoft and RODplussoft configuration softwares.

- Display of measurement contours and measurement values
- Configuration of detection fields
- 8 detection field pairs up to max. 50 m
- 4 mutually independent detection fields
- Powerful dust suppression
- Configuration of device parameters
- Querying diagnostic information

- Display of measurement contours and measurement values
- Configuration of interfaces
- Configuration of measurement segments
- Up to 12 measurement segments
- Binary or ASCII-Remote measurement data protocol
- Polar or Cartesian (x, y) measurement value output
- Measurement data preprocessing (extreme values, filtering)
- Start of RODsoft integrated
With regard to our product developments, we systematically place emphasis on the especially good usability of all devices. To this end, simple mounting and alignment are taken into account – just as the uncomplicated integrability of the sensors in existing field bus systems and easy configuration, e.g. via a web browser, are.

Whoever can do it all, can do nothing right. Which is why we concentrate on selected target sectors and applications. There, we are specialists and know all aspects inside out. For this purpose, we optimize our solutions and offer a comprehensive product range that makes it possible for our customers to obtain the absolute best solutions from a single source.

The technical and personal proximity to our customers, and a skilled, straightforward handling of queries and problems, are among our strengths – and will remain so. Consequently, we will continue to expand our service offerings and, indeed, also forge ahead in new directions to persistently redefine the utmost in customer service. Whether on the phone, on the Internet or on-site with our customers – regardless of when and where the expertise of the sensor people is needed at any time.

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3D Sensors
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Forked Sensors

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Machine Safety Services

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Control Components
MA Modular Connection Units
Data Transmission
Safe Control Components
Signaling Devices
Connection Technology and Passive Distribution Boxes

Industrial Image Processing
Light Section Sensors
Smart Camera