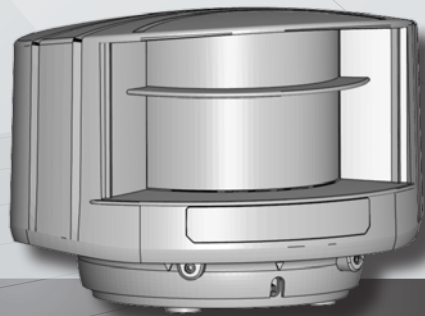




EN



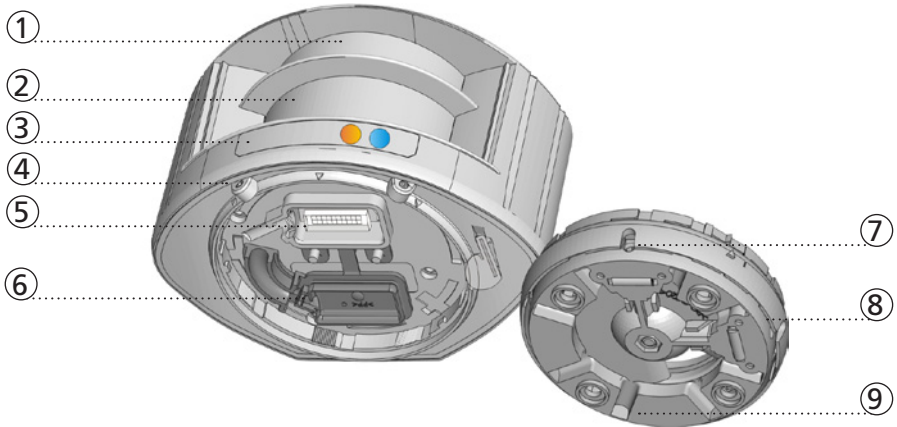
# LZR<sup>®</sup> - U901

LASER MEASUREMENT DEVICE

## LASER MEASUREMENT DEVICE

Other use of the device is outside the permitted purpose and can not be guaranteed by the manufacturer. The manufacturer cannot be held responsible for incorrect installations or inappropriate adjustments of the sensor.

## DESCRIPTION




- |                                |  |
|--------------------------------|--|
| 1. laser sweep emission        | 6. protection cover                    |
| 2. laser sweep reception       | 7. notch for tilt angle adjustment (2) |
| 3. LED-signal (2)              | 8. adjustable bracket                  |
| 4. screw for position lock (2) | 9. cable conduit (4)                   |
| 5. connector                   |  |

## LED-SIGNAL




ERROR LED

 error

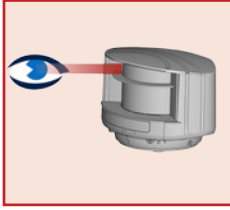
 no error

POWER LED

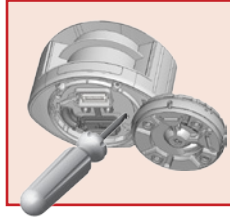
 power

 no power

## SAFETY



Do not look into the laser emitter.



The warranty is void if unauthorized repairs are made or attempted by unauthorized personnel.



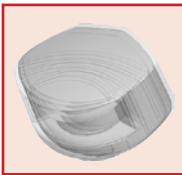
Only trained and qualified personnel may install and adjust the sensor.



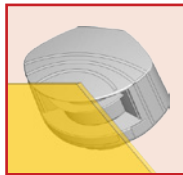
### CAUTION!

Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

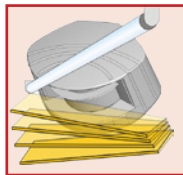
## INSTALLATION AND MAINTENANCE



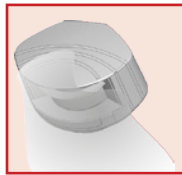
Avoid extreme vibrations.



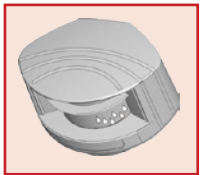
Do not cover the front screens.



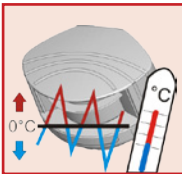
Avoid moving objects and light sources in the detection field.



Avoid the presence of smoke and fog in the detection field.



Avoid condensation.



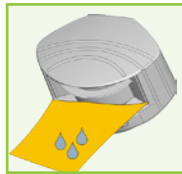
Avoid exposure to sudden and extreme temperature changes.



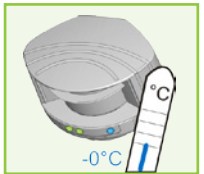
Avoid direct exposure to high pressure cleaning.



Do not use aggressive products to clean the front screens.

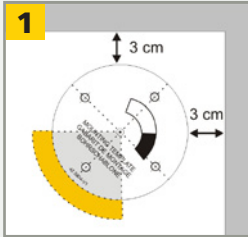


Wipe the front screens regularly with a clean and damp cloth.

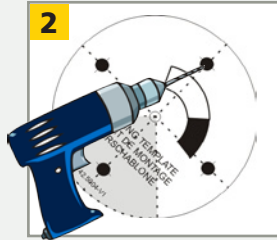


Keep the sensor permanently powered in environments where the temperature can descend below 0°C.

# 1 MOUNTING



Use the adhesive mounting template to position the sensor correctly. The grey area indicates the detection range.



Drill 4 holes as indicated on the mounting template. Make a hole for the cable if possible.



Pass the cable +/- 10 cm through the cable opening.

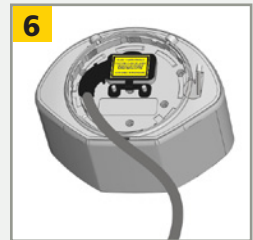
If drilling an opening is not possible, use the cable conduits on the back side of the bracket.



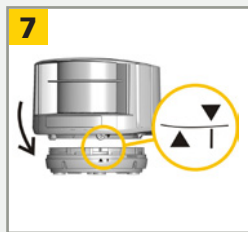
Position the bracket and fasten the 4 screws firmly.



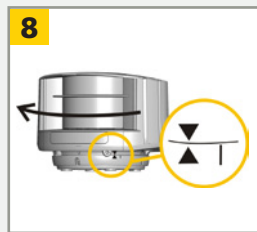
Open the protection cover, plug the connector and position the cable in the slit.



Close the protection cover and fasten it firmly.

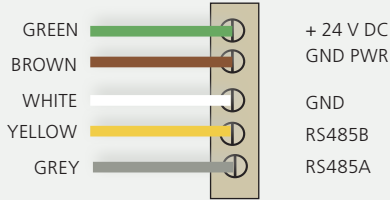


Position the housing on the bracket.



Turn the sensor until the two triangles are face to face.

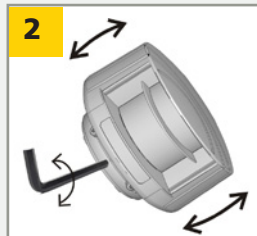
## 2 WIRING



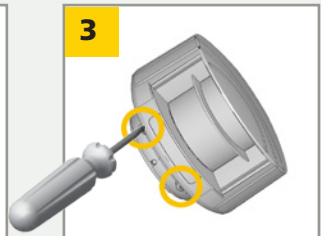
## 3 POSITIONING



Adjust the **lateral position** of the detection field.



Adjust the **tilt angle** of the detection field with the hex key.



**Lock the position** of the mounting bracket to avoid malfunctioning in case of extreme vibrations.

## TECHNICAL SPECIFICATIONS

|                                 |   |
|---------------------------------|---|
| Technology:                     | laser scanner, time-of-flight measurement   |
| Measurement range:              | max 50 m<br>10 m @ 2% remission factor, 30 m @ 10% remission factor   |
| Number of planes:               | 4   |
| Number of points/plane:         | 274   |
| Angular resolution:             | 0.3516 °  |
| Angular coverage:               | 96.3281 °   |
| Rotating speed:                 | 900 turns/min   |
| Remission factor:               | > 2 %   |
| Laser emission characteristics: | wavelength 905 nm; max. output pulse power 75 W (CLASS 1)   |
| Supply voltage:                 | 10-35 V DC @ sensor side  |
| Power consumption:              | < 5 W   |
| Peak current at power-on:       | 1.8 A (max. 80 ms @ 35 V)   |
| Serial communication:           | see application note LZR®-90X Protocol (available for download on our website)  |
| Type                            | asynchronous  |
| Interface                       | RS 485  |
| Communication mode              | half-duplex   |
| Transmission speed              | 460800 bit/sec  |
| Topology                        | point to point  |
| Symbol coding                   | 1 start bit, 1 stop bit, no parity bit  |
| File type                       | 8 bits  |
| LED-signal:                     | 1 blue LED: power-on status; 1 orange LED: error status   |
| Dimensions:                     | 125 mm (D) x 93 mm (W) x 70 mm (H) (mounting bracket + 14 mm)   |
| Material:                       | PC/ASA  |
| Colour:                         | black   |
| Mounting angles on bracket:     | -45 °, 0 °, 45 °  |
| Rotation angles on bracket:     | -5 ° to +5 ° (lockable)   |
| Tilt angles on bracket:         | -3 ° to +3 °  |
| Protection degree:              | IP65  |
| Temperature range:              | -30 °C to +60 °C if powered; -10 °C to +60 °C unpowered   |
| Humidity:                       | 0-95 % non-condensing   |
| Vibrations:                     | < 2 G   |
| Pollution on front screens:     | max. 30 %; homogenous   |
| Expected lifetime:              | 8 years   |
| Norm conformity:                | 2006/95/EC: LVD; 2002/95/EC: RoHS; 2004/108/EC: EMC<br>EN 50155:2007; EN 60529:2001;<br>IEC 60825-1:2007 Laser Class 1; EN 60950-1:2005<br>EN 61000-6-2:2005 EMC - Industrial level<br>EN 61000-6-3:2006 EMC - Commercial level |

Specifications are subject to changes without prior notice.  
All values measured in specific conditions.





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BEA hereby declares that the LZR®-U901 is in conformity with the basic requirements and the other relevant provisions of the directives 2006/95/EC, 2002/95/EC and 2004/108/EC.

Angleur, October 2011 Jean-Pierre Valkenberg, authorized representative

The complete declaration of conformity is available on our website: [www.sensorio.be](http://www.sensorio.be)



EC countries: according to the directive 2002/96/EC for Waste Electrical and Electronic Equipment (WEEE)