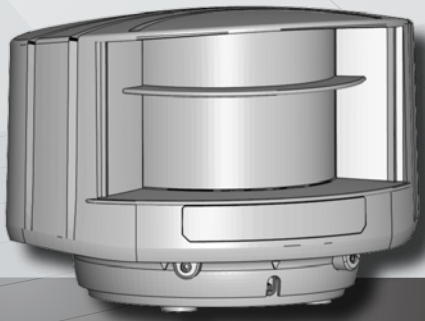
EN



LZR® - U922

LASER MEASUREMENT DEVICE WITH BIDIRECTIONAL BUS COMMUNICATION

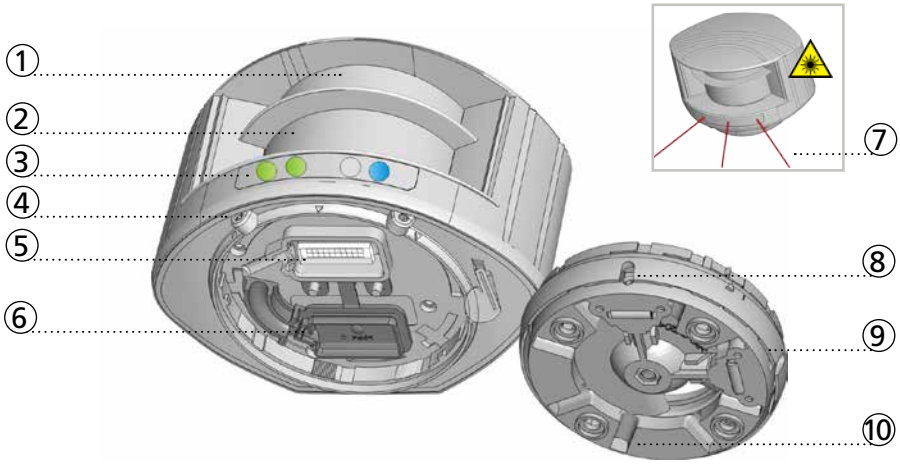
SENSORIO®
YOUR SENSING APPLICATIONS OUR SENSOR SOLUTIONS

User's Guide for product version 0500 and more

LASER MEASUREMENT DEVICE

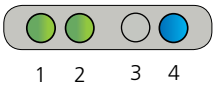
Other use of the device is outside the permitted purpose and can not be guaranteed by the manufacturer.
The manufacturer cannot be held responsible for incorrect installations or inappropriate adjustments of the device.

DESCRIPTION



1. laser sweep emission
2. laser sweep reception
3. LED-signals (4)
4. screws for position lock (2)
5. connector
6. protection cover
7. visible laser beams (3)
8. notches for tilt angle adjustment (2)
9. adjustable bracket
10. cable conduits (4)

LED-SIGNAL



1. LED 1
2. LED 2
3. Error LED
4. Power LED

LED 1

- LZR is switched ON and running
- LZR is in configuration mode

LED 2

- LZR is transmitting distance data
- LZR is idle and transmits heartbeat message

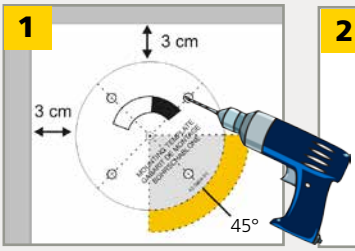
ERROR LED

- error
- no error

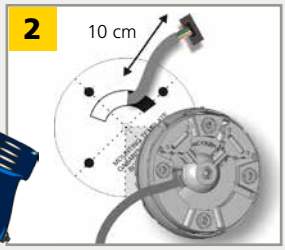
POWER LED

- power
- no power

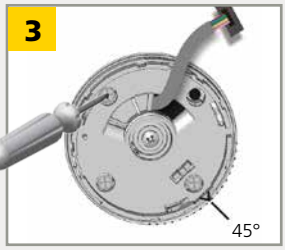
1 MOUNTING



Use the mounting template to position the sensor correctly. The grey area indicates the detection range. Drill 4 holes and make a hole for the cable if possible.

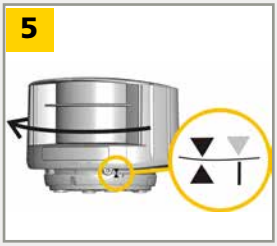


Pass the cable +/- 10 cm though the cable opening. If drilling an opening is not possible, use the cable conduits on the back side of the bracket.



Position the bracket and fasten the 4 screws firmly in order to avoid vibrations.

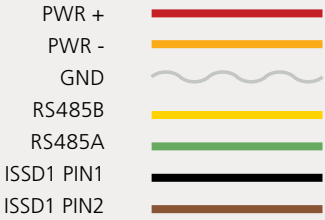
Open the protection cover, plug the connector and position the cable in the slit.
Close the protection cover and fasten it firmly.



Position the housing on the bracket and turn the sensor until the two triangles are face to face.

Use the LBA accessory if needed.

2 WIRING



TECHNICAL SPECIFICATIONS

Technology:	laser scanner, time-of-flight measurement
Measurement range:	max 65 m 10 m @ 2% remission factor, 30 m @ 10% remission factor
Number of planes:	max. 4*
Number of points/plane:	max. 274*
Angular resolution:	max. 0.3516 °*
Angular coverage:	max. 96 °*
Rotating speed:	900 turns/min
Scanning frequency:	15 Hz
Remission factor:	> 2 %
Laser emission characteristics:	wavelength 905 nm; max. output pulse power 75 W (CLASS 1) wavelength 650 nm; max. output CW power 3 mW (CLASS 3R)
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 AN LZR®-U92x Protocol (available for download on our website)
Type	asynchronous
Interface	RS 485
Communication mode	half-duplex
Transmission speed	460800 bit/sec (max: 921600 bit/sec)
Topology	point to point
Symbol coding	1 start bit, 1stop bit, no parity bit
File type	8 bits
Cable length:	3 m
Input:	1 optocoupler (galvanic isolated - polarity free)
Max. contact voltage:	30 V DC (over-voltage protected)
Voltage threshold:	Log. H: >8 V DC; Log. L: <3 V DC
LED-signal:	2 bi-coloured LEDs: function status; 1 blue LED: power-on status; 1 orange LED: error status
Dimensions:	125 mm (D) x 93 mm (W) x 76 mm (H)
Material:	PC/ASA
Colour:	black & white
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:	20 years
Norm conformity:	2006/95/EC: LVD; 2011/65/EU: RoHS 2; 2004/108/EC: EMC EN 60529:2001; IEC 60825-1:2007 Laser Class 1&3R; EN 60950-1:2005 EN 61000-6-2:2005 EMC - Industrial level EN 61000-6-3:2006 EMC - Commercial level

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

* These parameters can be configured via the RS 485 communication interface.
For more information on the existing options, see AN LZR®-U92x Protocol.

PARAMETER ADJUSTMENT

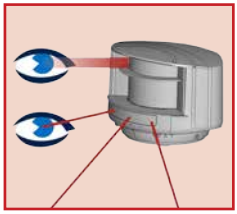
For more information on the existing parameters that can be configured, see AN LZR®-U92x Protocol.

SAFETY

The device contains IR and visible laser diodes.
IR laser: wavelength 905nm; max. output pulse power 75W (Class 1 according to IEC 60825-1)
Visible laser: wavelength 650nm; max. output CW power 3mW (Class 3R according to IEC 60825-1)

The visible laser beams are inactive during normal functioning.
The user can activate the visible lasers if needed.
For more information see application note LZR®-U920/-U921 Protocol.

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

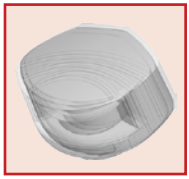


Do not look into the laser emitter.

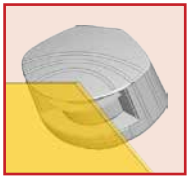
The warranty is void if unauthorized repairs are made or attempted by unauthorized personnel.

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

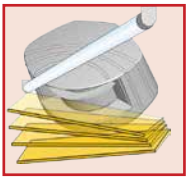
INSTALLATION AND MAINTENANCE



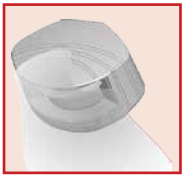
Avoid extreme vibrations.



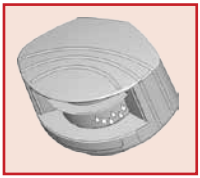
Do not cover the front screens.



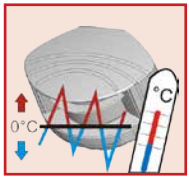
Avoid moving objects and light sources in the measurement field.



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



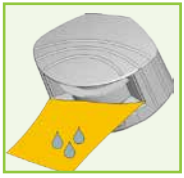
Avoid condensation.



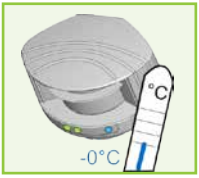
Avoid exposure to sudden and extreme temperature changes.

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.

TROUBLESHOOTING

	No blue LED	There is no power.	1 Check cable and connections.
		The polarity of the power supply is inverted.	1 Check the polarity of the power supply.
	The orange LED is on.	The power supply voltage is exceeding the acceptable limits.	1 Check the power supply voltage.
		The sensor exceeds its temperature limits.	1 Verify the outside temperature where the sensor is installed. Eventually protect the sensor from sunlight using a cover.
		Internal error	1 Wait a few seconds. If the LED remains ON, reset the power supply. If the LED turns on again, replace the sensor.
	LED 2 is permanently red.	Faulty wiring	1 Verify connections (black and brown wires).
	LED 2 flashes red.	Faulty wiring	1 Verify connections (black and brown wires).

NOTES

PLEASE KEEP FOR FURTHER USE
DESIGNED FOR COLOUR PRINTING

SENSORIO®
YOUR SENSING APPLICATIONS OUR SENSOR SOLUTIONS

A DIVISION OF BEA SA | LIEGE SCIENCE PARK | ALLÉE DES NOISETIERS 5 - 4031 ANGLEUR [BELGIUM]
T +32 4 361 65 89 | F +32 4 361 28 58 | INFO@SENSORIO.BE | WWW.SENSORIO.BE

BEA hereby declares that the LZR®-U922 is in conformity with the basic requirements and the other relevant provisions of the directives 2006/95/EC, 2011/65/EU and 2004/108/EC.
Angleur, December 2014 Pierre Gardier, authorized representative
The complete declaration of conformity is available on our website: www.sensorio.be

EC countries: according to the directive 2012/19/EU for Waste Electrical and Electronic Equipment (WEEE)

A HALMA COMPANY