LZR®-WIDESCAN

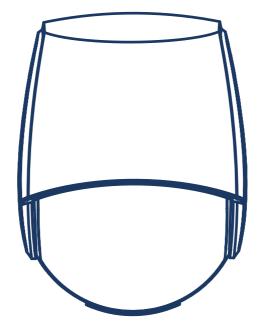
OPENING, PRESENCE & SAFETY* SENSOR FOR INDUSTRIAL DOORS

Download the LZR WIDESCAN installation app!

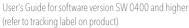


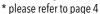














INSTALLATION & MAINTENANCE TIPS



Avoid extreme vibrations.



Do not cover the laser window screens.



Avoid moving objects in the detection field.



Avoid exposure to sudden and extreme temperature changes.



Keep the protection film during the mounting of the sensor. Remove it before launching a teach-in.



Wipe the laser window with a soft, clean and damp microfibre cloth. We recommend using optical lens cleaner



Do not use aggressive products or dry towels to clean the optical parts.



Avoid direct exposure to high pressure cleaning.

SAFETY PRECAUTIONS



The device emits invisible (IR) and visible laser radiations. The visible laser beams can be activated during the installation process to adjust precisely the position of the detection field

The visible laser beams are inactive during normal functioning. Do not stare directly into the visible laser beams.



CAUTION!

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



Do not stare directly into the visible laser beams.



The metal base on which the sensor is mounted, must be correctly earthed.



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



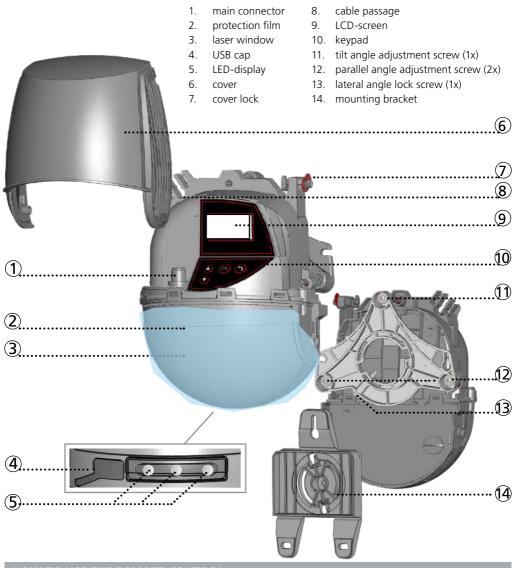
Always test the good functioning of the installation before leaving the premises.



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

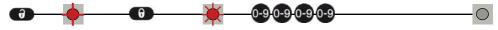
- The sensor cannot be used for purposes other than its intended use.
- The manufacturer of the door system incorporating the sensor is responsible for compliance of the system to applicable national and international regulations and safety standards.
- The installer must read, understand and follow the instructions given in this manual. Improper installation can result in improper sensor operation.
- The manufacturer of the sensor cannot be held responsible for injury or damage resulting from incorrect use, installation or inappropriate adjustment of the sensor.

The LZR®-Widescan is an industrial door sensor with opening and presence features.



HOW TO USE THE REMOTE CONTROL

To save an access code via the remote control:

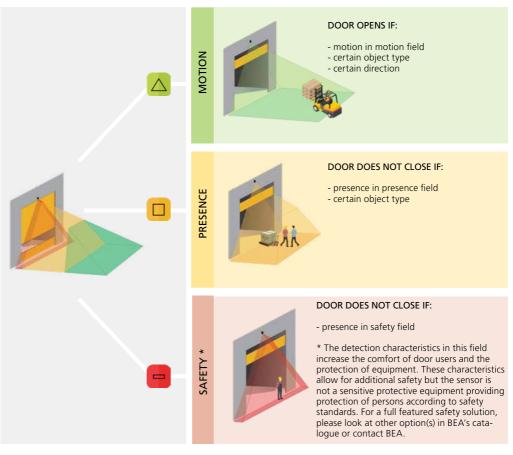


To delete an access code via the remote control:



BASIC PRINCIPLES: FUNCTIONS & OBJECT

There are 3 main functions that create **3 overlapping detection fields** with certain detection characteristics each:



There are 4 additional functions. All detection functions can be combined to trigger a specific output (see output functions on page 16).

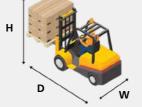
Motion +: assignation of an other moving object type for the motion field

Virtual pull cord: detection of an object standing still in a learned pull cord zone

>> Speed: detection of an object moving below a defined speed

Height: presence detection of an object exceeding a defined height

The sensor carries out a 3D-object analysis and detects depending on the following characteristics: height, width & depth.





LED-SIGNAL



LED is on



LED is off



LED flashes



LED flashes quickly



LED flashes slowly



LED flashes x times

SETTINGS in IR Remote Session







DETECTION



Pull cord detection

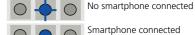


GENERAL









SYMBOLS



Factory value



Important!



Good to know

MAIN FUNCTIONS:



Motion



Presence



Safety

ADDITIONAL FUNCTIONS:



Motion +



Speed



Pullcord



Height

OPENING & CLOSING THE SENSOR

OPENING THE SENSOR



Before opening the sensor, make sure the cover is not locked (red cover lock).



To open the top cover, pull both flags while tilting the cover away from its initial position.



If needed, remove the cover completely before installing the sensor.

CLOSING THE SENSOR



- 1. Slightly spread the cover and clip it horizontally.
- 2. Close the cover.



Lock the cover by turning the lock screw clockwise.

1. Download the LZR WIDESCAN installation app.



2. Activate Bluetooth (BLE)



At power ON or after a power cycle (ON->OFF->ON), the BLE is activated for 30 min and the BLE LED is flashing blue.



Make sure that the bluetooth is activated on your smartphone and that the BLE LED is flashing blue.

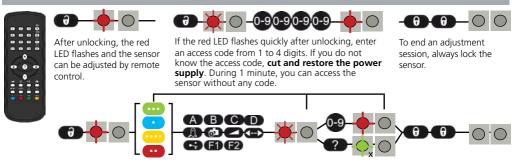


Open the Widescan mobile app and connect to the sensor. Once paired, the BLE LED becomes solid blue.



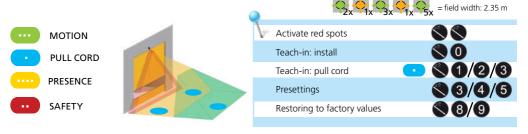
There are different ways to activate BLE please refer to the addendum in the box or call BEA technical support.

HOW TO ADJUST THE SENSOR BY REMOTE CONTROL



If necessary, select first the corresponding detection field before pushing on the parameter and changing the value. The second LED indicates the detection field.

x = number of flashes = value of the parameter



HOW TO ADJUST THE SENSOR BY LCD



XXX

Activate red spots on floor.

Launch CENTRE TOOL for correct positioning of detection field (see p. 8).

Enter a **Password** if necessary. «Specific» menu password: 1234



1a MOUNTING & WIRING



Mounting height: as high as possible in acc. to the limitations in the Technical specifications. The size of the detection field depends on the mounting height.

Mounting position: centre of door or upper left corner.

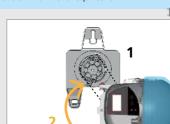
Mounting on the right side of the door should be avoided.



D

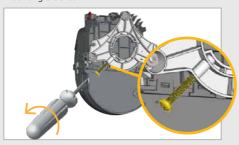
Mount the sensor securely.

The UNIVERSAL MOUNTING BRACKET can be used if the environment requires it.

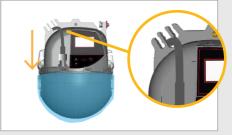


Screw the mounting bracket on the wall. You can also install the sensor directly without using the mounting bracket.

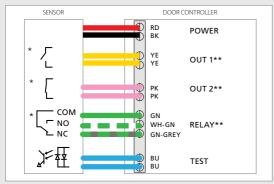




Unscrew the angle lock screw if necessary.



Plug the connector and pass the cable through the cable passage without making a loop.



Connect the wires.

- * Depending on OUTPUT CONFIGURATION settings.
- **The output logic and functions can be configured if necessary, see p. 16.

POSITIONING OF DETECTION FIELD

First of all, remove the blue protection film from the laser window.



Follow the steps below depending on how the sensor is mounted on the door:

- A. if the sensor is mounted in the center of the door
- B. if the sensor is mounted on the left or right side of the door *

A. IF THE SENSOR IS MOUNTED IN THE CENTER OF THE DOOR

PARALLEL ANGLE



Rotate the sensor in order to align the centre of the red spots with the centre of the door.

To activate red spots:

- Press 2x OK (product keypad)
- Press 2x (IR remote control)
- Mobile app.



Make sure the curtain is **parallel** to the door by adjusting one or both screws on the side.





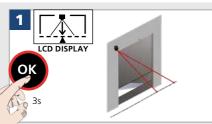
Position the curtain closer to or further away from the door by turning the screw at the top.



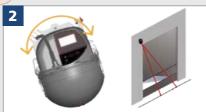
Carefully lock the sensor position by firmly fastening the angle lock screw. Make sure the red spots have not moved.

LOCK THE SENSOR

^{*}Note that right side mounting could alter the performance of the motion detection.



Push long on OK to enter the CENTRE-TOOL and activate the visible spots.



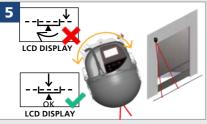
Rotate the sensor in order to align the centre of the red spots with the centre of the door.



Make sure the curtain is **parallel** to the door by adjusting one or both screws on the side.



Position the curtain **closer to or further away** from the door by turning the screw at the top. Push OK to confirm.



Look at the CENTER-TOOL on the LCD display. Rotate the sensor until both arrows on the LCD screen are aligned.

The visible spots must now be off-center for the detection field to cover the whole door symmetrically!



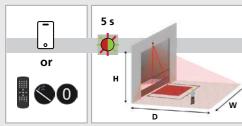
Carefully lock the sensor position by firmly fastening the angle lock screw. Make sure the red spots have not moved.

Push OK to exit and deactivate the visible spots.

2a TEACH-IN: INSTALL

Mandatory teach-in is used for the sensor to learn its position in space. Teach-in can be launched by smartphone or by remote control.

- Make sure the blue protection film is removed and the sensor is closed!
- Make sure the laser window is free from dust and/or water drops.
- The teach-in zone (square in front of the 2 visible spots) must be empty and even. If not, see troubleshooting.
- This teach-in must be launched each time a sensor's position/orientation has been changed.



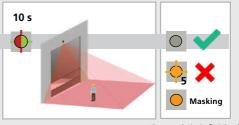
Launch a teach-in by smartphone or by remote control

Background teach-in

takes a new reference to

make sure it fits a new environment in case the conditions have changed.

The teach-in starts after 5 seconds. The teach-in zone must be empty and even!



Wait while position, angle and height are learned and the background is analysed.

The teach-in is finished. If not ok, see the following note.

Teach-in left and right (Advanced)



Left Right If standard teach-in cannot be performed because the centered area is not cleared, left or right teach-in can be launched if one of those area is cleared.

2b TEACH-IN: BACKGROUND

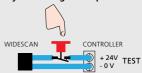
Background teach-in can be launched:

by using LCD



Quick start -> Teach-in -> Background

by activating test input



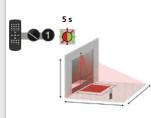
TIP: Add a push button in serie with the test line (24VDC). Pushing this button during 3 sec (cuts supply of input) launches a background teaching.

2c TEACH-IN: WALK

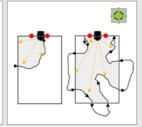
The Walk teach-in is used to re-shape all or a dedicate the detection field.



For maximum of efficiency to the walk teach-in, it is recommended to maximize the detection fields using the app or remote control.



Launch with remote control or LCD. The teach-in starts after 5 seconds once performed on the remote control (60s if LCD). Ideally and when possible, start outside the scanning area.



Some examples of walk teach-in. TIPS: Start the walk teach-in when the LED is flashing green. Walk slowly. Never start or walk too close from door center. Finish tracing outside the scanning area.



If possible check that the re-shaped field is correctly done by using the mobile app viewer.

3 PRESETTINGS

Choose one of the following presettings. They adjust a number of parameters automatically according to your application. If necessary, you can also adjust a parameter independently via remote control (see p. 12).

(Bold = differs from factory settings)

STANDARD



- open space
- traffic from and to all directions
- storage right and/or left



field width: max, field stop: max object type: **vehicle** direction: **uni CTR** +



field width: max, field stop: 3 m object type: **vehicle** max presence time: 30 min



field width: max, field stop: 0.4 m (infinite detection for objects > 25 cm)

OUT1 n

motion or pull cord

OUT2

presence or safety

REL

presence + height

CORRIDOR



- confined space
- traffic from and to all directions
- no storage



field width: max, field stop: max object type: **vehicle** direction: uni CTR



field width: max, field stop: **2 m** object type: **vehicle** max presence time: **infinite**



field width: max, field stop: 0.4 m (infinite detection for objects > 25 cm)

OUT1

motion or pull cord or safety

OUT2

presence or safety

speed trigger

CORNER







- corner
- no parallel traffic
- storage right and/or left



field width: max, field stop: max object type: **vehicle** direction: **uni**



field width: max, field stop: 3 m object type: **vehicle** max presence time: 30 min



field width: max, field stop: 0.4m (infinite detection for objects > 25 cm)

OUT1

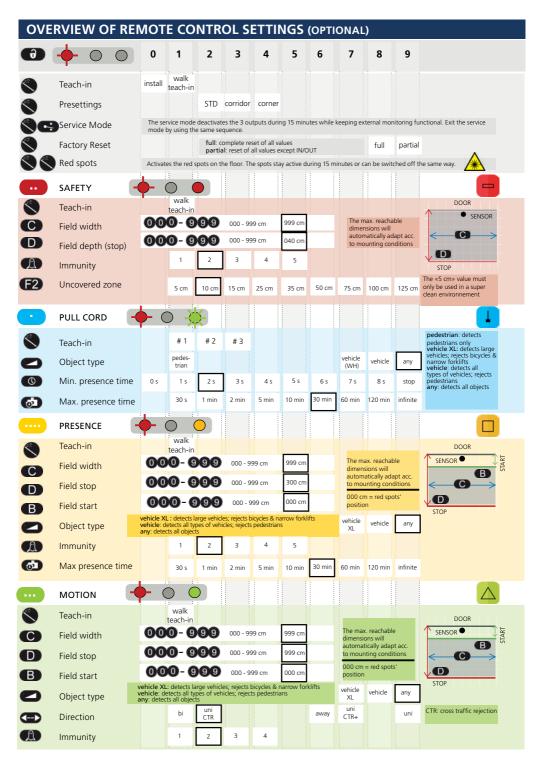
motion or pull cord or **presence**

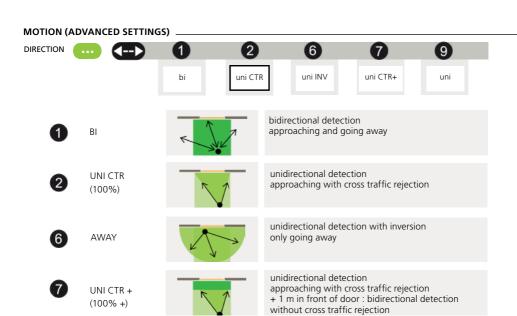
OUT2 pre

presence or safety

REL

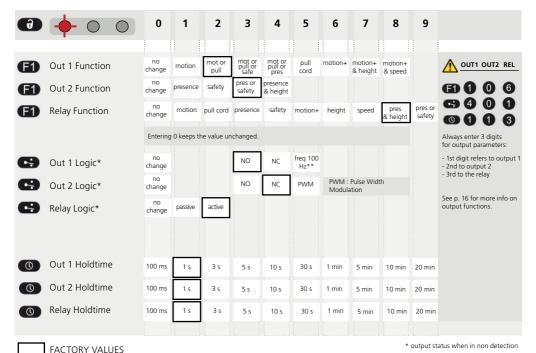
presence + height





OVERVIEW OF REMOTE CONTROL SETTINGS (OPTIONAL)

UNI



unidirectional detection

approaching in any direction

(distance between object and sensor decreases)



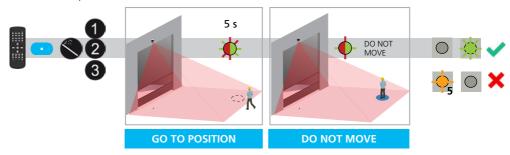


The door only opens when an object is detected in one of the three virtual pull cord zones during the chosen min. presence time (factory value: 2 seconds).

In order to use this function:

- the sensor must know its environment: teach-in install is OK.
- the corresponding wires must be connected to the door activation input (out 1 by default)
- the output or relay function must be set to motion or pull cord (factory value) or pull cord.

To create a virtual pullcord:



Launch a pull cord teach-in by remote control. You can create 3 different pull cords in the scanned area. Go to the position where you want to activate the door by a virtual pull cord.
The LED quickly flashes red-green

during 5 seconds.

The learning process starts, please do not move.

The LED slowly flashes red-green.

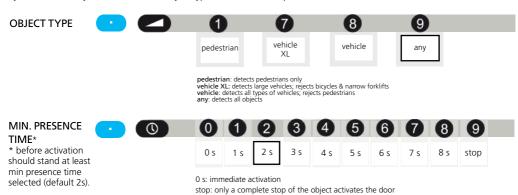
The teach-in process is finalized. The LED quickly flashes green or is out.

If flashing orange see troubleshooting.



If the LED flashes green, stop moving.

By remote control you can choose the object type and its minimum presence time to activate the door:



The maximum presence time for the pull cord function is the same as the one defined for the presence function.



To delete the virtual pull cord zone, simply relaunch a pull cord teach-in without standing in the scanning zone. After 1 minute the sensor flashes 5x orange. Push unlock + lock to exit the adjustment mode:

HEIGHT TRIGGER

All objects higher than 2.25 m will activate the selected output.



This option is typically used to open the door completely or partially depending on the height of the object. The wiring and logic of the output configuration are related to the door controller.



The door opens partially (motion detection - out 1)



The door opens completely (height detection - relay)

You can adjust the minimum height limit via LCD: Others > Height min. (1.75 - 4 m).

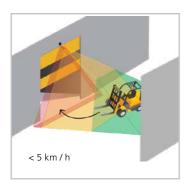
The maximum presence time for the height function is the same as the one defined for the presence function.

SPEED TRIGGER

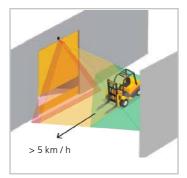
All objects moving slower than 5 km/h will activate the selected output.



This option is typically used in confined areas with no frontal traffic and is included in the presetting «corridor».



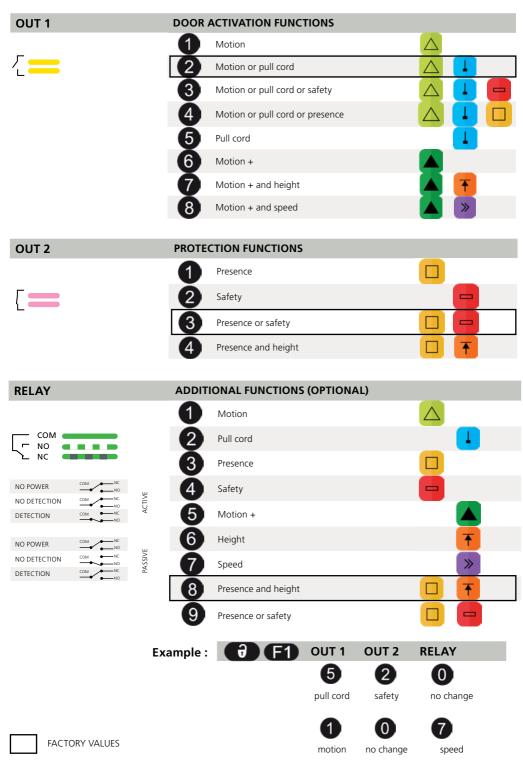
The door opens.



The door stays closed.

You can adjust the maximum speed limit via LCD: Others > Speed max. (5 - 50km/h).





TROUBLESHOOTING

E1	\	E1: CPU-XXX	The sensor encounters an internal problem.	!	Replace sensor.
E2	\bar{\chi_2}	E2: XXX PWR	The internal power supply is faulty.	!	Replace sensor.
		E2: IN SUPPLY	The power supply is too low or too high.	1	Verify power supply > Diagnostics - LCD.
		E2: TEMP	The internal temperature is too low or too high.	1 2	Verify the sensor temperature > Diagnostics - LCD. Protect the sensor from direct exposure to heat or cold.
E4	4	E4: FRONT MASKING door remains open for 5 min. at each opening	The sensor might be blinded	1	Clean the front face Remove masking object
E5	-		The sensor requests a teach-in.	1 2	Launch teach-in after angle adjustment. All presence/safety-outputs are activated.
		E5: FLATNESS	Faulty teach-in.	1 2 3	Make sure the teach-in zone is empty and even. Launch install teach-in: If zone is clear on the left, select: If zone is clear on the right, select:
		E5: TILT	Faulty teach-in because of tilt angle.	1 2	Adjust tilt angle (max. 15° > Diagnostics - LCD). Launch install teach-in.
		E5: AZIMUTH	Faulty teach-in because of lateral angle.	1 2	Adjust lateral angle (max. 45° > Diagnostics - LCD) Launch install teach-in.
		E5: HEIGHT	Faulty teach-in because of mounting height.	1 2	Adjust mounting height (max. 6 m, min. 2 m) Launch install teach-in.
		E5: TIME-OUT	Faulty teach-in because of movement in the detection field.	1	Launch install teach-in. Make sure there is no motion detection during at least 5 seconds when the LED starts flashing red-green. Slightly change your position and relaunch install teach-in.
		E5: TEACH-IN REMINDER		1	Push OK (LCD) to return to detection display.
E6	\	E6: FQ OUT	Faulty sensor output 1.	!	Replace sensor.
E8	\oint_8	E8: ERROR NAME	Critical error	!	The sensor must be repaired.
		E8: MOTOR		1 2 3	If the temperature is negative, set heating to "AUTO". Restart the sensor. Auto Warmup will start for right startup.
		ORANGE LED is on.	The sensor encounters a memory problem	!	Replace sensor.
		ORANGE LED is on during 3 sec. (masking)	Sensor placed in a corner and perpendicular to a wall	1	Tilt the sensor to shift the detection field
			Masking: obstacle high up in front of the door	2	Reduce the number of curtains by LCD (Quick start > More > Nb curtains).
		The LED and the LCD-display are off.		1	Check wiring. Check pinning and connection on sensor side.
		The door does not react.	The service mode is activated.	1	Exit the service mode (see p. 12)
		The product does not react to the remote control.	The sensor is protected by a password.	1	Enter the right password. If you forgot the code, cut and restore the power supply to access the sensor without entering a password during 1min.
		The motion detection starts too late.	The sensor has a big negative angle.	1	Reduce the angle of the sensor.





TECHNICAL SPECIFICATIONS

Technology	LASER scanner, time-of-flight measurement (7 laser curtains)			
Detection mode	Motion, presence, height and speed			
Detection field	Width: 1 x mounting height; Depth: 1 x mounting height (minimum)			
Thickness of first curtain	0.5 cm / m (mounting height)			
Mounting height	2 m to 10 m			
Min. reflectivity factor	> 2 % (of floor and object) (measured at max. 6 m in safety field)			
Min. object size	70 cm x 30 cm x 20 cm			
Optical characteristics IEC/EN 60825-1:2014	IR LASER: Wavelength 905 nm; output power <0.1 mW; Class 1 Visible LASER: Wavelength 635 nm; output power <1 mW; Class 2			
Bluetooth communication	Operating bandwidth: 2402 MHz – 2480 MHz			
	Maximum transmitted power: 12 dBm			
Supply voltage*	12 V - 24 V AC -10%/+20% ; 12 V - 30 V DC -10%/+20% @ sensor terminal			
Power consumption	heating off: < 2.5 W heating auto: typ. < 10 W, max. 15 W			
Response time	Typ. 230 ms; max. 800 ms (depending on immunity settings)			
Output*	2 solid-state relays (galvanic isolation - polarity free) 24 V AC/ 30 V DC (max. switching voltage) - 100 mA (max. switching current) - in switching mode: NO/NC - in frequency mode: pulsed signal (f= 100 Hz +/- 10%)			
	1 electro-mechanic relay (galvanic isolation - polarity free) 42 V DC/AC peak (max. switching voltage) - 500 mA (max. switching current)			
Test input*	30 V DC (max. switching voltage) - low < 1 V, high > 10 V (voltage threshold)			
LED-signals	3 coloured LEDs			
Dimensions	159 mm (H) x 208 mm (W) x 127 mm (D)			
Material / Colour	PC/ASA / Black			
Rotation angles on bracket	45° to the right, 15° to the left (lockable)			
Tilt angles on bracket	-10° to +5°			
Protection degree	IP65			
Temperature range	-30 °C to +60 °C			

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

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BEA hereby declares that the LZR®-WIDESCAN is in conformity with the European directives: RED 2014/53/EU - ROHS2 2011/65/EU.

The complete declaration of conformity is available on our website.

This product should be disposed of separately from unsorted municipal waste



^{*} External electrical sources must be within specified voltages, max 15W and ensure double insulation from primary voltages.