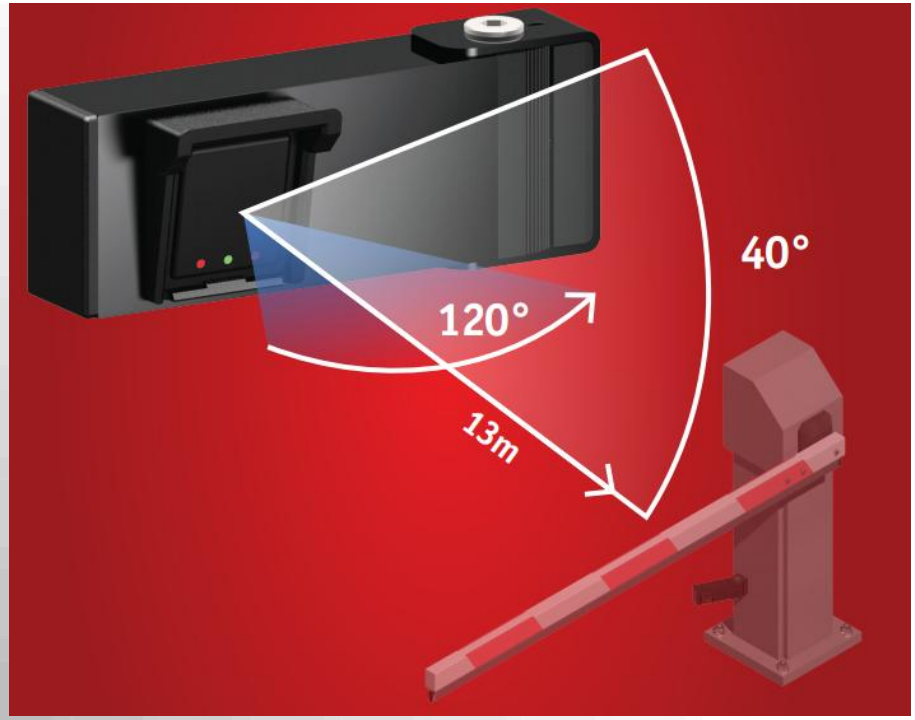
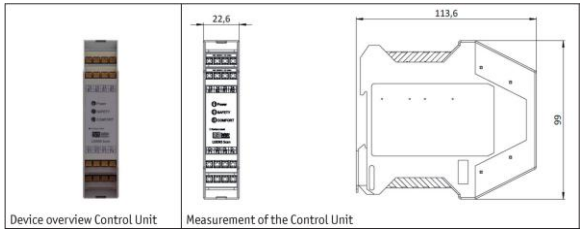
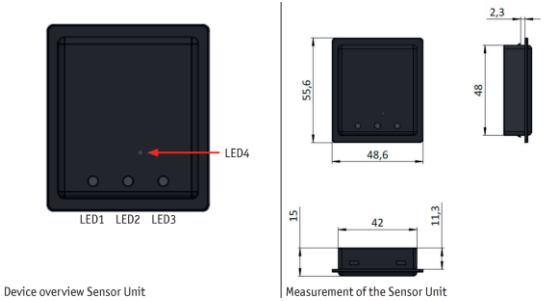
Quick Setup Guide
LISENS *scan* – Installation



LISENS scan Kit contents

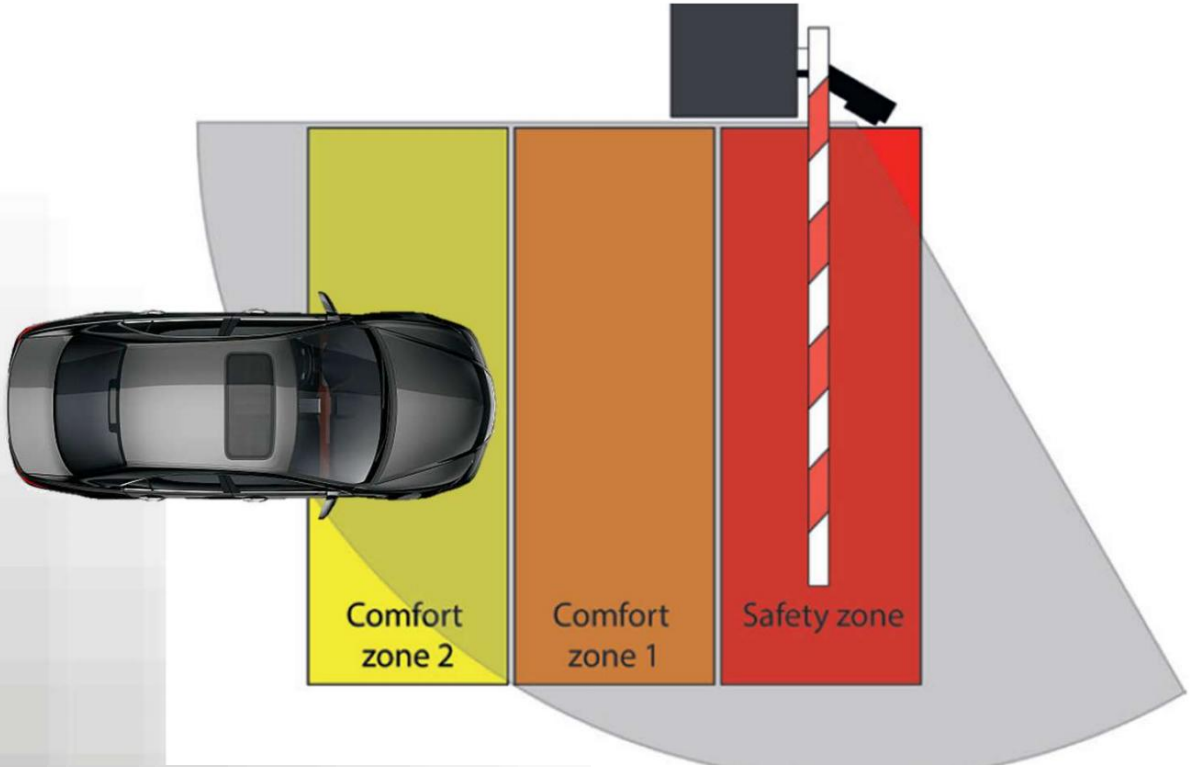
1 x Frame plugs end cap	2 x Sleeve nut flat head hexagon socket	1 x Metal bracket
1 x Radar unit with housing	2 x Socket head screw galvanized steel M5 x 6 mm	1 x Connection cable M8, coupling, straight, 4-polig
2 x Fixing round rod 5mm	1 x Radar frame 10°	2 x Cylinder head screw galvanized M5 x 16 mm
2 x Galvanized washer, inside 5,3 mm	2 x Hexagon nut galvanized, M5	1 x Threaded bolt galvanized, M8 x 65 mm
	1 x Inlay mounting bracket	



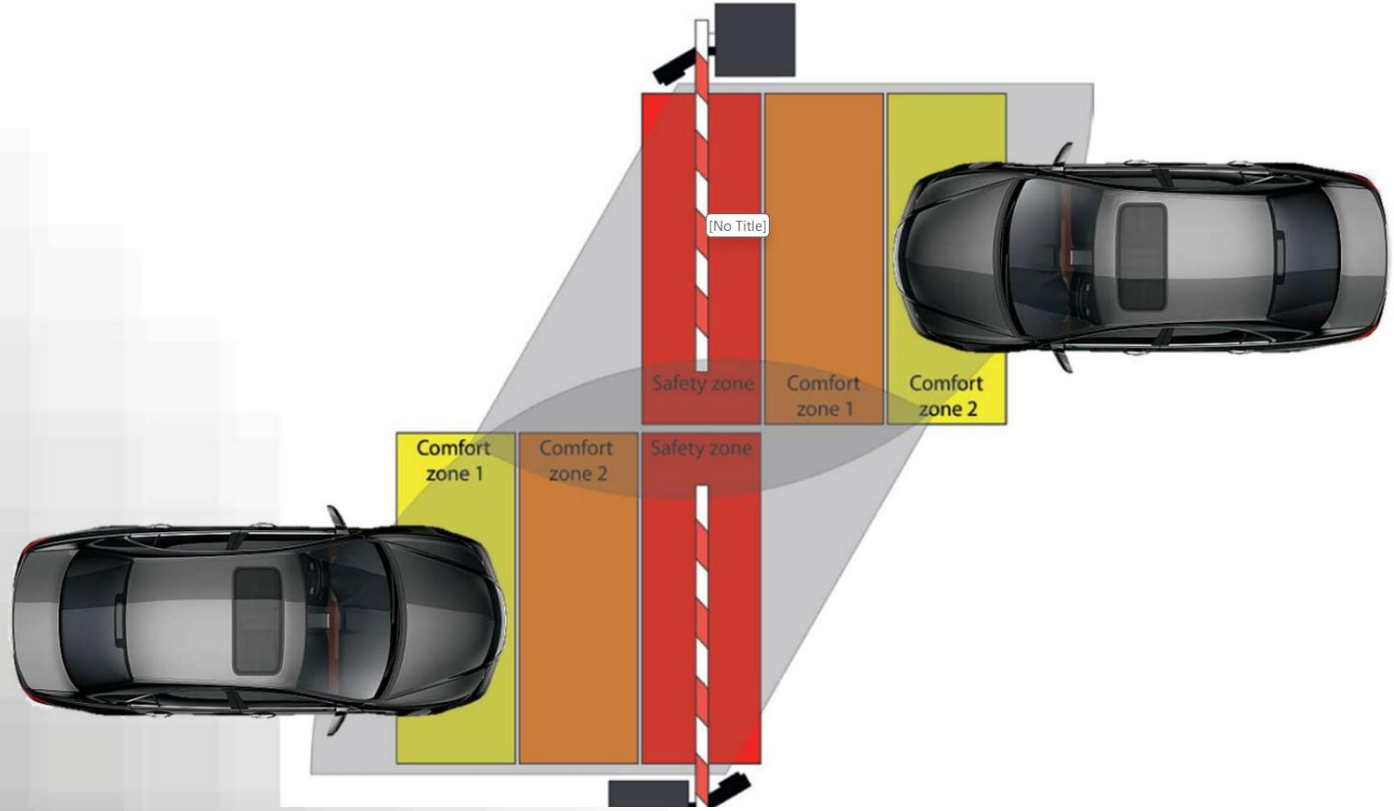


Hinged arm, partially assembled
Radome unit with radome frame
Metal bracket

Application scenario– Simple Entry-/Exit



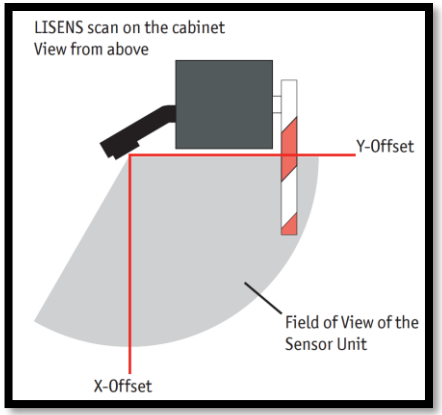
Application scenario –Separate Entry/Exit

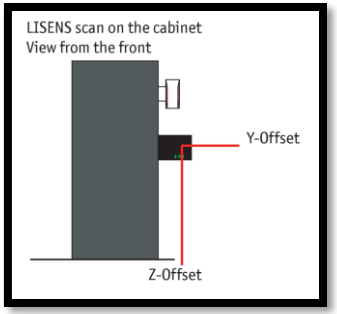


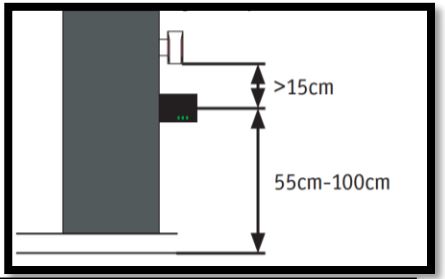
Choose the correct fit ?

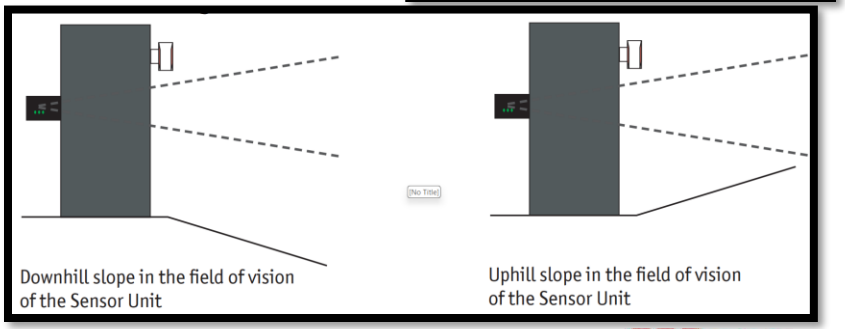
When choosing where to mount the sensor, consider :-

- Field of view width = **120 Degree's**
- Adjustable angle = **-40 to +40 Degree's**
- Field of view height = **40 Degree's**
- Available height = **55 to 100 cm**
- Gap to boom arm = **min. 15cm**
- Floor level = **Uneven, sloped ?**
- Is there a skirt = **min. 15 cm offset**
- Barrier casing = **Is it stable ? Door ? Snags ?**







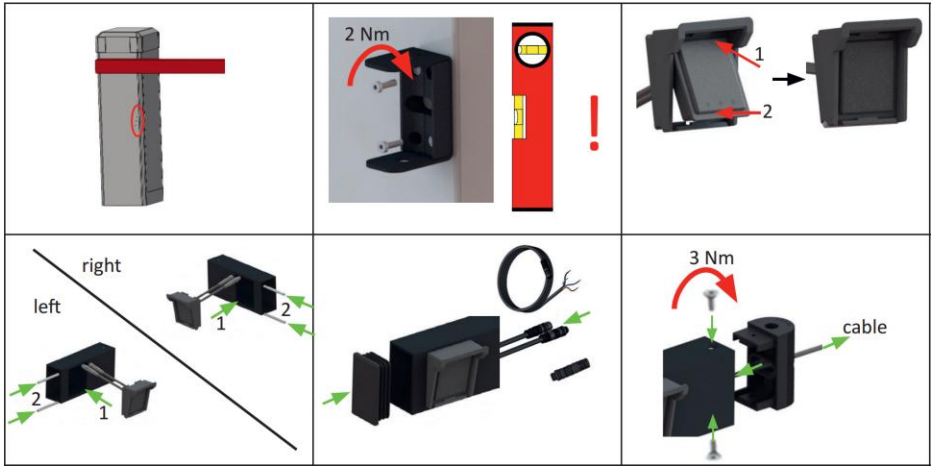


ASO Safety Solutions

Mounting the Sensor & bracket

When fitting ensure:-

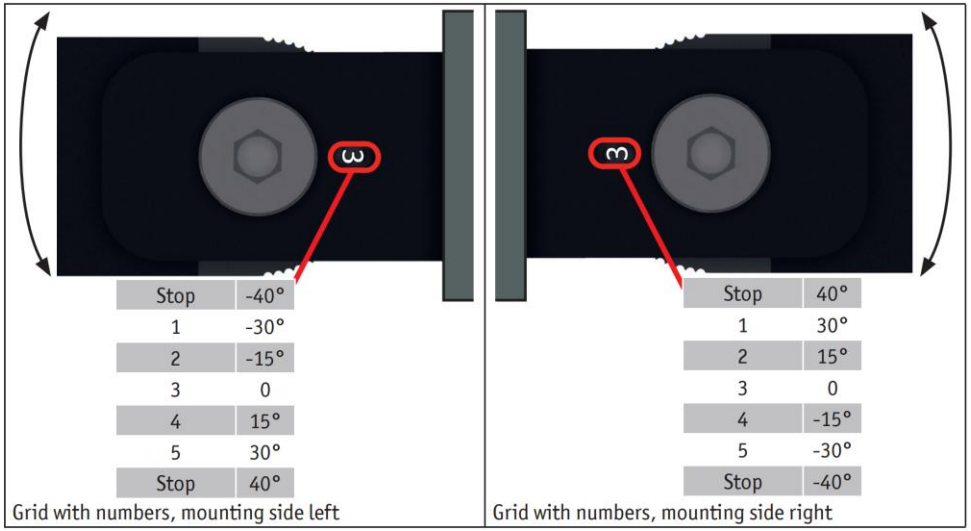
- Correct size holes drilled = **2 x M5**
- Cable hole drilled = **M6 – deburred**
- Bracket mount level = **check with spirit level**
- Tighten M5 screws = **ensure tight and solid**
- Secure sensor = **use 2 x dowels provided**
- Terminating resistor = **make sure fitted**
- End cap fitted = **ensure it’s firmly secured**



Mounting the Sensor & bracket

Adjust mounting angle:-

- The supplied bracket can be adjusted through angle's of -40 to +40 degree's.
- The small window at the top of the bracket shows a number (e.g."5" = +30 degree's)
- Once desired angle is reached, lock firmly into position using top/bottom bolts.



Stop	-40°
1	-30°
2	-15°
3	0
4	15°
5	30°
Stop	40°

Grid with numbers, mounting side left

Stop	40°
1	30°
2	15°
3	0
4	-15°
5	-30°
Stop	-40°

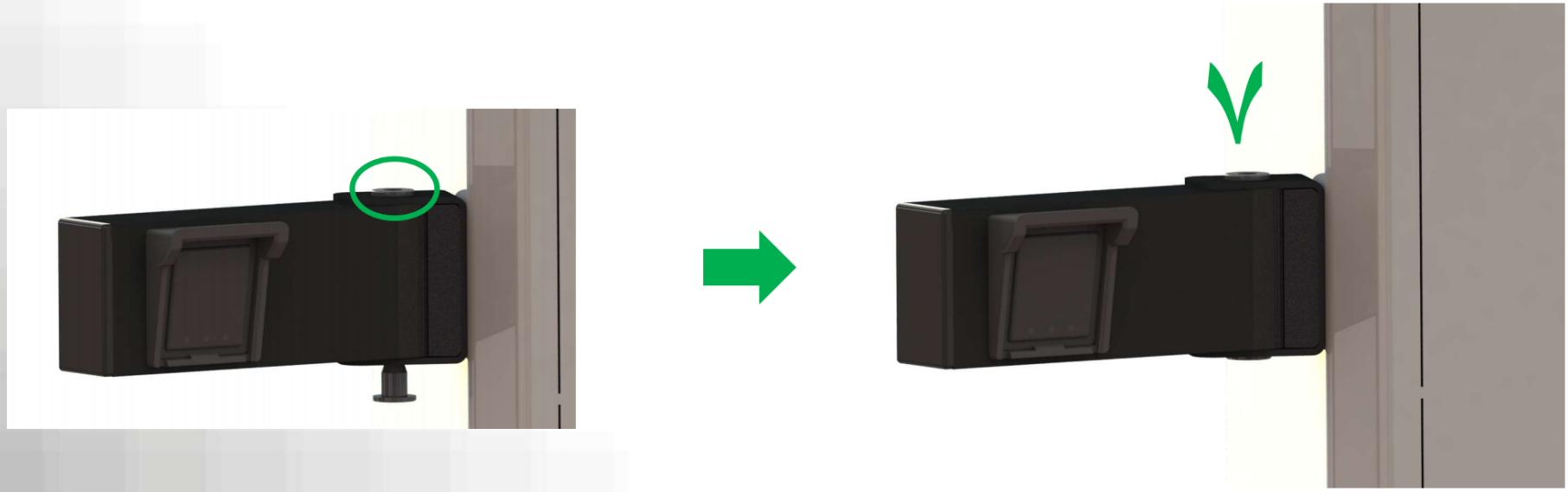
Grid with numbers, mounting side right

Note: the angle and field view of the sensor can be easily checked later in the "user Interface" setup.

Mechanical installation

End stop	-40°
1	-30°
2	-15°
3	0°
4	+15°
5	+30°
End stop	+40°

Mechanical installation



Electrical Connection

Using the push terminals to connect:-

- Power B1/B2 = **10-30v DC or 14-26v AC**

  ! Warning ! Do not exceed these limits !

- Sensor connection cable = 4 wires

  C+ CH CL C-

  Brown/white/black/blue

Note: The sensor cable can be extended for a maximum of 10 meters using suitable (at least 0.75mm) 4 core wire.

Electrical Connection

Using the push terminals to connect:-

- Safety zone relay's = **NC Output's**

  13,14 = Relay 1 – 23,24 = Relay 2

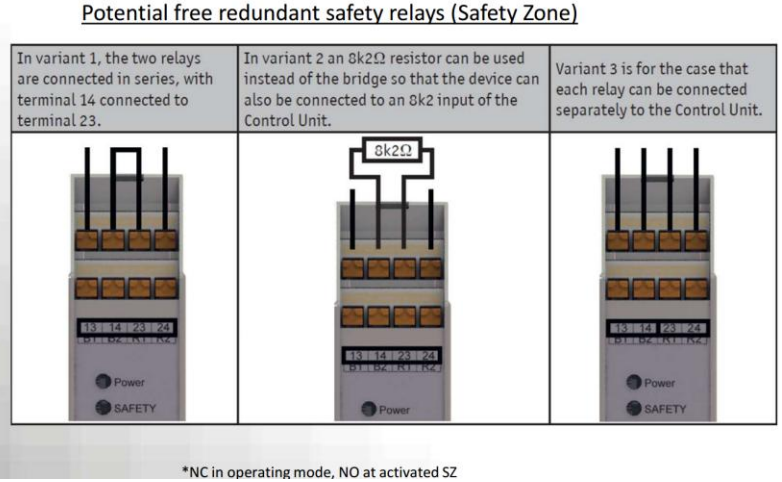
  OR bridge 14,23 and use 13,24

- Safety zone 8.2k = **8.2k Output**

  Connect = 13,24

Note: To use 8.2k output, simply bridge terminals 14,23 with supplied 8.2k resistor. The safety zone relays are current rated to 1A (30v DC) 1A (27v AC)

Electrical installation



Electrical Connection

Using the push terminals to connect:-

- Safety zone AUX = **NC/NO Selectable**

  Connect = R1,R1

- 2 x Comfort Zone's = **NC/NO Selectable**

  ZONE 1 = F1,F2

  ZONE 2 = F3,F4

Note: The safety zone AUX & Comfort zone relays are low voltage current only (max. 500mA, 30v DC).

Electrical installation

1x AUX Relay Safety Zone (SSR Potential free)

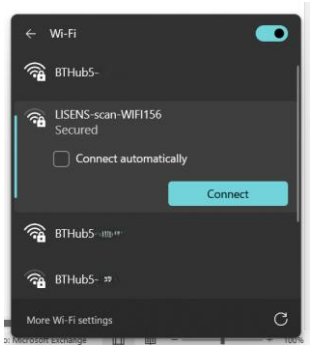
2x Relay Comfort Zones (SSR Potential free)

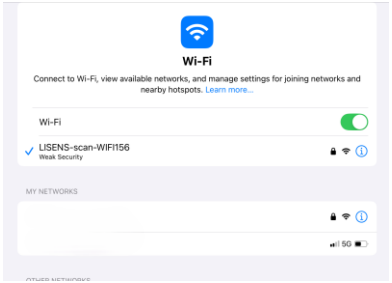
Wi-Fi Connection

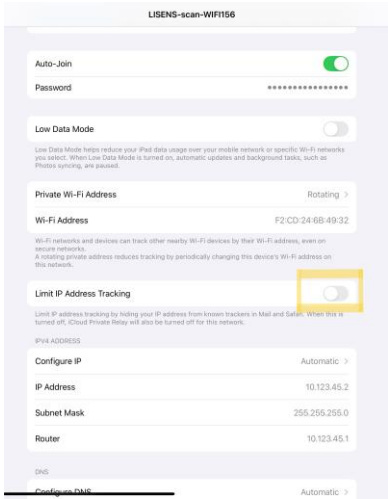
Connect to Wi-Fi Hotspot:-

- Wi-Fi Hotspot SSID & Password = On label
- Apple devices uncheck “IP address tracking”
- For devices using VPN, disconnect first !

Note: The Wi-Fi hotspot connection supports only one connection per session, simultaneous connections from multiple devices at the same time is not permitted. Make sure to disconnect an existing client before attempting to connect with another device. For Apple devices using iCloud private relay, the IP address tracking feature must be disabled for the Wi-Fi connection to the controller.



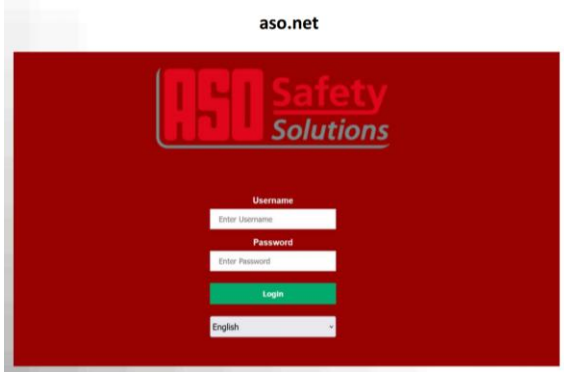




User Interface (embedded webserver)

Login to interface:-

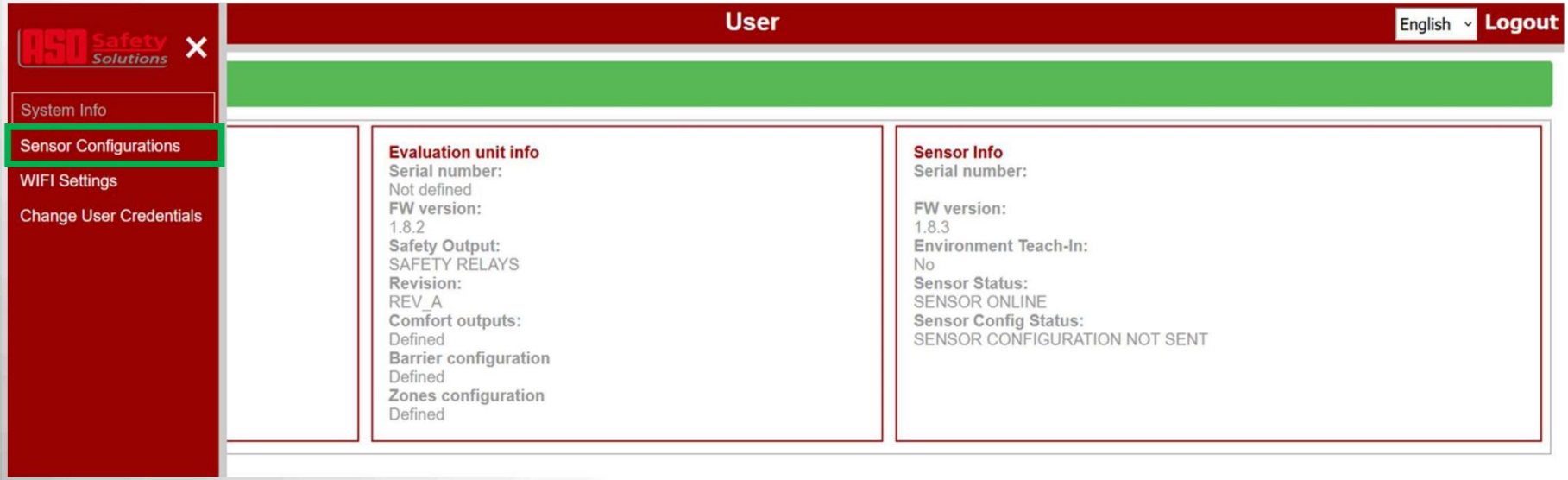
- Open web browser on connected device
- Enter = http://aso.net (or just aso.net)
- Login username/password = On label



Note: The interface is designed to work with popular web browser client's and devices. Some variations of the size of menu's/screen displayed will occur depending on the device used, this is due to screen resolution and browser configurations on the device connected.

User Interface

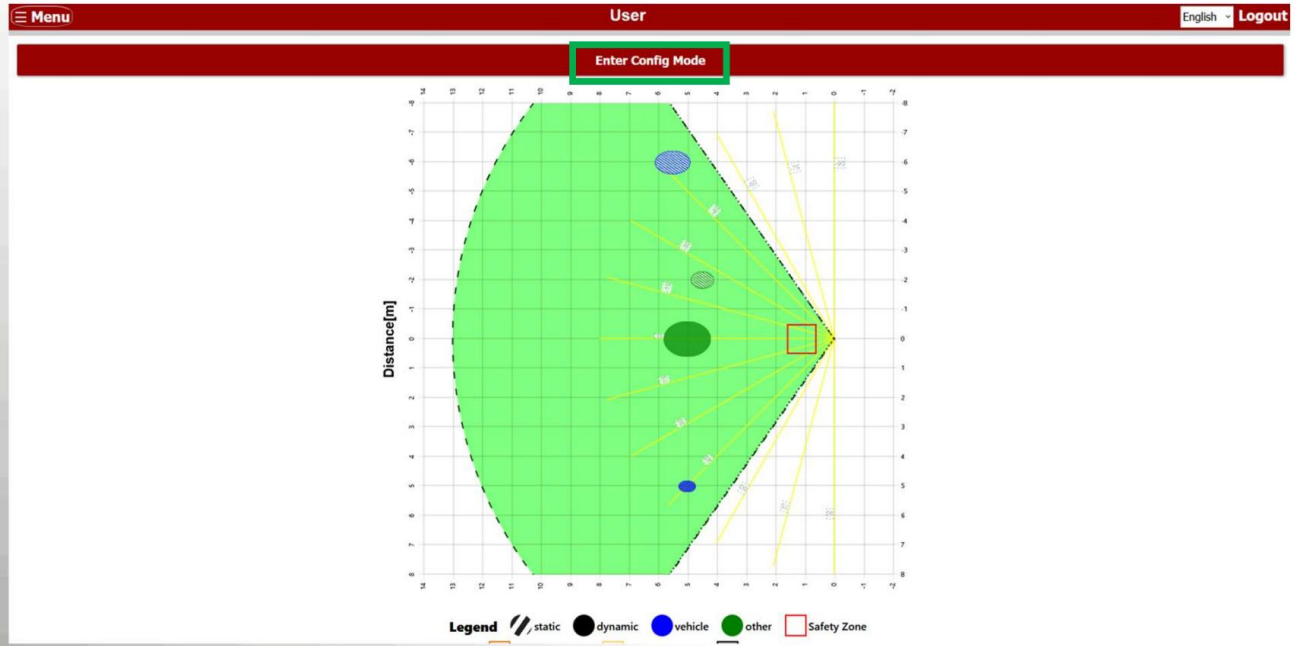
Click/press = “Sensor Configurations”



User Interface

Click/press = “Enter config mode”

This will start the setup process

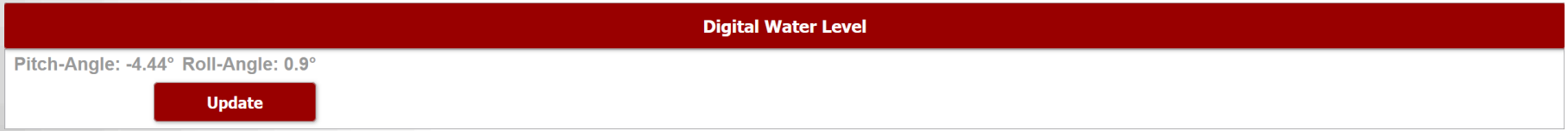


User Interface

Click/press = “Digital water level” (Spirit Level)

Update = will show current angle alignment = Ensure this is between -/+10 degree’s maximum.

Click/press = “Deactivate” then move to next section



User Interface

Click/press = “Configuration of outputs”

Safety relays = enables outputs 13,14-23,24

Safety Aux Relay (SZ) = enables output R1,R2

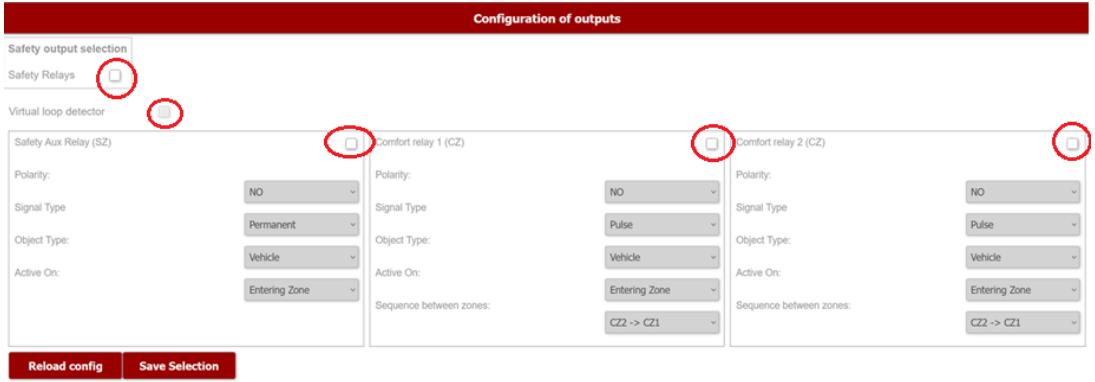
Comfort relay 1 (CZ1) = enables output F1,F2

Comfort relay 2 (CZ2) = enables output F3,F4

Virtual loop detector = enables loop detector function

Then Save Selection **Save Selection**

*Note: Enable **ONLY** the functions you require for the installation in hand. The virtual loop detector function **MUST** be enabled to allow the comfort zones to function & activate the relay outputs F1,F2 & F3,F4 !.*



User Interface

OPTIONAL - safety zone (SZ) AUX relay

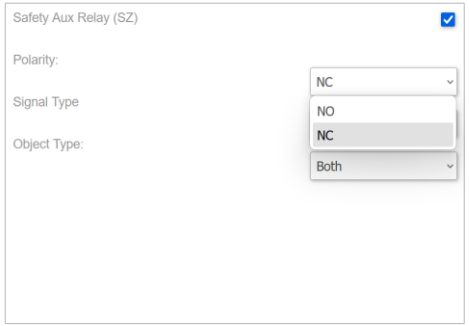
Polarity = NC or NO

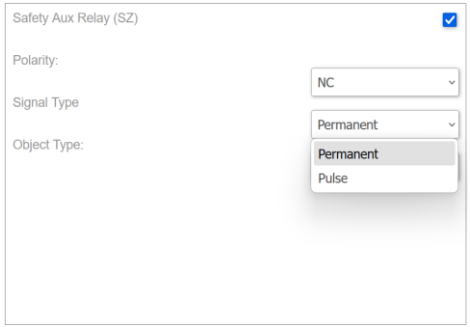
Signal type = Permanent or pulse

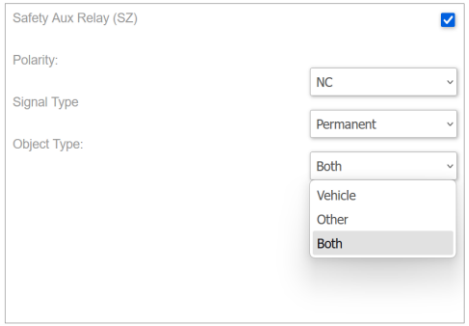
Object type = Vehicle, other or both

Note: The safety zone AUX relay can be enabled if required. To enable tick the box.

Object type defines "Vehicles" which are cars, trucks etc. & "Other" which are persons. This setting changes values for the AUX relay contact (R1,R2) ONLY and does no control the main safety relay output (13,14-23,24).







User Interface

Configure comfort zone 1 (Virtual Loop 1)

Tick box to enable ✔ (or leave unchecked if not used)

Polarity = NC or NO

Signal type = Permanent or pulse

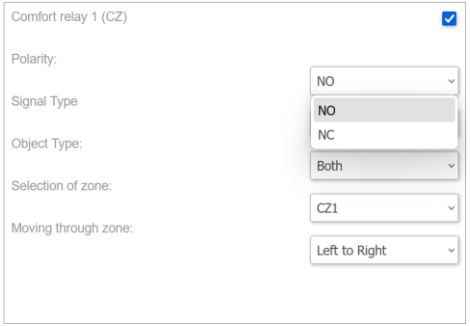
Object type = Vehicle, other or both

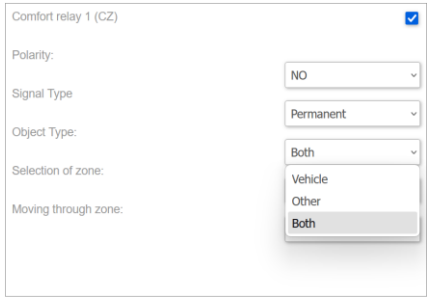
Active on = Entering or leaving zone

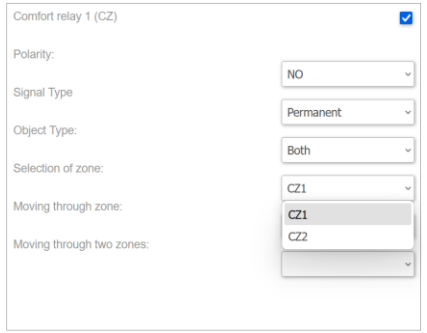
Selection of zone = CZ1 or CZ2

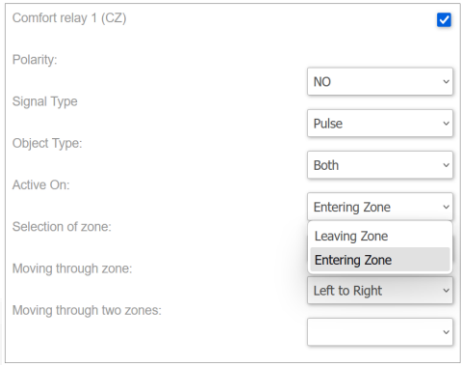
Moving through zone = left/right or right/left

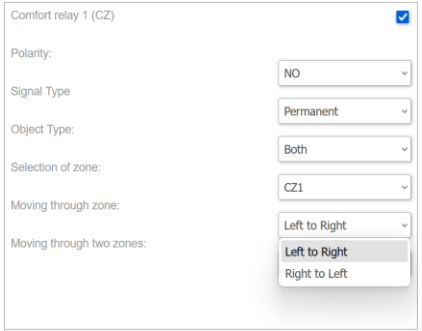
Note: Active on can be set to entering or leaving the zone to activate output. CZ1 or CZ2 can be selected to define which output is assigned to comfort zone 1. Moving through zone direction, is used to determine if the output should activate when entered from left or from right of sensor (inside or outside vehicle traffic for example).











ASO Safety Solutions

User Interface

Configure comfort zone 2 (Virtual Loop 2)

Tick box to enable ✔ (or leave unchecked if not used)

Polarity = NC or NO

Signal type = Permanent or pulse

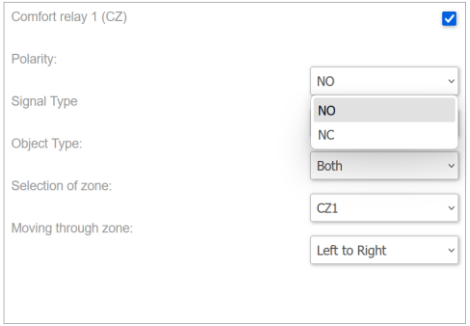
Object type = Vehicle, other or both

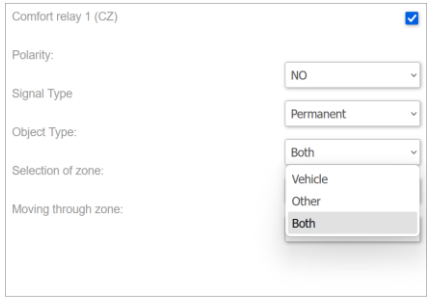
Active on = Entering or leaving zone

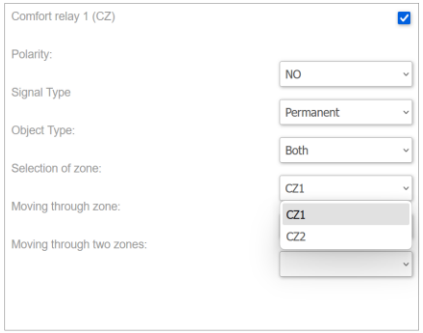
Selection of zone = CZ2 or CZ1

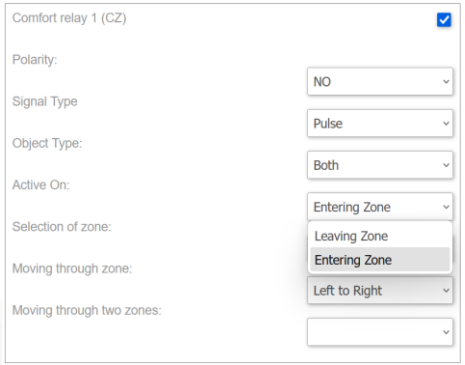
Moving through zone = left/right or right/left

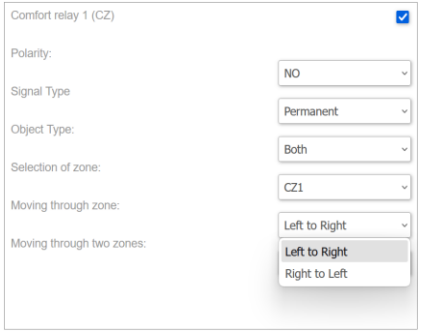
Note: Active on can be set to entering or leaving the zone to activate output. CZ2 or CZ1 can be selected to define which output is assigned to comfort zone 2. Moving through zone direction, is used to determine if the output should activate when entered from left or from right of sensor (inside or outside vehicle traffic for example).











ASO Safety Solutions

User Interface

Comfort Zones (Virtual loops) extra function

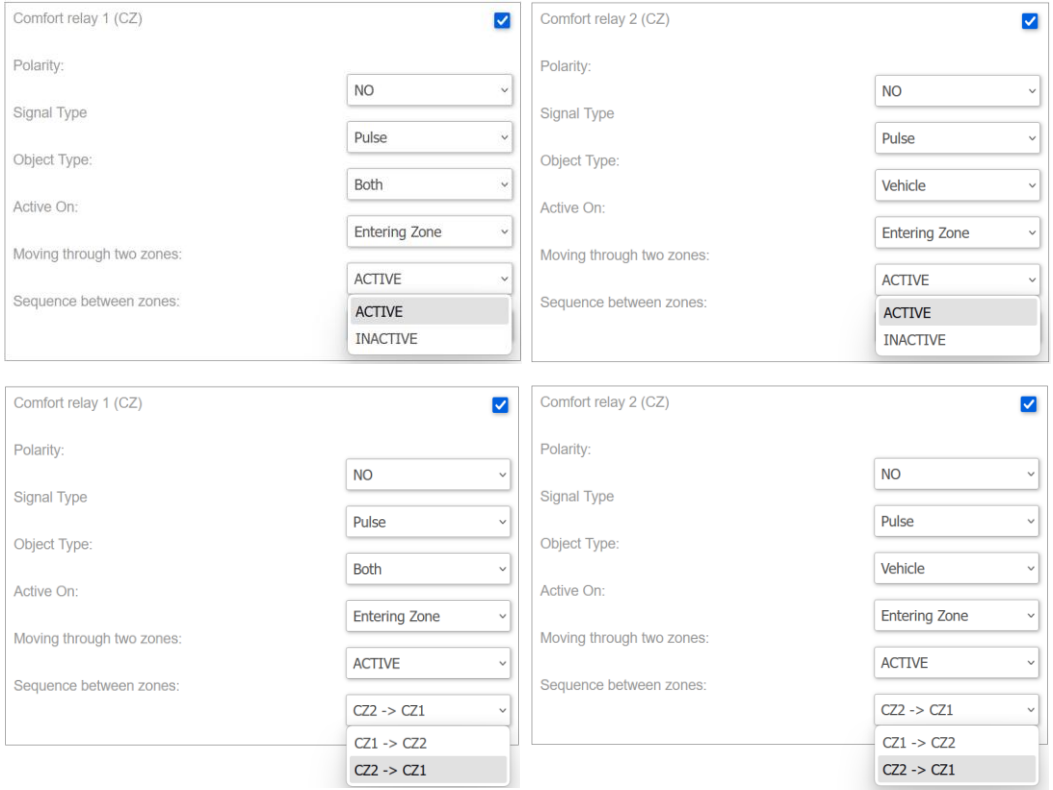
Zone sequencing = Can be used to enable the function of only activating the output once a vehicle or person has passed between zones in a chosen pattern (e.g. Zone 2 then Zone 1)

To enable = Select “active” in comfort relay 1 & 2

Then = Select the sequence desired for both zones

Note: This function is typically used in scenarios where vehicles are required to drive through one zone into another before the traffic barrier is allowed to operate (e.g. car park barrier ticketing machine or ANPR function or tailgating prevention).

The function can ONLY be used when both Comfort relay 1 and Comfort relay 2 are enabled and configured.



User Interface

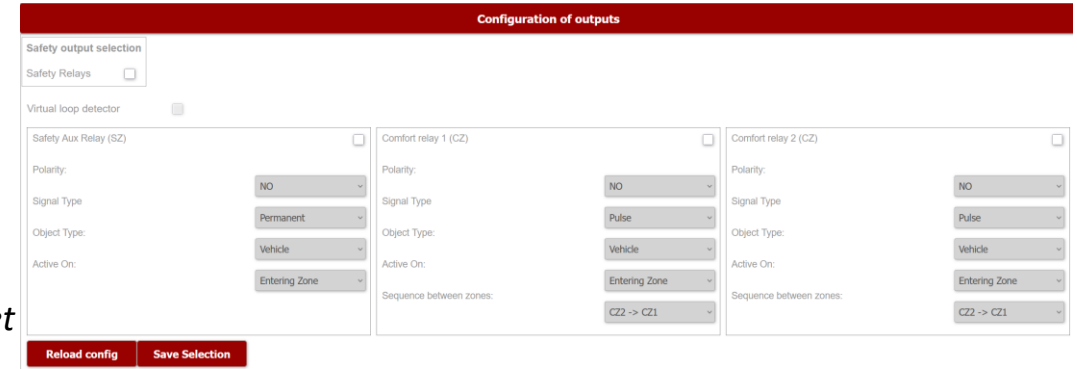
Configuration of outputs, final step.

Once all output settings are done be sure to click/press

Save Selection

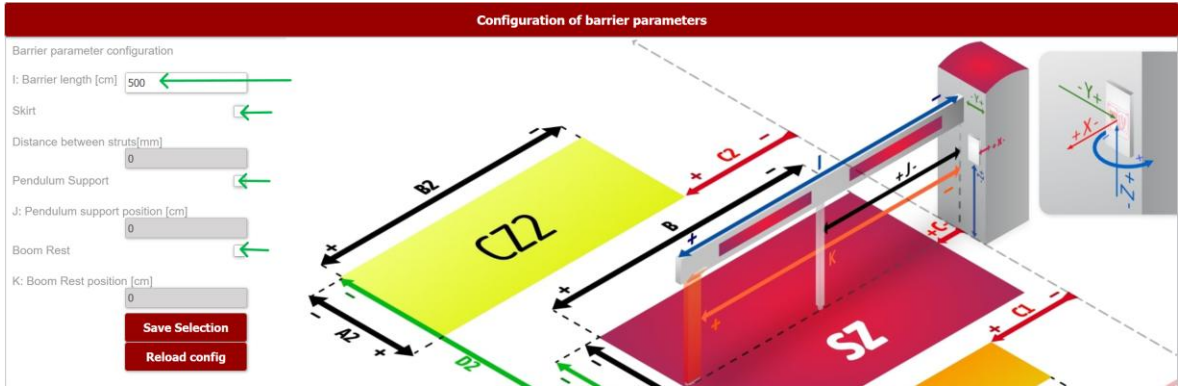
Note: If any settings are incorrect or you need to reset back to default you can simply click/press

Reload config



User Interface

Click/press = “Configuration of barrier parameters”



Enter barrier boom length = 0-1200cm

Tick “Skirt” = If barrier has skirt

Enter “Strut gap’s” = 0-1000mm *mm not cm*

Tick “Pendulum” = If barrier has pendulum/pogo

Enter “Pendulum position” = 0-1200cm

Tick “boom rest” = If barrier has boom rest

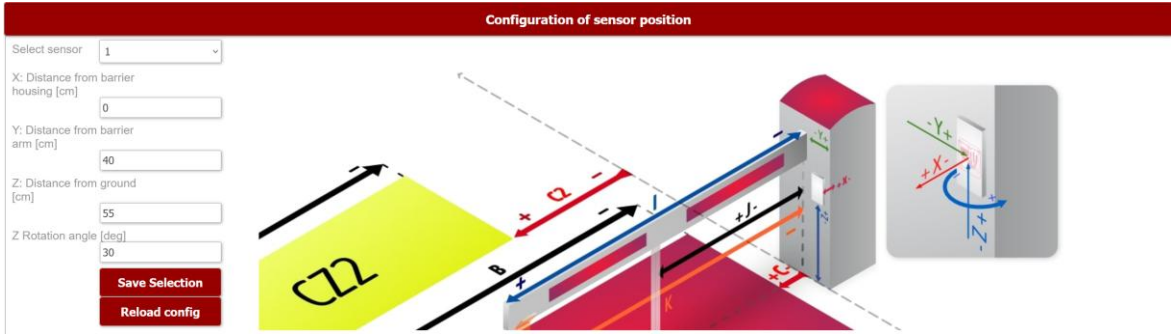
Enter “rest position” = 0-1200cm

Then Save Selection **Save Selection**

Note: Only enable the functions you require for the installation in hand. If no skirt, pendulum or boom rest are fitted don’t enable. Pendulum cannot be combined with skirt function.

User Interface

Click/press = “Configuration of sensor position”



X: = Values (-200 to 200cm) from barrier housing

Y: = Values (-200 to 200cm) from Boom

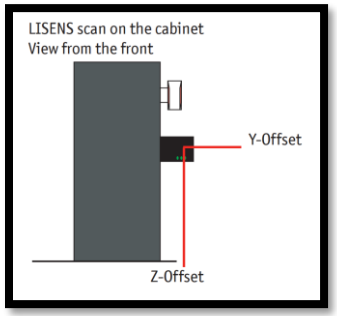
Z: = Values (55 to 100cm) from ground

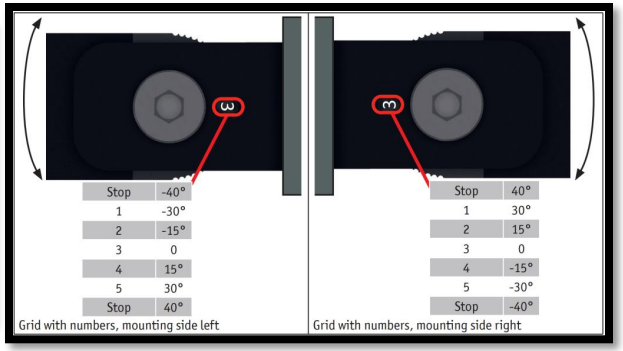
Z Angle: = Values (-40 to +40 Degree’s) rotation

Then Save Selection **Save Selection**

Note: It is important to accurately measure the distances to ensure the safety zone is configured correctly in relation to the position of the sensor and barrier boom.

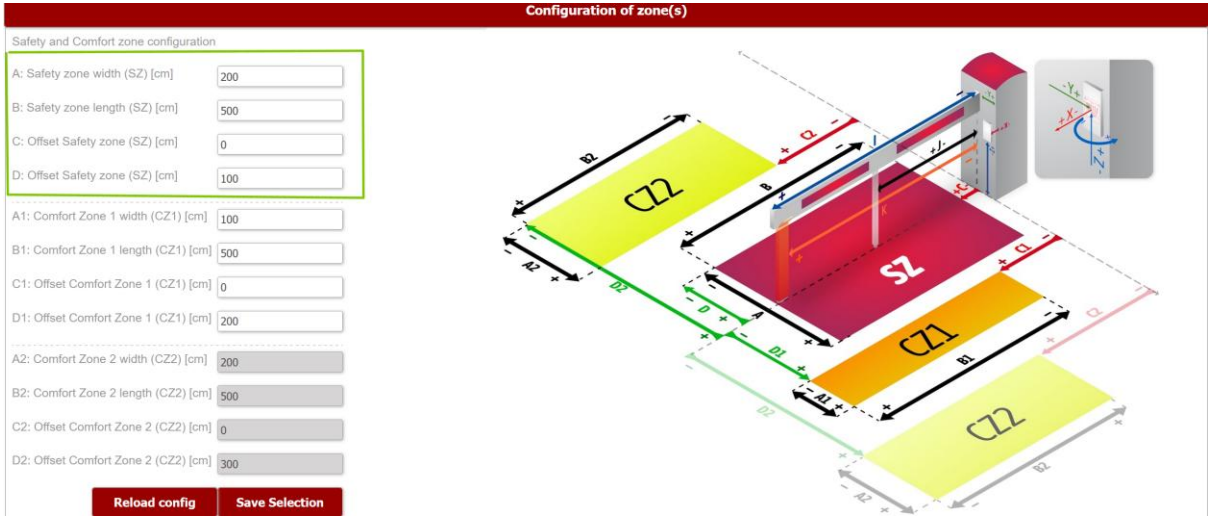
X: & Y: value ranges are quite large to allow for situations where the sensor may be mounted separately to the housing (e.g. on a post or other fixed object near to the barrier).





User Interface

Click/press = “Configuration of zones”



Configure Safety zone values SZ (see diagram)

A: = Values (0 to 1200cm) zone width

B: = Values (0 to 1200cm) zone length

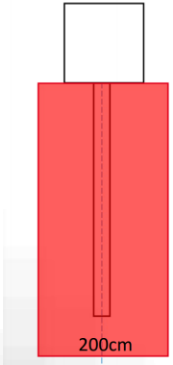
C: = Values (-200 to 200cm) offset from housing

D: = Values (-200 to 200cm) offset from Center *

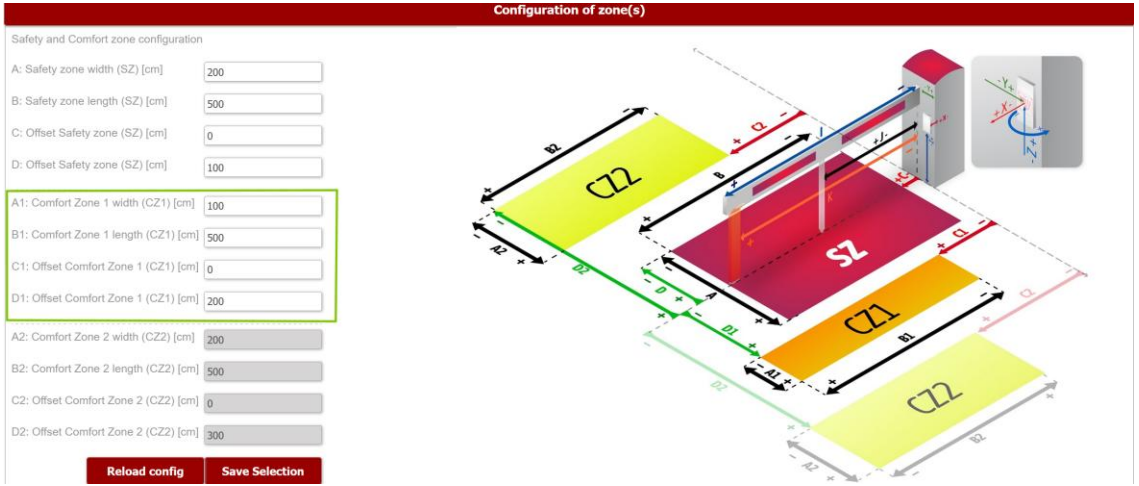
* - Value D: defines the offset of the safety zone from the Center line beneath the boom (e.g. -100 would move 100cm of the 200cm width set behind the Center line = 100cm either side of the boom).

Then Save Selection **Save Selection**

Note: Value C: can be used to provide an offset if required, which may be useful if the field of view of the sensor is limited by its position in relation to the housing.



User Interface



Configure Comfort zone 1 CZ1 (see diagram)

A1: = Values (0 to 1200cm) zone width

B1: = Values (0 to 1200cm) zone length

C1: = Values (-1000 to 1000cm) offset from housing

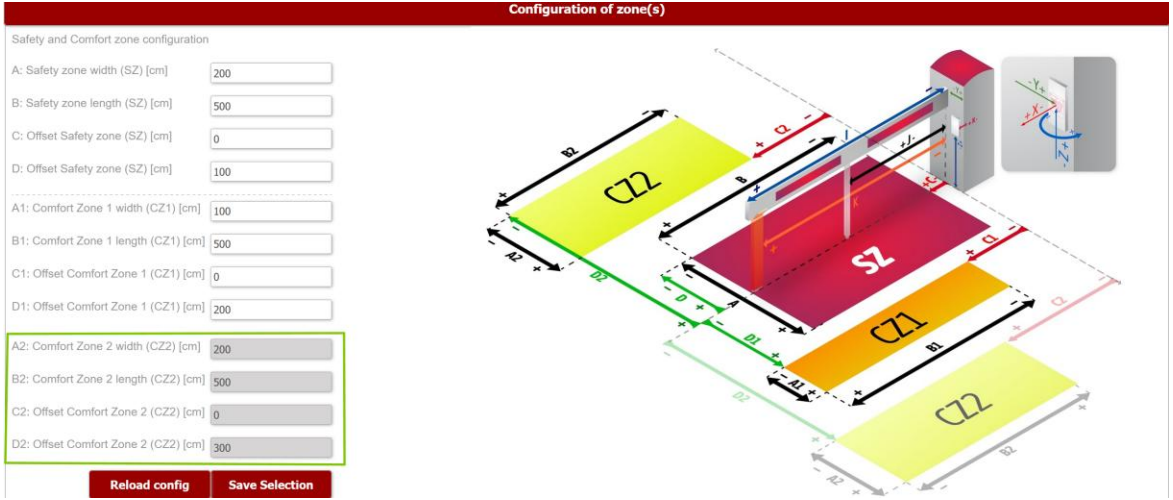
D1: = Values (-1000 to 1000cm) offset from Center *

* - Value D1: defines the offset of the comfort zone 1 from the Center line beneath the boom (e.g. 200 would move the defined zone starting position to 200cm to the right of the boom center line).

Then Save Selection 

Note: Value C1: can be used to provide an offset if required, which may be useful if the field of view of the sensor is limited by its position in relation to the zone position.

User Interface



Configure Comfort zone 2 CZ2 (see diagram)

A2: = Values (0 to 1200cm) zone width

B2: = Values (0 to 1200cm) zone length

C2: = Values (-1000 to 1000cm) offset from housing

D2: = Values (-1000 to 1000cm) offset from Center *

* - Value D2: defines the offset of the comfort zone 2 from the Center line beneath the boom (e.g. 300 would move the defined zone starting position to 300cm to the right of the boom center line).

Then Save Selection **Save Selection**

Note: Value C2: can be used to provide an offset if required, which may be useful if the field of view of the sensor is limited by its position in relation to the zone position.

User Interface

Click/press = “Visualization of sensor & zone position ”

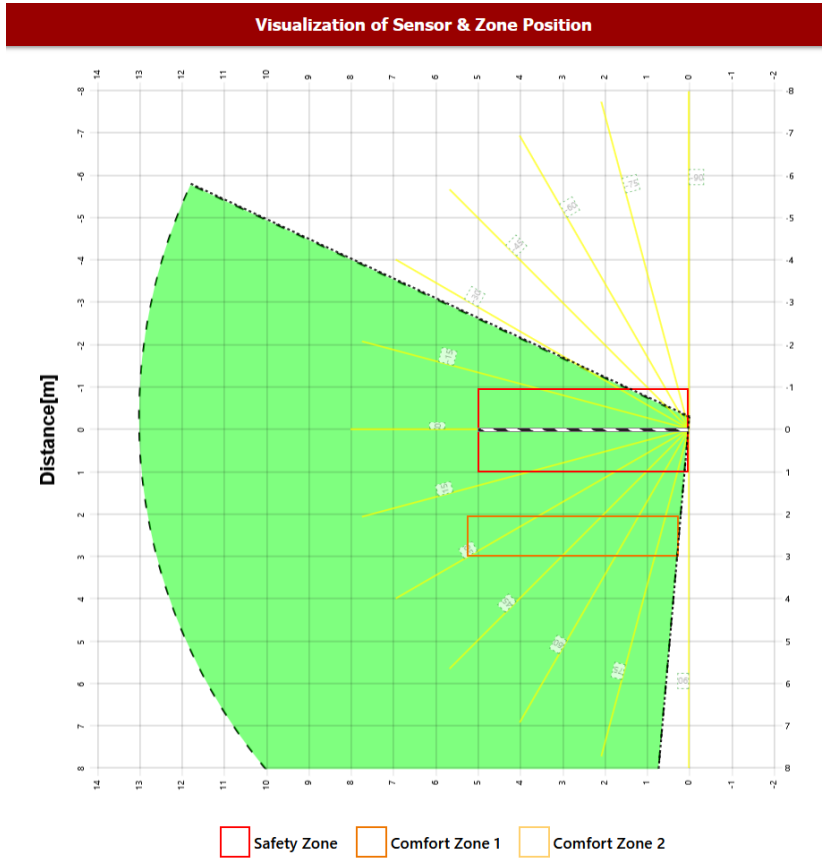
This section shows a visual representation of the values you have entered in the setup process. This can be used to determine if all values entered relate to the installation in hand.

Ensure the active field of view (green area) is correctly positioned and covers the area required.

Ensure the red “safety zone” and sensor are positioned correctly.

Ensure that “comfort zones” are positioned correctly.

Note: If the position or size of any zone or the sensor are incorrect, simply go back to the menu settings and alter them and save then check the position visualization again.

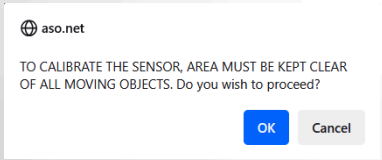


User Interface

Completing setup

Once you are happy with the visualization of the zones and sensor position click/press “exit config” at the top of the screen.

The below message will be displayed, ensure the area is clear from unexpected static or moving objects.



Calibration takes around 5 seconds to complete.

Note: Once calibration is complete, the screen will revert and show a target map screen. Click/press on “get targets” to enable a live radar view of the area. This can now be used to test that the system functions as expected. Check activation of relays and zones to ensure they function as desired for the selected type of detection (e.g. vehicle only, other or both).