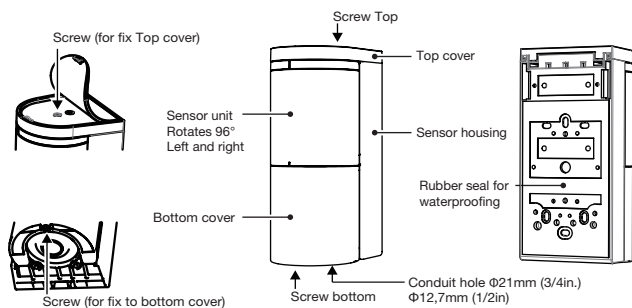




# Installation Quick Guide OVS-02GT

## 1. How it is made and how it works

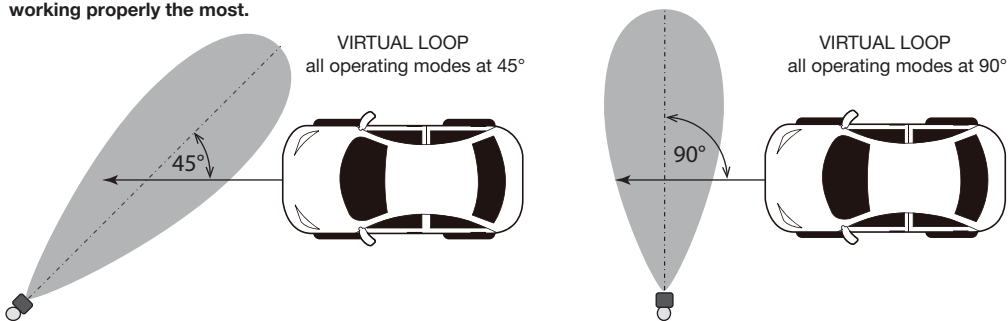
OVS-02GT is a device base on FMCW (24GHz) technology and is designed for vehicle detection, up to 35km/h and 8mt



## 2. How it works

Before installing the sensor, determine the required operating mode according to the two diagrams below.

**NOTE: The physical detection angle and the angle selectable in "VIRTUAL LOOP" (45° - 90°) must match. A tolerance of  $\pm 15^\circ$  is allowed; if this tolerance is exceeded, verify which operating mode will make the sensor working properly the most.**



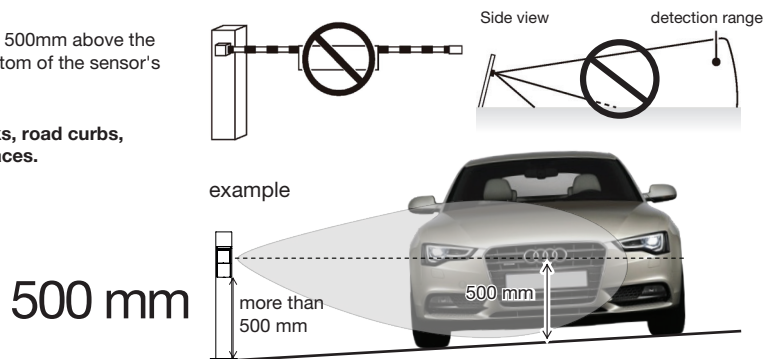
**Angled Mode:** The sensor should detect approaching vehicles at a 45° angle between the vehicle's travel direction and the sensor's reading direction. In this mode, detection is unidirectional (approach only).

**Perpendicular Mode:** The sensor should detect approaching vehicles at a 90° angle between the vehicle's travel direction and the sensor's reading direction. In this mode, detection is bidirectional.

## 3. Installation height

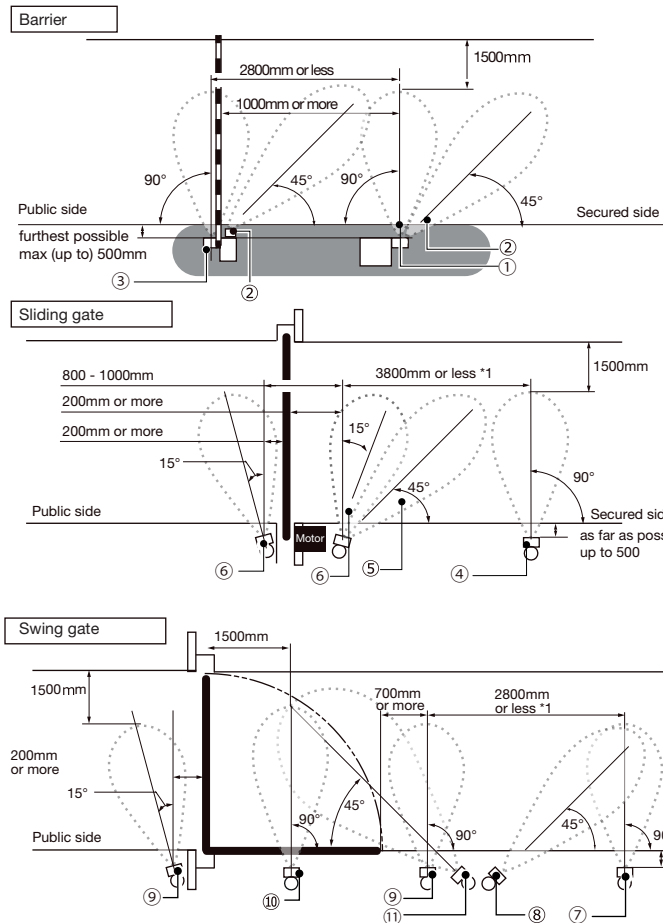
The sensor must be installed at 500mm above the ground, measured from the bottom of the sensor's cover

**NOTE: Consider any sidewalks, road curbs, and particularly inclined surfaces.**



## 4. Examples

A. Install the sensor following these instructions



## APPLICATIONS LIST

- ① Barrier - Activation 90°
- ② Barrier - Activation 45° (free exit only)
- ③ Barrier - Protection 90°
- ④ Sliding gate - Activation 90°
- ⑤ Sliding gate - Activation 45°
- ⑥ Sliding gate - Protection 90°
- ⑦ Swing gate - Activation 90°
- ⑧ Swing gate - Activation 45°
- ⑨ Swing gate - Protection 90°
- ⑩ Swing gate - Shadow mode loop 90° \*
- ⑪ Swing gate - Shadow mode loop 45° \*

\* Check input status

## LED COLOR STATUS

- **Green:** stand/by - no detection
- **Red:** detection
- **Yellow:** pre-detection
- **Blue:** factory settings
- **Purple:** high reflection
- **Blue/Green fast blinking:** calibration
- **Red/Yellow fast blinking:** calibration error (possible high reflection objects within the detection area)
- **Red/Blue fast blinking:** calibration error (possible high reflection objects within the detection area)

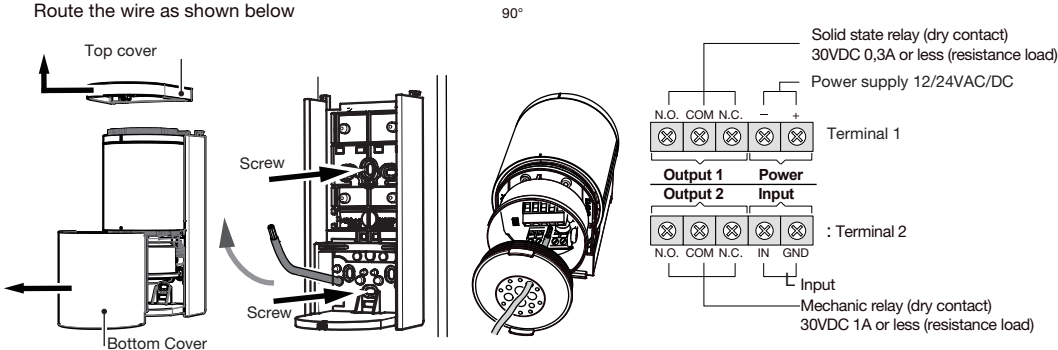
**Note: 1 second alternatively blinking means the sensors is connected to a device**

## 5. Installation and wiring

[1] Install the sensor using the screw supplied in the box.

Route the wire as shown below

[2] wiring diagram

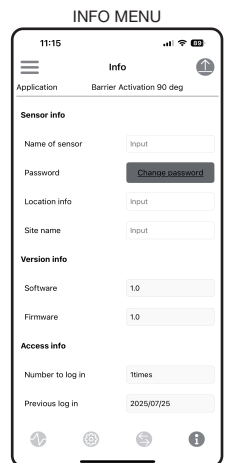
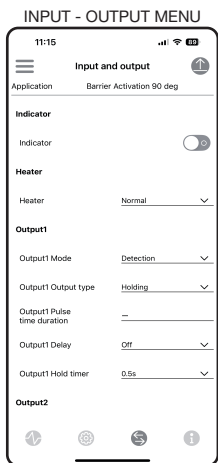
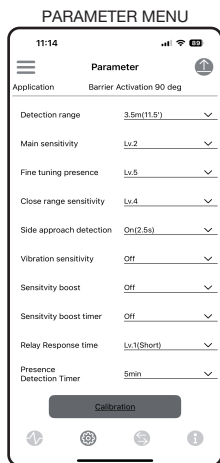
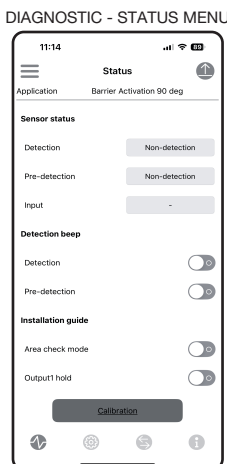
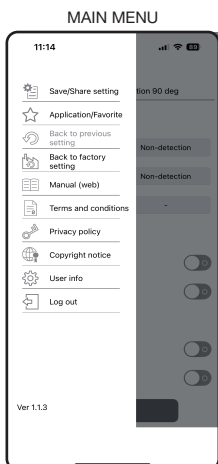
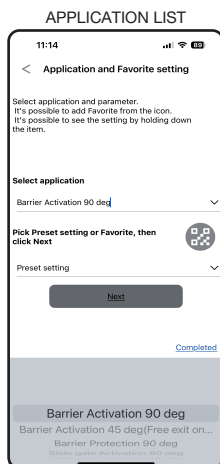


## 6. Configuration via app "VIRTUAL LOOP"

- [1] Download the App from the 2D code or search for it as "OPTEX Virtual Loop" in the AppStore or GooglePlay

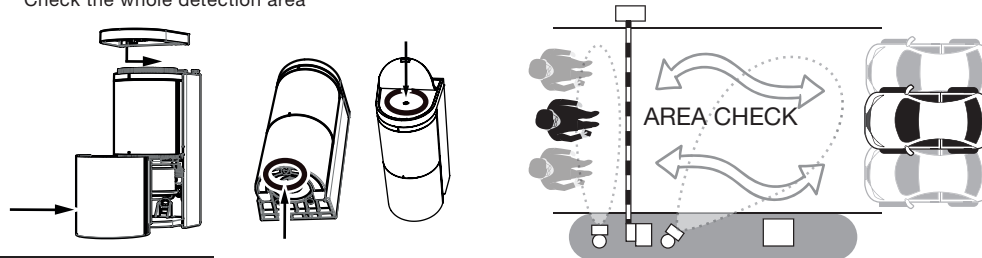


- [2] Start the application and pair the device to the sensor via Bluetooth, select it from the "sensors list" menu
- [3] Set the password
- [4] Put data in "Sensor Info" menu
- [5] Choose the correct application among the available ones
- [6] Select the required detection range on the menu " Main parameter"
- [7] Remove objects, vehicles and people away from the detection area and perform the calibration
- [8] Set parameters as necessary, sending them and confirming each change via the red dot icon on the upper right corner.



## 7. Sensor assembly

- [1] Before assembling the sensor, perform a final operational check with a vehicle or in "area check mode". Check the whole detection area



## 8. Specifications

|                                                                                                             |                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Detection method                                                                                            | Microwave (FMCW)                                                                                                                                                                            |
| Frequency                                                                                                   | Microwave: 24GHz, BLE communication: 2.4GHz                                                                                                                                                 |
| Response                                                                                                    | MIN 500ms                                                                                                                                                                                   |
| Supply voltage                                                                                              | 12 to 24V AC/DC                                                                                                                                                                             |
| Power consumption                                                                                           | Heater enabled: up to 300mA, Heater disabled: Up to 90mA (at 24V)                                                                                                                           |
| Spec                                                                                                        | 1 Non-voltage solid state relay output 30VDC 0.3A or less (resistance load) (N.O./N.C.)                                                                                                     |
|                                                                                                             | 2 Non-voltage mechanical relay output 30VDC 1A or less (resistance load) (N.O./N.C.)                                                                                                        |
| Output                                                                                                      | Delay [s] OFF / 0.5 / 1 / 2 / 3 / 4                                                                                                                                                         |
|                                                                                                             | Hold timer [s] OFF / 0.5 / 1 / 2 / 3 / 10 / 30 / 60                                                                                                                                         |
|                                                                                                             | Mode Detection / Pre-detection / Mask                                                                                                                                                       |
|                                                                                                             | Type Holding / Pulse IN / Pulse OUT                                                                                                                                                         |
| Input                                                                                                       | Pulse time duration 150ms / 250ms / 500ms / 1s                                                                                                                                              |
|                                                                                                             | Spec N.O. contact Non-voltage relay Input<br>ON resistance 100Ω or less, Off resistance 200kΩ or more,<br>p.u. Tensione pull-up interna : circa 3.3V                                        |
|                                                                                                             | Mode Link(OR gate) / Link (AND gate) / Inhibit / Wake                                                                                                                                       |
| Application                                                                                                 |                                                                                                                                                                                             |
| Barrier-Activation,Protection / Slide gate-Activation,Protection / Swing gate-Activation,Protection, Shadow |                                                                                                                                                                                             |
| Detectable vehicle speed                                                                                    |                                                                                                                                                                                             |
| 2 to 35km/h (1.2 to 22 mi/h)                                                                                |                                                                                                                                                                                             |
| Device setting                                                                                              | Detection range 1.5m(7ft.) to 8.0m(26ft.) 0.5m(20in.) pitch                                                                                                                                 |
|                                                                                                             | Main sensitivity Level 1 to 7                                                                                                                                                               |
|                                                                                                             | Fine tuning Level 1 to 7                                                                                                                                                                    |
|                                                                                                             | Close range sensitivity Level 1 to 7                                                                                                                                                        |
|                                                                                                             | Side approach detection [s] Off / On (2.5s)                                                                                                                                                 |
|                                                                                                             | Vibration sensitivity Off / Low / Middle / High                                                                                                                                             |
|                                                                                                             | Sensitivity boost Off / Low / Middle / High                                                                                                                                                 |
|                                                                                                             | Sensitivity boost timer [s] Off / 0.5 / 1 / 2 / 3 / 4 / 5 / 10 / 20 / 40                                                                                                                    |
|                                                                                                             | Relay Response time Level 1 to 4                                                                                                                                                            |
|                                                                                                             | Presence detection timer [min] 5 / 15 / 60 / 180 / Infinity                                                                                                                                 |
| Indicator                                                                                                   | Slide gate cancellation Off / On                                                                                                                                                            |
|                                                                                                             | On / Off Switchable (with the smartphone App or by holding a magnet close to the unit)                                                                                                      |
|                                                                                                             | Standard operation mode                                                                                                                                                                     |
|                                                                                                             | Detection operation Standby: Solid green, Detected: Solid red, Bad environment: Solid purple, Calibration uncompleted: Solid blue                                                           |
|                                                                                                             | Wake up Wake up : Solid blue for 3 seconds                                                                                                                                                  |
|                                                                                                             | Sensor reset Completed reset : Blinking blue (Fast) for 2 seconds                                                                                                                           |
|                                                                                                             | Smartphone app connection mode                                                                                                                                                              |
|                                                                                                             | Setting Detection operation Standby : Blinking green(slow), Detected : Blinking yellow(slow), Bad environment : Blinking purple(slow), Calibration uncompleted : Blinking blue(slow)        |
|                                                                                                             | Area check Standby : Blinking green(slow), Pre-detected : Blinking yellow(slow), Detected : Blinking red(slow)                                                                              |
|                                                                                                             | Calibration In process : Blinking Blue & Green, Error Unstable : Blinking Red & Yellow(Fast), Error High reflection : Blinking Red & Blue(Fast), High reflection : Blinking Purple(for 10s) |
| Ambient Temperature                                                                                         |                                                                                                                                                                                             |
| -30° to 50°                                                                                                 |                                                                                                                                                                                             |
| Operating Ambient Humidity                                                                                  |                                                                                                                                                                                             |
| 95% max. ( no condensation )                                                                                |                                                                                                                                                                                             |
| Degree of Protection                                                                                        |                                                                                                                                                                                             |
| IP66 / NEMA4                                                                                                |                                                                                                                                                                                             |
| Installation Location                                                                                       |                                                                                                                                                                                             |
| Indoor / Outdoor                                                                                            |                                                                                                                                                                                             |
| Installation Height                                                                                         |                                                                                                                                                                                             |
| 500mm(20in.) ( from the ground to the bottom of the unit)                                                   |                                                                                                                                                                                             |
| Sensor Angle Adjustment                                                                                     |                                                                                                                                                                                             |
| Left and right ±96°(3°pitch )                                                                               |                                                                                                                                                                                             |
| Weight                                                                                                      |                                                                                                                                                                                             |
| 600g (21oz) ( including accessories)                                                                        |                                                                                                                                                                                             |
| Accessories                                                                                                 |                                                                                                                                                                                             |
| 4pcs attached screws (2pcs Metric coarse thread M4x12, 2pcs Tapping screw 4x20), Quick reference guide      |                                                                                                                                                                                             |

Specifications are subject to change without notice for improvement.

## 9. Dati del costruttore.



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