English

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User manual

IVP 7000 MW MASK LD

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Passive infrared motion sensor with triple technology

Congratulations, you have just purchased a product with Intelbras quality and safety.

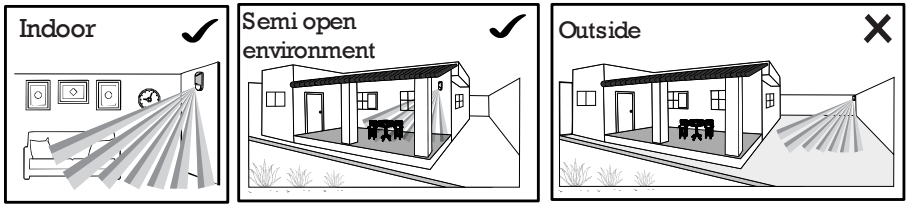
The IVP 7000 MW MASK LD motion sensor combines microwave detection with passive infrared detection, adopting advanced signal analysis technology to prevent accidental triggering. Developed with a PIR QUAD sensor and semi-spherical Fresnel lens, it increases the efficiency of motion detection and reduces undetected areas below the sensor.

The IVP 7000 MW MASK LD sensor also contains anti-camouflage and anti-masking technologies. Technologies that guarantee greater security to the location against sabotage of the alarm system.

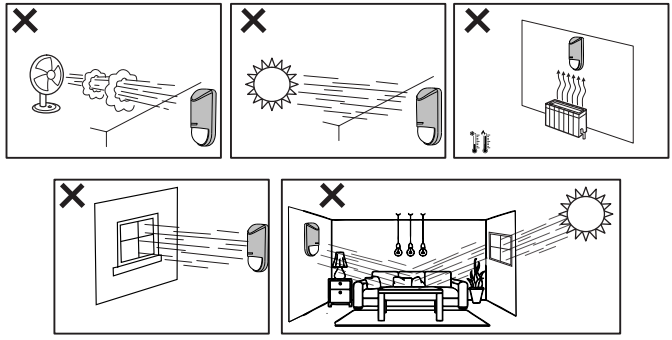
To facilitate sensor installation and optimize installation time, it contains end-of-line resistors built into the board and configured by DIP SWITCH.

Care and safety

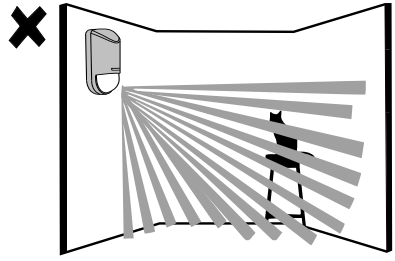
- Follow all instructions in the manual for assembly and installation of the product.
- LGPD – Data processing by Intelbras: Intelbras does not access, transfer, capture or carry out any type of processing of personal data using this product.
- This product is intended for INDOOR and SEMI-OPEN environments.



- Do not touch the surface of the infrared (PIR) sensor. If necessary, use a soft, dry cloth for cleaning.
- Do not use the sensor in areas with sudden changes in temperature, such as near air conditioning, heaters, fans, refrigerators and ovens. Do not expose the sensor directly or to reflected sunlight.

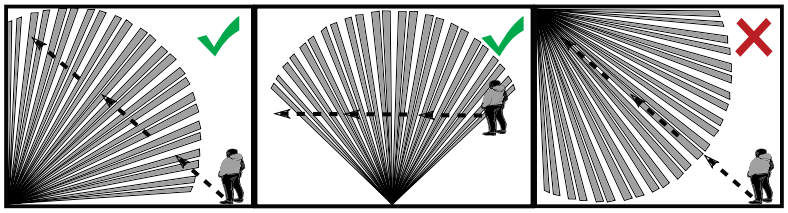


- The PET function is intended for crawling animals weighing up to 15 kg. If the animal is on a bench, for example, the *PET* function can be canceled. The presence of more than one animal in the environment can compromise the efficiency of the *PET* function.



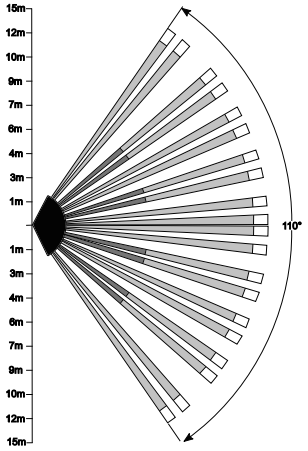
- Do not place objects in front of the sensor. Avoid curtains, screens, screens, or any object that blocks the sensor's detection area.
- Do not install the sensor facing infrared sources, for example cameras.

» The sensor must be installed where the intruder can be easily detected, that is, where it makes movements transverse to the detection beams.

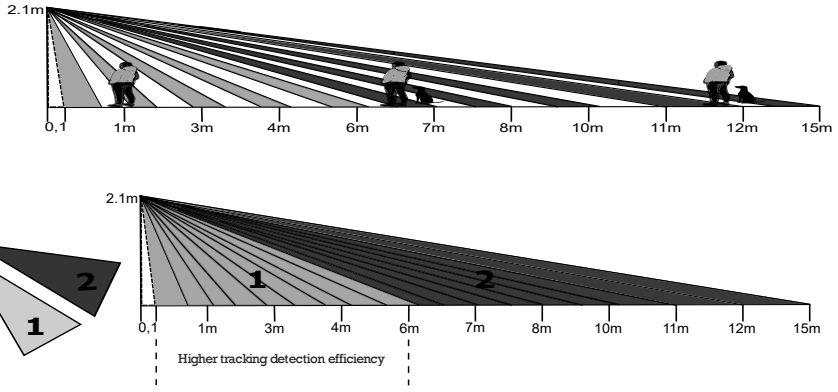


» The sensor must be installed on a flat, fixed and vibration-free surface, with a height between 2.0 and 2.80 meters. It is recommended to install the sensor parallel to the wall for the greatest detection range.

Detection area (Top view)



Detection angle (Side view)



Índice

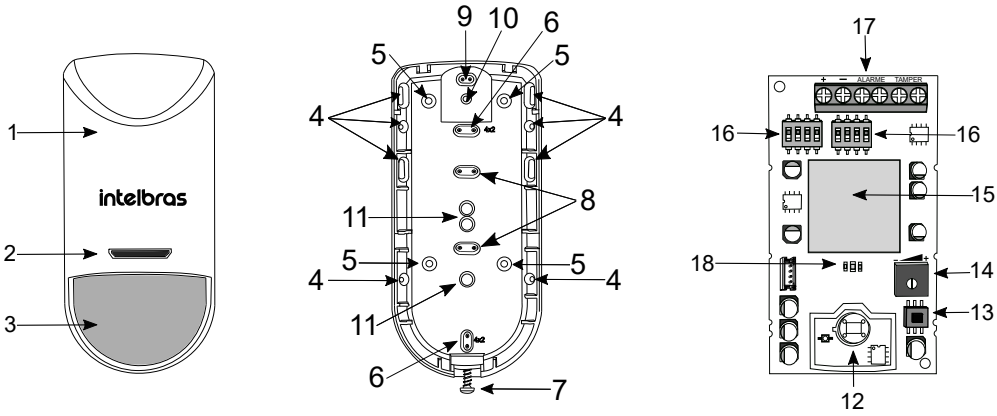
1. Technical specifications

Operating voltage	9 ~16 Vdc
Operating current	50 mA
Detection angle	110°
Detection range (PIR and MW)	15 metros
Detection method	Microwaves and PIR (AND)
Quantity of pyroelectric sensors	1
Pyrosensor model	Quad
Microwave frequency	10,525 GHz
Animal immunity	Up to 15 kg
Sensitivity	Automatic (factory default) Minimum
ALARM output	NC, 28 Vdc and 100 mA max.
Anti-tamper	Front tamper
LED indicators	LED: Yellow (PIR) Red (MW) Blue (Alarm)
Startup time	60 seconds
Relay opening time	3 seconds
Operating Temperature	-10°C to 50°C
Recommended installation height	2.1 meters
Dimensions (W × H × D)	58 × 123 × 44 mm
Weight	133 g

2. Characteristics

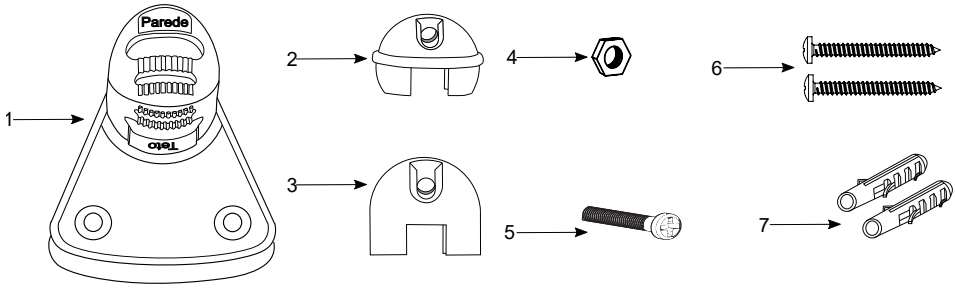
- Anti-masking;
- Anti-camouflage;
- Anti-tamper (tamper key);
- Look down (crawl zone);
- Automatic temperature compensation;
- RFI/EMI immunity;
- Automatic infrared (PIR) sensitivity adjustment;
- Microwave sensitivity adjustment (MW);
- Integrated end-of-line resistor;
- Immunity to creeping animals weighing less than 15 kg.

3. Product



1. Front cover
2. LED driver
3. Semi-spherical lens
4. Seals for corner installation
5. Seals for wall installation
6. Seals for installation in 4×2 box
7. Closing screw
8. Wire passage seals or wall installation
9. Wire passage seal
10. Seal for fixing the articulator
11. Drilling for installation of the XSA 1000 bracket or universal bracket
12. Pyro sensor
13. Tamper wrench
14. Microwave adjustment trimpot
15. microwave module
16. 4 position switch
17. Terminal block
18. LEDs

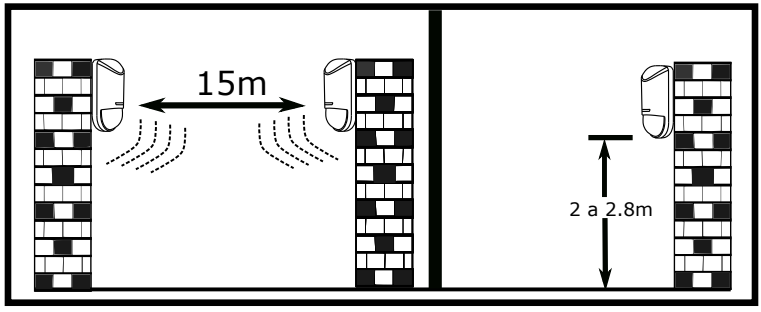
3.1. Support



1. Support base
2. Adapter for wall installation
3. Adapter for ceiling installation
4. M3 hex nut
5. M3×20 mm screw (fine thread)
6. Fixing screw 3.5×25 mm
7. 6 mm fixing bushing

4. Installation

» Before starting installation, it is necessary to define the height at which the sensor will be positioned, which can vary from 2 to 2.80 m;



» Do not install sensors that have microwave technology close to each other, as there may be interference between them;

» Adjusting the microwave sensitivity must be done according to each environment;

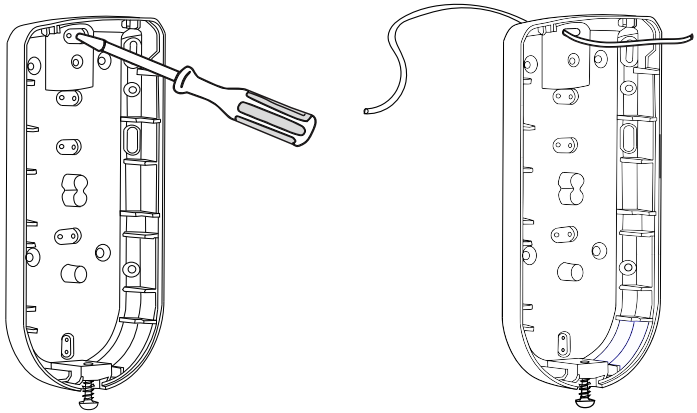
» For installation using the articulator, make sure that both the sensor and the support are firmly fixed in the installation location to avoid changes in the product's detection angle. Incorrect use of the articulator can alter the sensor's detection area, creating blind spots and impairing operating efficiency;

» If the sensor is installed at an angle, its detection range and *PET* function may be impaired to the point of nullifying the function.

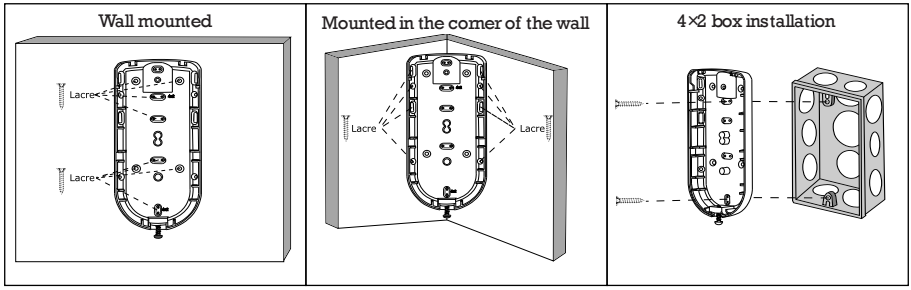
To install the sensor, follow the procedure below:

1. Remove the front cover of the sensor using a Philips screwdriver. It is not necessary to remove the entire screw, as shown in the image.
2. Use the markings on the sensor base for cable routing and necessary connections. Note item 3 that there are other options for routing the cable. Use the one that best suits the installation.

   Note: *use a tool to make the hole in the indicated location.*



3. For installation directly on the wall, 4×2 box or in a wall corner, remove the seals indicated for the holes in the rear fixing cover.



4.1. Installation using the articulator

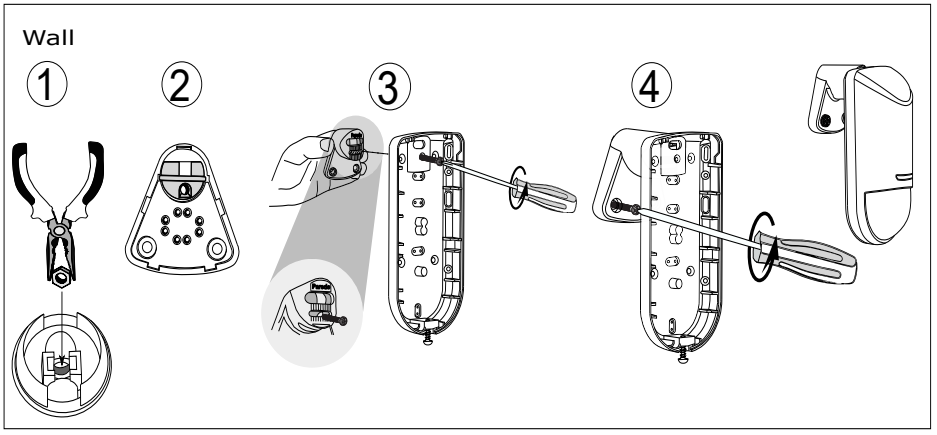
Attention: installing the sensor at an angle to the ground may compromise the performance of the PET function.

- Use the fixing holes located on the base to fix the articulator;
- The recommended screw for fixing articulators to the product is M3 ×20 mm.

Installing the articulator on the wall

1. Remove the seal securing the articulator;
2. Using a wrench, place the nut in the housing on the wall adapter and then insert it into the base of the support. Note that the opening must be facing upwards, as shown in image 2;
3. Attach the support to the wall;
4. Attach the base to the support and point the product towards the location you wish to protect.

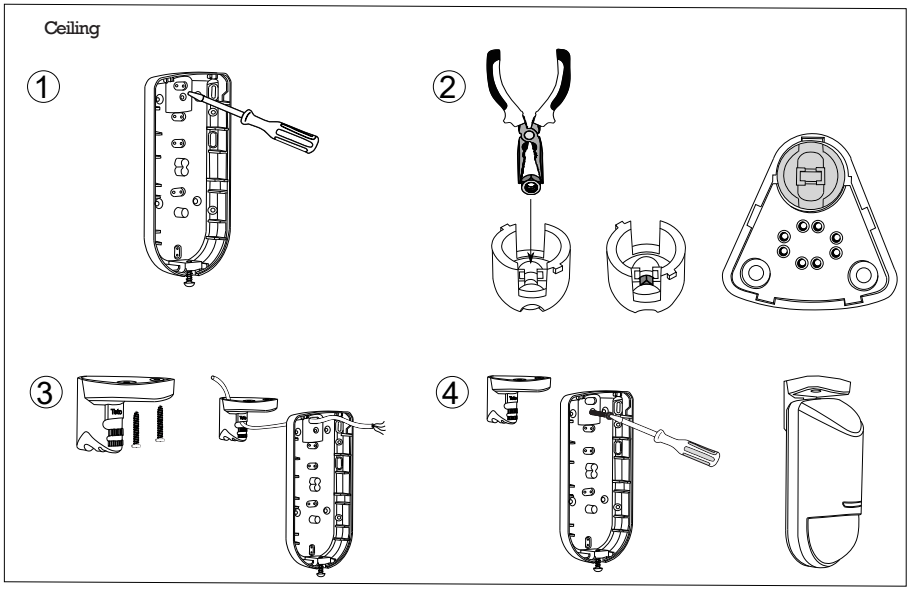
Note: *the support only moves horizontally.*



Installing the articulator on the ceiling

1. Remove the cable passage seal and the articulator fixing seal;
2. Using a pair of needle-nose pliers, place the nut in the housing on the ceiling adapter and then insert it into the base of the support. Note the correct position in image 2;
3. Pass the cable through the support and base of the product and then fix the support to the ceiling;
4. Attach the base to the support and direct the product to the location you want to protect.

   Note: *the support only moves horizontally.*



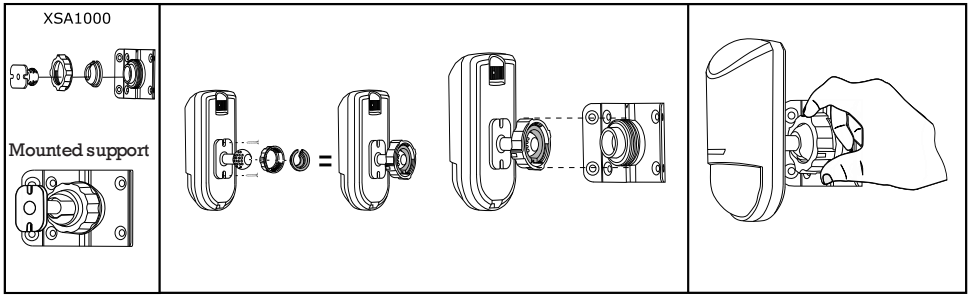
4.2. Installation using XSA 1000[1]

Attention: if the fixing bracket is tilted in relation to the ground, the characteristics of the PET function will be altered.

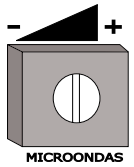
Use the fixing holes located on the base to fix the XSA 1000 articulator. For more information about the XSA 1000 articulator, consult the user manual on the website: *www.intelbras.com.br*

The recommended screw for fixing articulators to the product is 3.5 × 9.5 mm.

[1] *The articulator is not included with the product.*

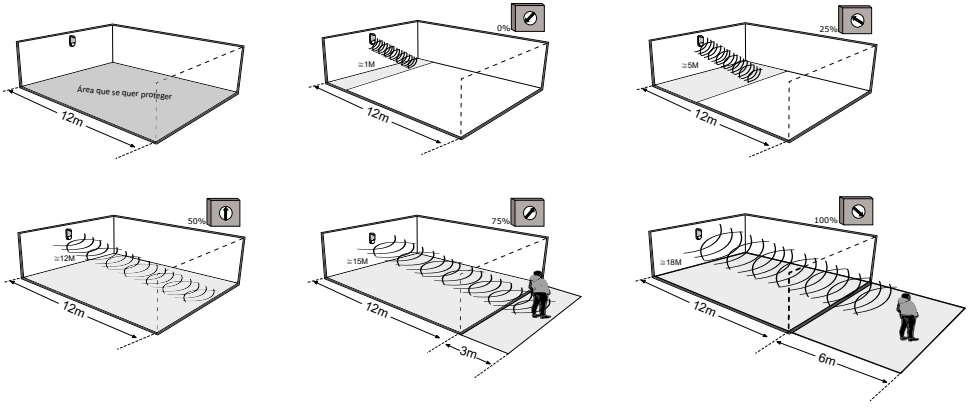


Microwave sensitivity adjustment



The trimpot allows you to adjust the microwave sensitivity. Turning the trimpot clockwise increases the sensitivity and consequently the distance at which the microwave is capable of detecting movements. Turning it counterclockwise makes the microwave less sensitive.

Note: *it is highly recommended to adjust the microwave sensitivity so that detection only occurs in the environment where the sensor is installed. This technology is capable of detecting movements through a wall, for example.*

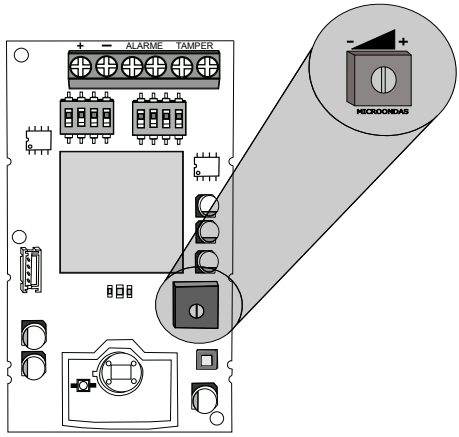


In figure 1 of the example above we have the area we want to protect. Figures 5 and 6 indicate that the trimpot adjustment exceeded the limits of the environment to be protected. This way the microwave will detect movements outside the desired area.

To make it easier to adjust the microwave cover, adjust the trimpot counterclockwise (less sensitive) and walk around the room you want to protect. Observe the sensor's motion detection. If necessary, increase the sensitivity (clockwise). Repeat this process until the sensor only protects the environment where it is installed.

The figure below shows a reference microwave channel detection range.

Factory default: 50%



Microwave range

Trimpot position	Maximum distance (meters)
0%	0% - up to 1 meter
25%	25% - up to 5 meters
50%	50% - up to 12 meters
75%	75% - up to 15 meters
100%	100% - up to 18 meters

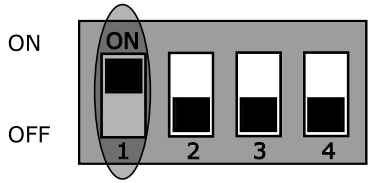
Operating mode settings

The key (S1) allows you to configure the sensor's operating mode:

» **Key 1 – LED:** works together with the LED input to control the visual indication of motion detection.

LED	
Condition	**Result**
ON	LEDs on
OFF	LEDs off

Factory default: LEDs on.



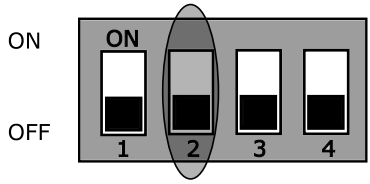
Key 2 – SENSITIVITY: controls the sensitivity of the PIR to trigger the alarm. With the key in the

ON position, the sensitivity is configured to avoid shots with little movement, that is, minimum sensitivity. This configuration is recommended for semi-open environments, places where animals circulate or environments with any interference that could cause unwanted shots.

With the key in the OFF position, sensitivity remains automatically adjusted and is controlled through an algorithm that analyzes environmental conditions for better motion detection performance.

SENS	
Position	**Condition**
ON	Minimum sensitivity/PET
OFF	Automatic

Factory default: Automatic.



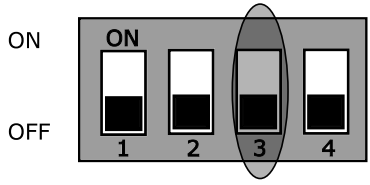
Key 3 – LOCAL: controls the sensor's operating settings according to the installed environment. With the key in the ON position, the sensor adjusts the operating mode and sensitivity for a semi-open environment.

Note: *with this configuration, the sensor does not detect camouflage attempts.*

With the key in the OFF position, the sensor adjusts its operating mode for an indoor environment.

Local	
Position	**Condition**
ON	Half-open
OFF	Internal

Factory default: Internal.

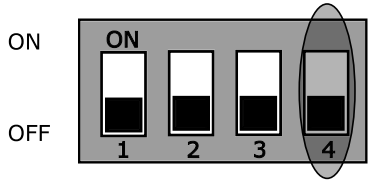


» **Key 4 – ANTI-SABOTAGE[1]:** monitors masking attempts of the sensor's Fresnel lens and camouflage attempts. With the key in the ON position, anti-tamper is enabled. With the key in the OFF position, anti-tamper remains disabled.

[1] *Anti-masking and Anti-camouflage.*

Anti-camouflage	
Position	**Condition**
ON	Enabled
OFF	Disabled

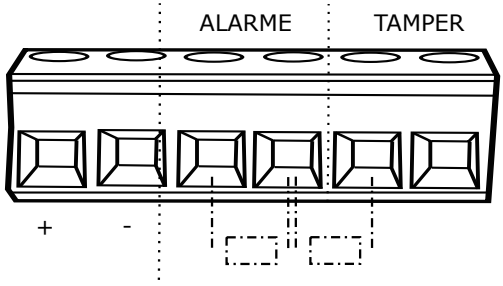
Factory default: Disabled.



End-of-line resistor adjustments

The IVP 7000 MW MASK LD has 2 sets of switches, and in each of them the 2k2 and 3k9 resistors are already integrated on the sensor board, meaning it is not necessary to connect any external resistor to the sensor terminals.

The switch (S2) allows you to select the end-of-line resistor for each of the sensor outputs (ALARM and TAMPER).

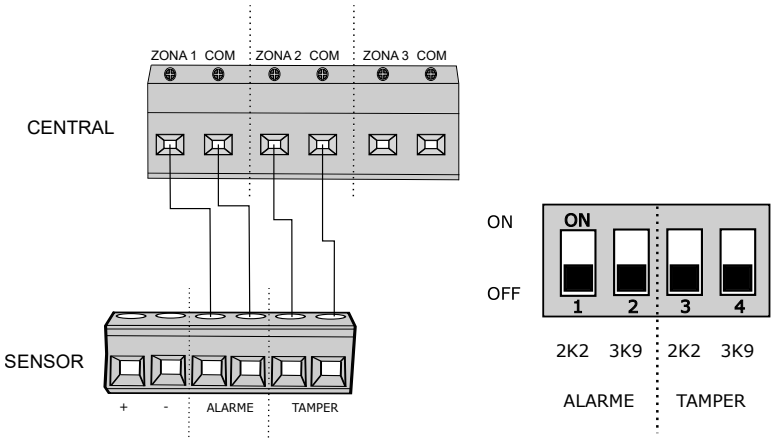


Note: *check if your alarm center has resistor values and connection configuration compatible with the configuration available in the IVP 7000 MW MASK sensor.*

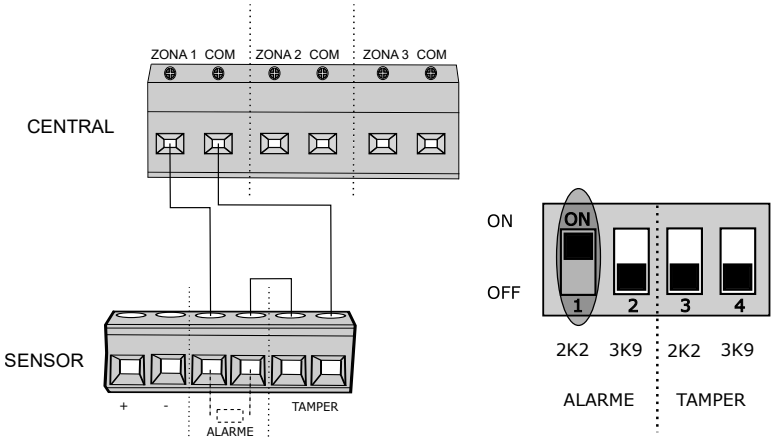
If the alarm center does not have a compatible configuration, keep all switches in the OFF position.

Possible adjustments of the IVP 7000 MW MASK LD sensor with Intelbras alarm center.

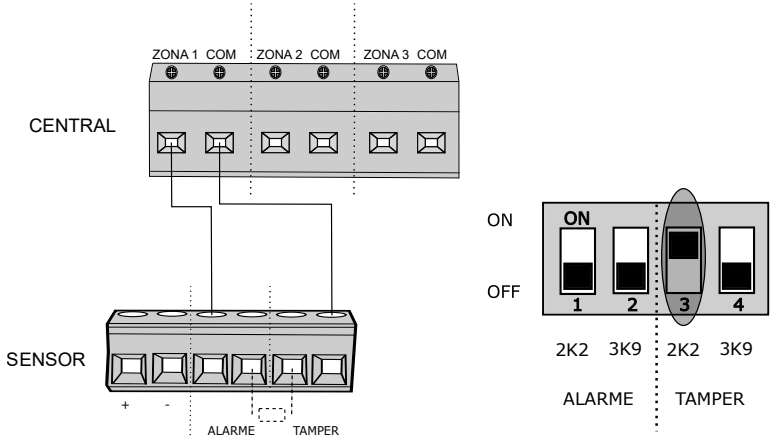
0. Single zone without end-of-line resistor:



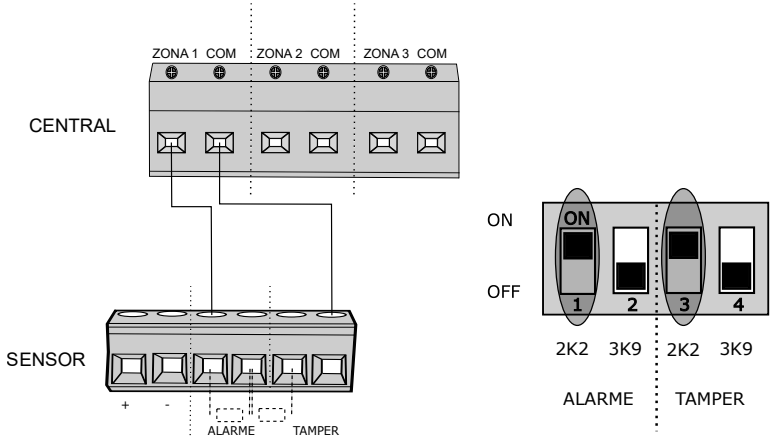
1. Simple zone without end-of-line resistor and with tamper detection:



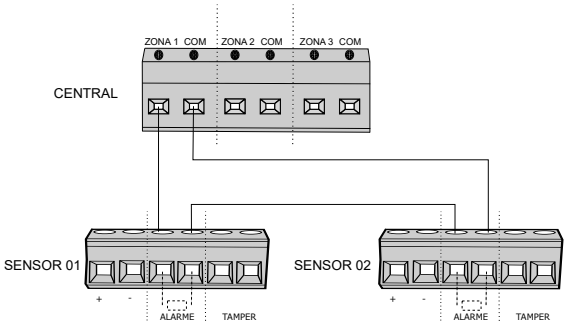
2. Single zone with end-of-line resistor and wiring short circuit detection:

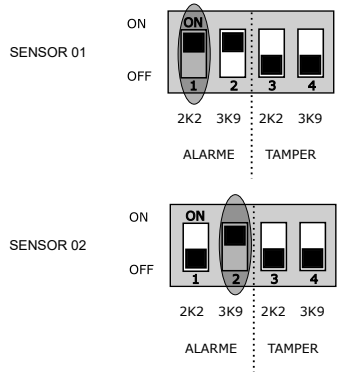


3. Single zone with end-of-line resistor, tamper and wiring short-circuit detection:

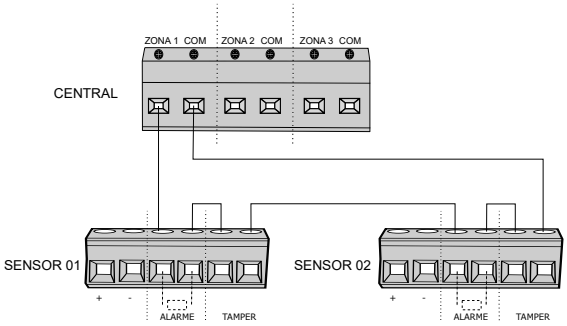


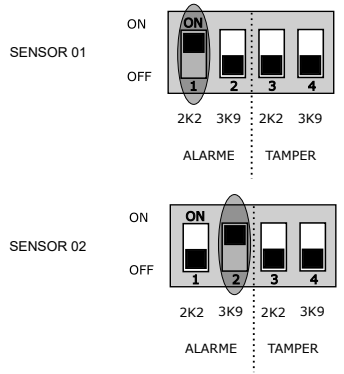
4. Dual zone without end-of-line resistor:



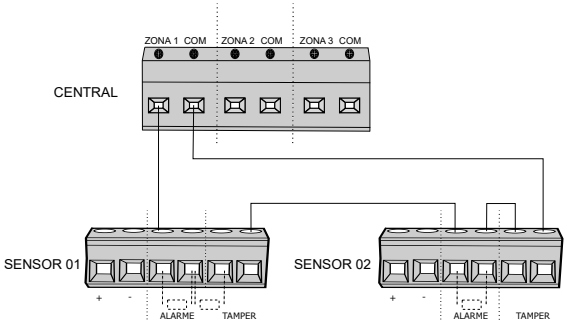


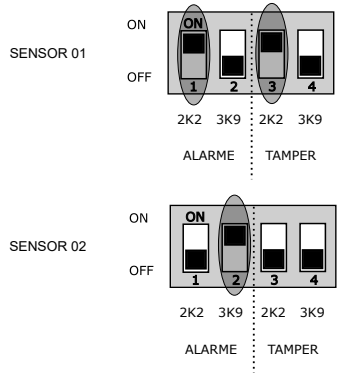
5. Dual zone without end-of-line resistor and with tamper detection:



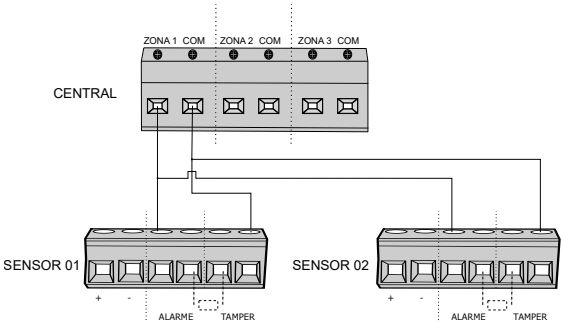


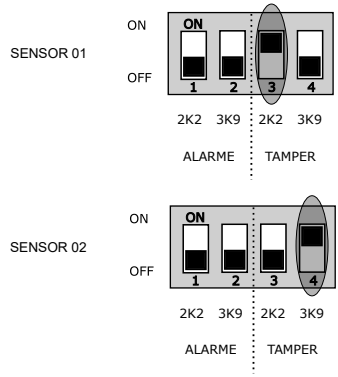
6. Dual zone with end-of-line resistor, tamper and wiring short circuit detection:





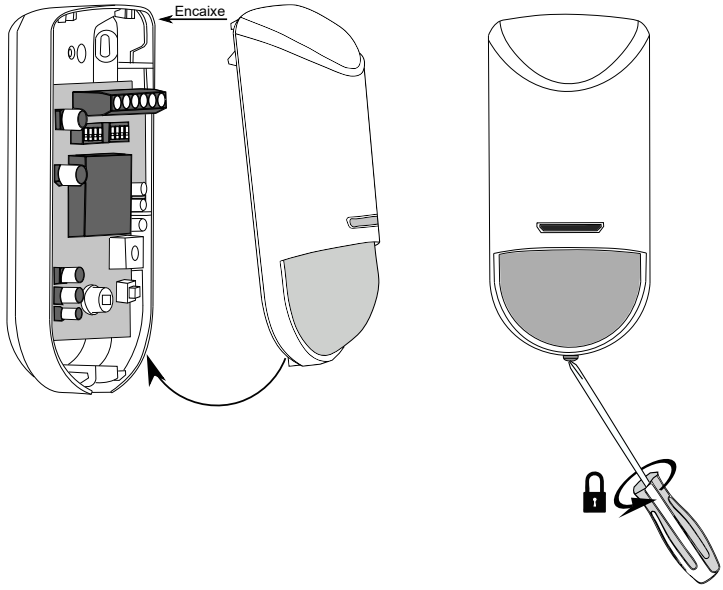
7. Duplication in parallel with wiring short circuit detection:





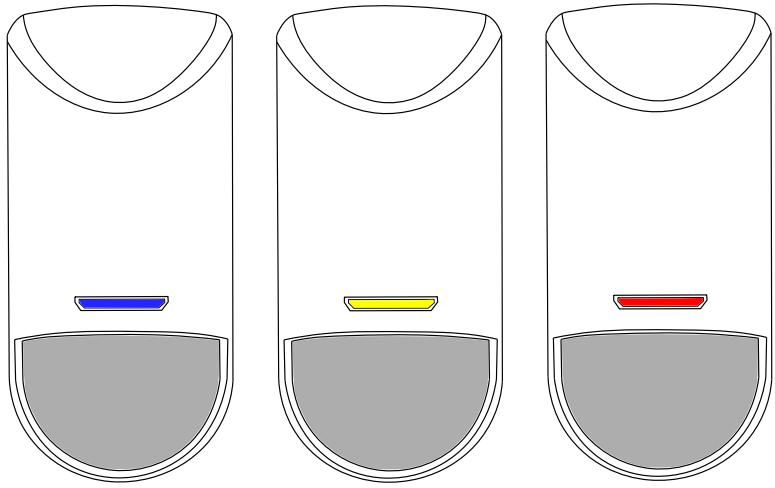
5. Completion of the process

Close the case, first fitting the top part of the front cover and going down perpendicularly towards the bottom of the sensor. Keep the front cover pressed against the base and tighten the screw.



6. Operation

When turning on the sensor, the blue LED flashes for approximately 60 seconds. This time is necessary for the stabilization of the circuits that make up the sensor. After this period, if they are enabled, the LEDs light up when movement is detected.



- **Blue LED:** alarm
- **Yellow LED:** PIR
- **Red LED:** microwave

6.1. Anti-sabotage

For each attempt to tamper with the sensor, the red LED flashes quickly and the ALARM output acts to indicate the form of tampering.

Sensor output indication table:

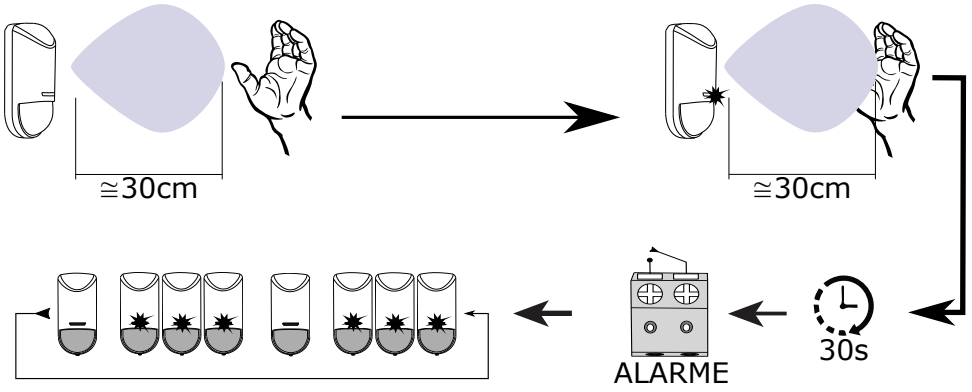
Exit		
Alarm	**Cause**	**Solution**
Open and restore	Trigger (PIR and Microwave) or Anti-camouflage	Check the conditions of the installed environment and make the best adjustment of the microwave.
Open	Masking	Check the sensor lens for obstruction.

Anti-masking

This function consists of detecting undue obstructions in the sensor lens, ensuring that the sensor's operation is not impaired if its detection area is obstructed.

If the lens is obstructed, the sensor starts counting 30 seconds. If the sabotage attempt continues, the red LED flashes at regular intervals and the ALARM outputs remain open, indicating the sensor has been masked.

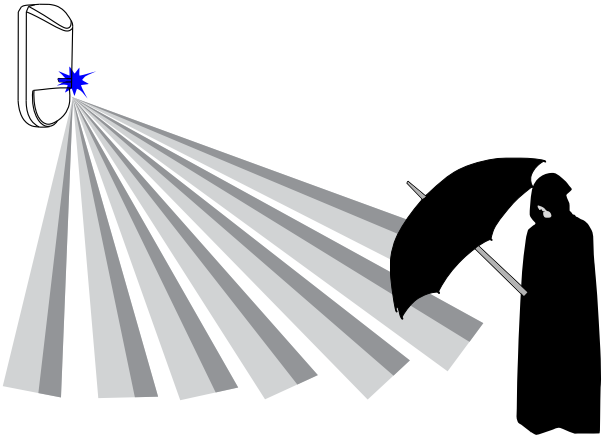
After clearing the lens, the sensor automatically detects the restoration of operation and returns to its normal state.



Anti-camouflage

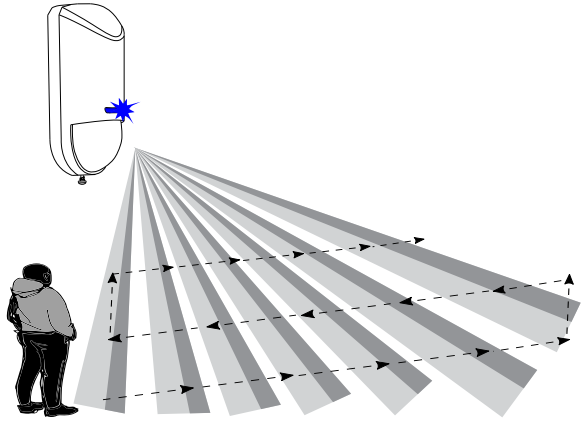
The IVP 7000 MW MASK LD is capable of detecting movements even if the individual uses some material to camouflage their body temperature.

When carrying out this analysis and detecting movement, the sensor indicates the trigger through the ALARM output.



7. Test

Once installed and in operation, walk around the entire area to be protected, simulating a possible intrusion into the environment. Observe whether the sensor is capable of detecting your movements during the journey, using the LEDs. Adjust the microwave sensitivity according to the size of the room or reposition the sensor. Make sure to take all precautions and follow the installation recommendations to obtain the best operating performance of the product.



8. Homologation

This equipment is not entitled to protection against harmful interference and may not cause interference to duly authorized systems.

This is a product approved by Anatel, the approval number can be found on the product label, for consultation visit the website: *https://www.gov.br/anatel/pt-br.*

Warranty term

It is expressed that this contractual guarantee is granted under the following conditions:

Client name:

Customer's signature:

Invoice number:

Purchase date:

Model: Serial number:

Dealer:

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1. All parts, pieces, and components of the product are warranted against any manufacturing defects, which may present, for a period of 1 (one) year – 90 (ninety) days of legal warranty and 9 (nine) months of contractual warranty –, as of the date of purchase of the product by the Consumer, as stated in the invoice for the purchase of the product, which is an integral part of this Term throughout the national territory. This contractual guarantee includes the free exchange of parts, pieces, and components with a manufacturing defect, including labor expenses in the repair. If no manufacturing defect is found, but a vice arising from improper use, the Consumer shall bear such expenses.
2. The product must be installed according to the Product Manual and/or Installation Guide. If your product requires installation and configuration by a qualified technician, look for a suitable and specialized professional, and the costs of these services are not included in the price of the product.
3. Once the defect is found, the Consumer must immediately contact the nearest Authorized Service in the list provided by the manufacturer – only these workshops are authorized to examine and solve the defect during the warranty period provided for herein. If this is not respected, this guarantee will lose its validity, as it will be characterized as a product violation.
4. In the event that the Consumer requests home service, it should go to the nearest Authorized Service for consultation of the technical visit fee. If the product needs to be withdrawn, the resulting expenses, such as transportation and safety in the product's trips, are under the responsibility of the Consumer.
5. The warranty will be totally void in any of the following events: a) if the defect is not a manufacturing defect, but caused by the Consumer or by third parties foreign to the manufacturer; b) if the damage to the product comes from accidents, acts of God (lightning, floods, landslides, etc.), humidity, voltage in the electrical network (overvoltage caused by accidents or excessive fluctuations in the network), installation/use in disagreement with the user manual or due to the natural wear and tear of parts, pieces, and components; c) if the product has been influenced by a chemical, electromagnetic, electrical, or animal nature (insects, etc.); d) if the product's serial number has been tampered with or erased; e) if the device has been tampered with.
6. This warranty does not cover data losses, therefore, it is recommended that the Consumer regularly back up the data contained in the product, if applicable.
7. Intelbras is not responsible for the installation of this product, and also for any attempted fraud and/or sabotage of its products. Keep software and applications updates up to date, if applicable, as well as the required network protections to protect against intrusions (hackers). The equipment is warranted against vices within its normal conditions of use, it is important to be aware that, as in any electronic equipment, it is not free from fraud and scams that may interfere with its correct operation.
8. Properly dispose of your product after its useful life - deliver it to collection points for electrical and electronic products, at an authorized Intelbras technical assistance center or consult our website www.intelbras.com.br and support@intelbras.com.br or (48) 2106-0006 or 0800 7042767 for more information.

These being the conditions of this complementary Warranty Term, Intelbras S/A is entitled to the right to change the general, technical, and aesthetic characteristics of its products without prior notice. All images in this manual are illustrative.

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talk to us

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Support via e-mail: suporte@intelbras.com.br
Customer Service /Where to buy? /Who installs it?: 0800 7042767

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