

#### Passive infrared sensor

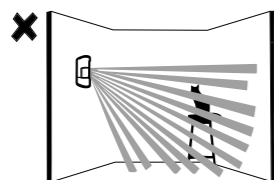
Congratulations, you have just purchased a product with Intelbras quality and safety.

The passive infrared sensor IVP 5301 PET PRO has intelligent detection technology by infrared rays, with an algorithm for analyzing important parameters such as frequency, amplitude, pulse symmetry through energy calculations, pulse count and pulse coincidence level. Thus, avoiding false shots in dangerous environments. The product also has a shield component, made of ferromagnetic material, for greater security in environments with RFI / EMI interference.

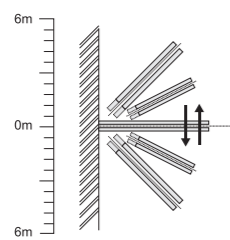
The IVP 5301 PET PRO brings the ease of configuration through the DIP Switch of the different types of sensor connections, eliminating the connection of resistors in the sensors. We recommend that the sensor configuration be done according to the item 6. *Configuring the IVP 5301 PET PRO Sensor* in this manual.

## 1. Care and safety

- » Follow all instructions in the manual for assembling and installing the product.
- » This sensor is intended for installation indoors.
- » It is important to note that the *Pet* function is designed for crawling animals, so if the animal is not on the ground, but on top of a bench, for example, it can be detected thus canceling the *Pet*, function, as can be seen in the image below:

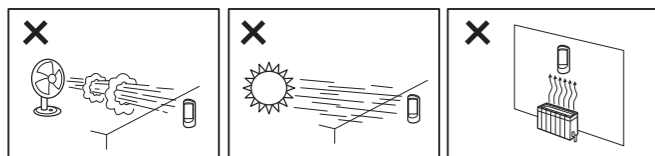


- » Do not touch the surface of the infrared sensor (PIR). If necessary, use a soft cloth moistened with water to clean the product.
- » The sensor must be installed where a possible intruder is easily detected, that is, where a person performs movements transverse to the sensor's detection beams when entering the premises.



Upper view

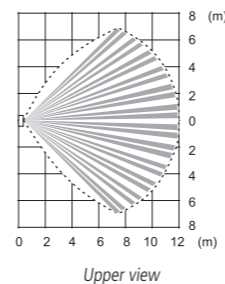
- » Do not install the sensor facing glass doors or windows.
- » Do not place objects in front of the sensor. To ensure the detection area, avoid curtains, screens, blinds, or any object that blocks the scan.
- » Do not use the sensor in areas with sudden changes in temperature, near air conditioning units, heaters, cooling fans and ovens. Do not expose the sensor to direct sunlight.



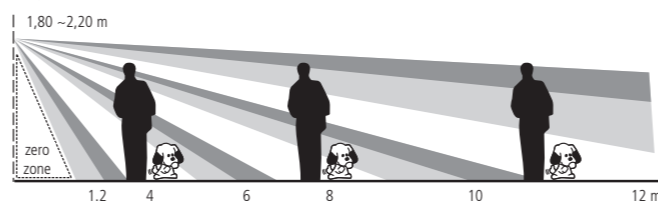
- » Make sure that the installation location is stable and that it is not subject to tremors.
- » This sensor does not have a *Look down* or zero zone (see the figure in the item 1.2. *Faixa de detecção (vista lateral)*), so make sure that the installation of the sensor makes it impossible for intruders to enter this area.
- » For the use of the articulator, we recommend that the installation be done by a professional installer, as the incorrect use of it may impair the *PET* function and the angle of coverage of the sensor.
- » For your safety, test the product and systems at least once a week. This is necessary due to changes in environmental conditions, electrical or electronic interruptions and violations. Take all necessary precautions for the safety and protection of your property.
- » We recommend that the sensor configuration be done according to the item 6. *Configurando o sensor IVP 5301 PET PRO* of this manual.

**Note:** before starting the installation, it is necessary to define the height at which the sensor will be positioned, which can vary from 1.80 to 2.2 m, according to the table in the item 5. *Instalação* of this manual.

#### 1.1. Scan (upper view)



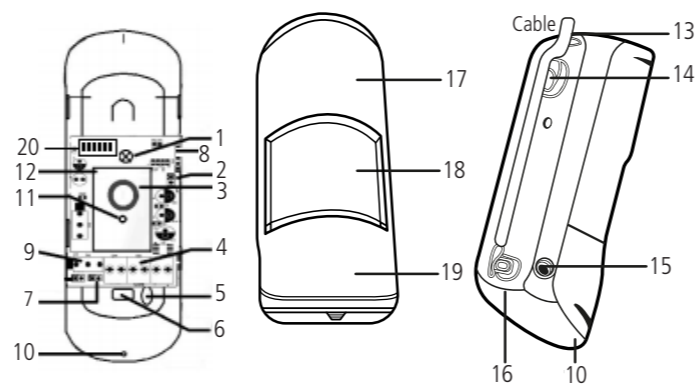
#### 1.2. Detection range (side view)



## 2. Technical specifications

Operating voltage	9-16 Vdc
Operating current	< 14 mA
Detection angle	90°
Detection range	12 m
Detection method	PIR - passive infrared sensor
Sensor	Low noise PIR
Immunity to animals	Up to 20 Kg
Startup time	50 seconds
Installation height	Check item 5. Installing this guide
Operating Temperature	-10 °C ~ +50 °C
Relay output	Optional Open / Closed
Sensitivity Jumper (J.Sens)	Controls the sensitivity (through the pulse count) of the PIR sensor to trigger the alarm
LED Jumper	Optional Open / Closed
Dimensions (W x H x D)	55 x 140 x 60 mm
Metal Shield	Electromagnetic shielding

## 3. Product



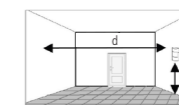
1. Plate fixing screw
2. Relay Jumper
3. PIR Sensor
4. Connection terminals
5. Cable routing for installation
6. Screw hole for fixing directly to the wall
7. Sensitivity Jumper
8. LED Jumper
9. Lower front cover Tamper switch
10. Screw hole for fixing the lower front cover
11. Blue LED
12. Metal Shield
13. Undercut for upper cable routing
14. Oblong
15. Screw location for installation in the corner of the wall
16. Undercut for lower cable routing
17. Top front cover
18. Fresnel lens
19. Bottom front cover
20. DIP Switch

## 4. Characteristics

- » Micro-controlled sensor;
- » Pulse symmetry analysis software;
- » Sensitivity adjustment;
- » Automatic temperature compensation in real time;
- » Immunity to white light up to 20,000 lux;
- » High immunity to RFI / EMI;
- » Highly effective algorithm against false shots;
- » Immunity to pets up to 20 kg;
- » Anti-tamper switch for lower front cover (tamper switch);
- » Ease of installation with configuration via the DIP Switch;
- » Removable connection terminal.

## 5. Installation

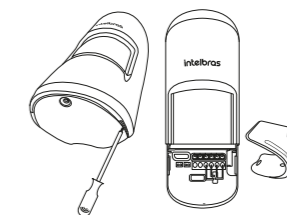
Before starting the installation, it is necessary to define the installation height of the sensor. We recommend that this sensor be installed according to the table below.



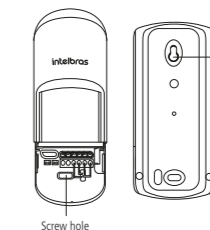
Distance (d)	Pet	Installation height (h)
Less than or equal to 4 m	Without the presence of a pet	1,8 to 2 m
	With the presence of a pet	
Greater than 4 m up to 12 m	With the presence of a pet	2,1 to 2,2 m
	Without the presence of a pet	1,8 to 2,2 m

The IVP 5301 PET PRO sensor does not have an articulator. So for its installation, follow the procedure below:

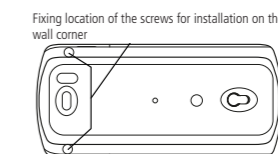
**Step 1:** to remove the lower front cover of the sensor, observe the hole in the cover, as shown in the following figure.



**Step 2:** if the installation is done directly on the wall, use the oblong located in the upper rear region of the sensor and the hole indicated for placing the screw just below the connectors.

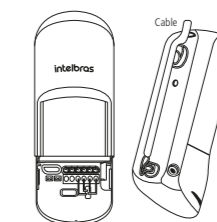


If installation is done in the corner of the wall, use the holes indicated on the back cover.



**Step 3:** configure the DIP SWITCH as needed, see item 6. *Configurando o IVP 5301 PET PRO*.

**Step 4:** connect the installation cables to the terminals, according to the type of installation, see item 6. *Configurando o IVP 5301 PET PRO*.

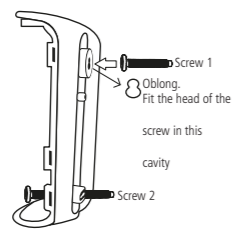


**Note:** to facilitate installation, use the undercuts in the rear cover for cable routing.

**Step 5:** using a 6 × 20 mm screw, install the sensor on the wall following the procedure below.

Fix screw 1 on the wall and fit the sensor so that it does not have any slack.

Using the hole below the connectors, place screw 2 and turn it until the sensor is fully fixed.



## 6. Configuring IVP 5301 PET PRO

The LED J. is used to control the LED indication without interfering with the detector. With the jumper in the Closed position, the LED lights for 3 seconds, signaling the detection. With the jumper in the open position the LED will always remain off, even when the sensor detects movement. Factory default: LED on.

The J. Sens controls the sensitivity (pulse count) for triggering the alarm. With the jumper in position 1 the sensor provides maximum sensitivity. With the jumper in position 4 the sensor provides minimal sensitivity, that is, detection suitable for environments with a high incidence of EMI and RFI interference. In environments with pets, the sensitivity jumper in position 2, 3 or 4 is indicated. Factory default: jumper in position 3.

The J. Relay controls the contact status of the relay. With the jumper in the NC position, the contact is normally closed. With the jumper in the NO position, the contact is normally open. Factory default: NC.

J. LED	
Position	Condition
Open	LED off
Closed	LED on

J. Relay	
Position	Condition
Open	Normally open
Closed	Normally closed

J. Sens	
Position	Condition
1	Very high sensitivity
2	High sensitivity
3	Medium Sens. (factory default)
4	Low Sensitivity

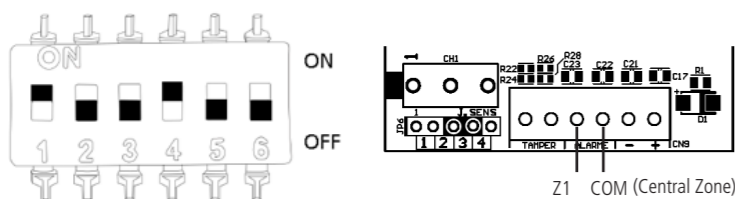
DIP Switch (S1), allows to select the resistors of 2k2, 3k9 or both, to facilitate the type of sensor connection as below:

**Note:** in order to use external resistors compatible with other exchanges on the market, keep the DIP switch with the factory setting.

Remember to program the zones in the control panel (configuration of the sensor connection).

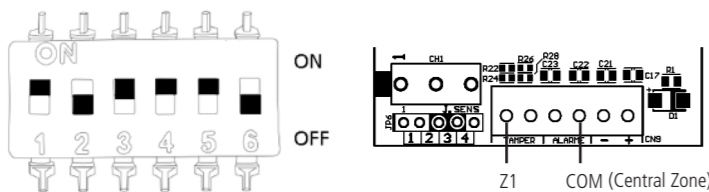
### (0) Single zone, without end-of-line resistor and without tamper detection (factory default)

This default connection mode is the simplest, but the most vulnerable to sabotage, because if the sensor wire is short-circuited, the control panel will not recognize the problem.



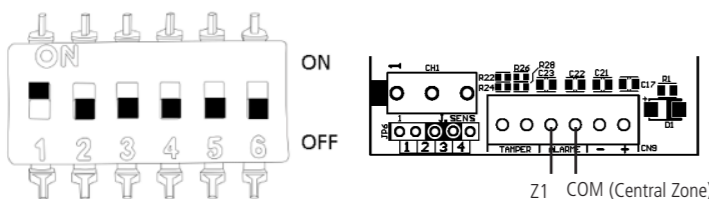
### (1) Simple zone, without end of line resistor and with tamper detection

With this connection mode, if the sabotage of the sensor occurs, the tamper switch will be activated and will open the tamper terminal of the sensor indicating that there was a violation.



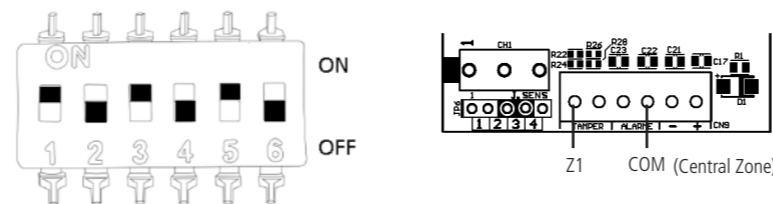
### (2) Simple zone, with end-of-line resistor and wiring short-circuit detection

This connection mode detects if the sensor wire has been short-circuited. In this mode there is no tamper detection.



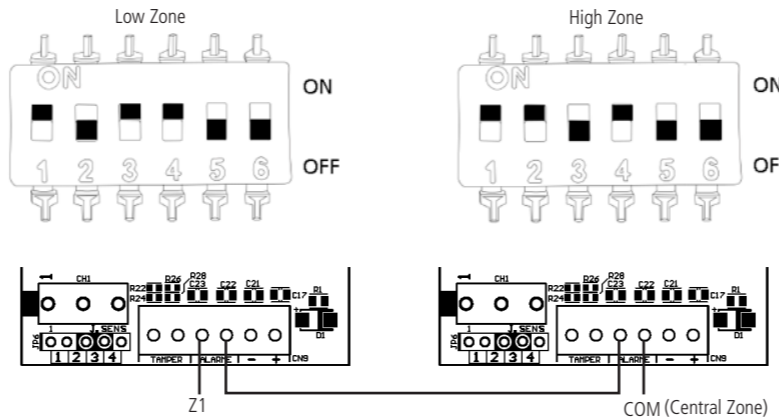
### (3) Simple zone, with end of line resistor, tamper and wiring short circuit detection

It is the most complete connection mode for simple zones, detecting both the short circuit, cut and tamper. The connection mode applies to all wired areas of the control panel.



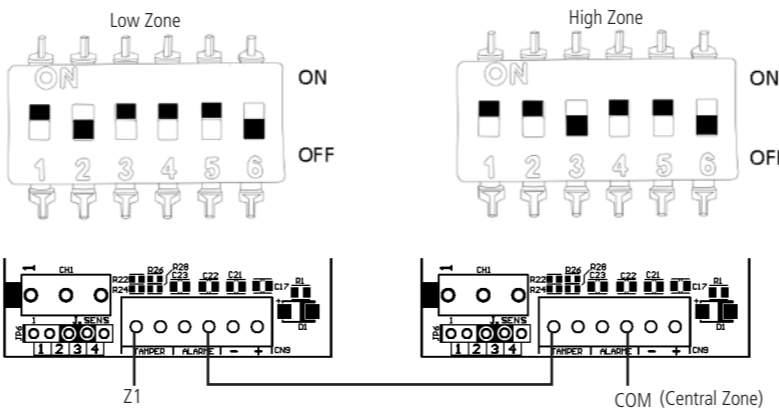
### (4) Dual zone without end of line resistor

With the dual zone function enabled, the system recognizes two zones per input terminal (the keypad zones only function as a single zone). This configuration is the least safe for dual zones, as it does not recognize wiring short-circuits.



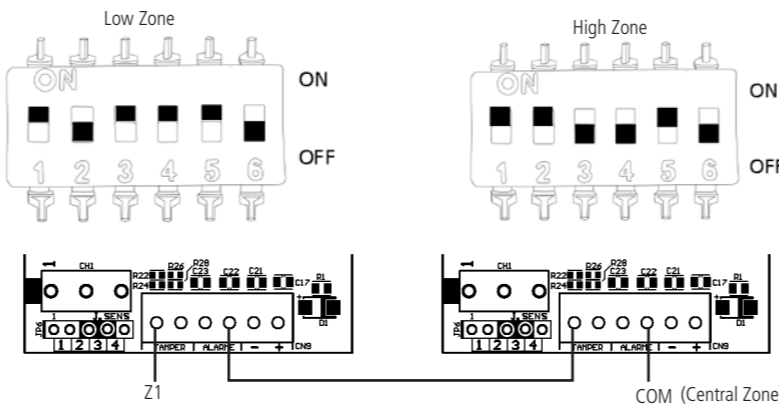
### (5) Dual zone, without end of line resistor and with tamper detection

With the dual zone function enabled, the system recognizes two zones per input terminal (the keypad zones only function as a single zone).



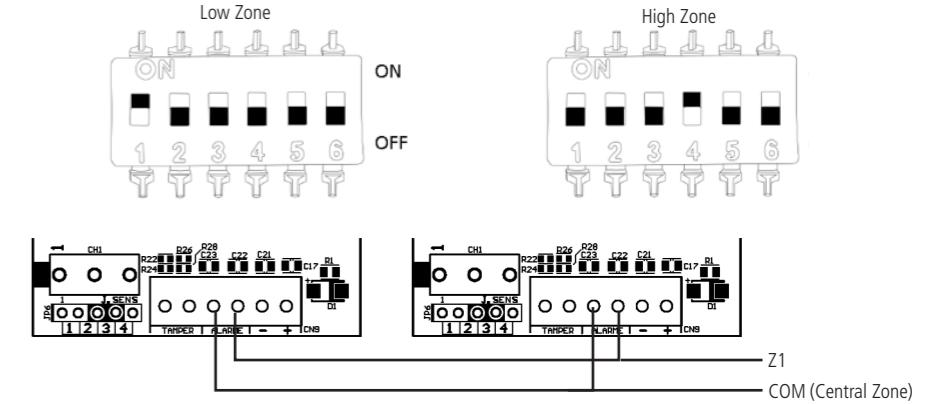
### (6) Dual zone, with end of line resistor, tamper and wiring short circuit detection

This is the most complete duplication mode. Detects short circuit in wiring and tamper opening. It is recommended to configure the control panel for this mode as this is the connection that offers greater security for the alarm system.



### (7) Parallel duplication with wiring short circuit detection

In this connection mode, the sensors are connected in parallel at the zone entrance, as if they were two independent inputs. This connection mode detects if the sensor wire has been short-circuited, but has no tamper detection.



## 7. Tests

When energized, the sensor LED will flash with 0.5 s interval for 50 s. This time is necessary to stabilize the amplification circuit of the PIR sensor.

Perform the walk test, with movements transverse to the sensor's detection rays, observing the LED indication: LED on - Detection has occurred.

**Note:** when a detection has occurred, the sensor LED will light and remain on for a period of 3 seconds.

## Warranty term

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

Client name:  
 Client's signature:  
 Invoice number:  
 Purchase date:  
 Model: Serial number:  
 Dealer:

- All parts and components of the product are guaranteed against any manufacturing defects, which may present, for a period of 1 (one) year - this being divided into 90 (ninety) days of legal warranty and 9 (nine) months of contractual guarantee -, counted from the date of purchase of the product by the Client, as stated in the product's purchase invoice, which is an integral part of this Term nationwide. This contractual guarantee includes the rapid exchange of products with manufacturing defects. If no manufacturing defect is found, but a defect (s) arising from improper use, the Client will bear these expenses.
- The installation of the product must be done according to the Product Manual and / or Installation Guide. If your product requires installation and configuration by a trained technician, look for a suitable and specialized professional, and the costs of these services are not included in the value of the product.
- Once the defect is found, the Client must immediately contact the nearest Authorized Service listed in the list provided by the manufacturer - only these are authorized to check and remedy the defect during the warranty period provided herein. Failure to do so will result in this guarantee losing its validity, as it will be characterized as a violation of the product.
- In the event that the Client requests home care, he / she should contact the nearest Authorized Service to enquire about the technical visit fee. If the product needs to be withdrawn, the resulting expenses, such as transportation and security of the product's on the way to and back from the Dealer are under the responsibility of the Client.
- The guarantee will totally lose its validity in the event of any of the following hypotheses: a) if the defect is not a manufacturing defect, but caused by the Client or by third parties foreign to the manufacturer; b) if the damage to the product is due to accidents, incidents, agents of nature (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.
- This guarantee does not cover loss of data, therefore, it is recommended, if the case of the product, that the Client regularly performs backup of the data contained in the product.
- Intelbras is not responsible for the installation of this product, and neither for any attempted fraud and / or sabotage of its products. Keep the updates of the software and applications used up to date, if applicable, as well as the necessary network protections to protect against intrusions (hackers). The equipment is guaranteed against defects within its normal conditions of use, and it is important to be aware that, as it is an electronic equipment, it is not free from fraud and scams that may interfere with its correct functioning.
- After its working life, the product must be delivered to an Intelbras authorized technical assistance or taken directly to the most environmentally appropriate final destination, avoiding thus environmental and health impacts. If you prefer, the battery, as well as other unused Intelbras electronics, can be disposed of at any Green Electron collection point (electronic waste manager to which we are associated). In case of doubt about the reverse logistics process, please contact us by phone (48) 2106-0006 or 0800 704 2767 (Monday to Friday from 8 am to 8 pm and on Saturdays from 8 am to 6 pm) or through the e-mail address suporte@intelbras.com.br.

These being the conditions of this complementary Warranty Term, Intelbras S / A reserves the right to change the general, technical and aesthetic characteristics of its products without prior notice.

The manufacturing process for this product is not covered by the requirements of ISO 14001.

All images in this manual are illustrative.

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