

PRODUCT TEST

Optex - BXS-AM Detector



What's in the box?

PIR unit
Installation instructions
2 x 20mm self-tapping screws

This is a wall or pole mountable IP55 outdoor “curtain” PIR intrusion detector that has dual narrow passive infrared detection zones either side of the device. Intended for example to cover side walls of buildings in order to trigger an alarm when people approach too close to the property. These side zones have a range of up to 12 metres, giving a coverage of up to 24 metres in total. The appearance is similar to some lighting units so may not be immediately recognisable to potential intruders as an alarm device.

Getting started

The top cover is removed by a simple quarter turn rotation of a slotted release mechanism. There is no secure fixing. Power supply can be from 9.5 to 18 volts D.C. with a current demand of approximately 34mA at 12v.

The Optex website includes some information that is not included on the multi-language Quick Reference installation instructions that are included with the product. A QR code on the front panel also gives access to this on-line information for mobile phone access. Some of this information is animated to help explain the features and

settings but it would perhaps be beneficial to have a printable manual with more information rather than just a pdf for download of the Quick Reference sheet.

Hardware

Alarm cable entry is via a hole near the top of the back cover with a knock-out section for an additional cable. Alternatively, this aperture can be enlarged. There is no space for this entry point to be fitted with a cable compression gland and although a small “wiring sponge” is fitted into this aperture some sealant will likely be necessary when used outdoors as the entry point is just above the 9-way connector block that links the power and alarm contacts. End-of-line resistors can be added to the connectors or an optional four pin resistor pack can be inserted into a socket mounted just below the main connectors. The resistor pack assumes common rather than individual alarm outputs.

There are two drill-through holes for wall mounting the unit plus another two for the optional pole mounting plate. These would also need to be carefully sealed to cope with typical UK and European seasonal variations.

An optional back-box is available that allows for conduit entry. A small spirit-level is set into the casing (and back-box) to help verify the unit is mounted level horizontally.

Set-up options

All switch settings are easily accessible and clearly identified once the cover is removed. At the top there are two slider switches for the sensitivity setting of the Left and Right hand PIRs. Between these is an eight-way DIL switch that from 1 to 8 respectively has the following functionality:

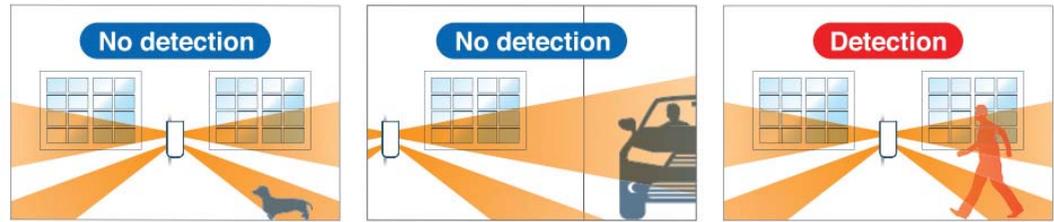
- 1 – LED On / Off.
- 2 – Alarm N.O. / N.C.
- 3 – Individual alarm output On / Off.
- 4 – Extra-High sensitivity Left PIR.
- 5 – Extra-High sensitivity Right PIR.
- 6 – N/A (future use).
- 7 – Anti-Masking On / Off.
- 8 – N/A (future use).

At the bottom of the unit are two sliders, one at each side of the unit that switch the detection range between 2.5, 3.5, 6.0, 8.5 and 12 metres. This is actioned by physically raising and lowering the individual lower PIR detector positions.

In addition to these switches, the rear mounting panel can be raised or lowered in ➔

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its housing by approximately 7mm, identified as “To Wall” and “Away Wall” and this has the effect of extending the detection zones slightly away from the wall by an angle of 3°.

Detectable speed is given as 0.3 to 2.0m/s. The Extreme High Sensitivity setting increases the Normal figure of 2.0°C at 0.6m/s to 1.0°C at 0.6m/s.

Performance

At power-up the unit goes through a “warm-up” process where the LEDs blink for up to approximately 1 minute. In practice this was found to be generally around 15 seconds. This is followed by a learning mode for the anti-masking setting to establish.

Regardless of the LED switch setting, the unit will go into a Walk-Test mode for approximately 3 minutes once the cover is closed, this allows confirmation of detection and range.

Each side of the detector has two zones with the upper zone facing straight out towards the horizon and the lower zone pointing downwards towards the ground. The angle of this lower zone sets the distance of coverage from 2.5 to 12 metres as stated above.

For an alarm event to trigger, both zones on a side of the device must detect movement. This prevents small animals from nuisance triggering the unit. During setup, switch changes activate immediately while the tamper switch is released so there is no need to power-cycle the device to make changes. The independent outputs allow camera selections to be made if the alarm panel or video recorder support such actions.

The tamper switch requires very little movement of the top cover to trigger so as long as this is correctly connected it should mitigate the lack of a secure casing lock.

Mounting height is stated as 0.8 to 1.2 metres and this is essential to get the range values appropriately set, so this does potentially leave them vulnerable as they can be directly approached without triggering an alarm. In testing the unit was found to readily achieve the stated distances which are effectively changed by changing the angle of the lower PIR detection zone. The zone distance cannot be precisely set for such devices of course as it is dependent on variables such as mounting height, subject size and sensitivity settings within the unit but the walk test LEDs make it very easy to establish the operational range for a given subject.

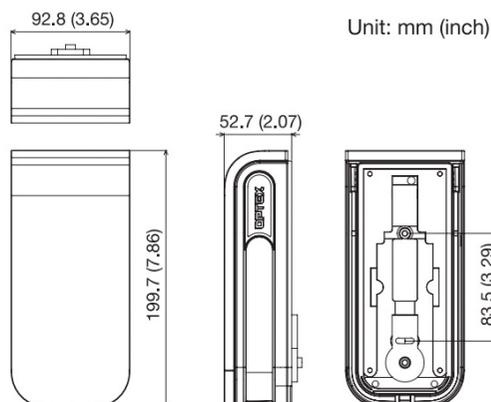
In To-Wall mode the device was able to provide detection of subjects along the wall line on which the unit was installed; the Away-Wall mode extends the zones away from the wall by approximately 3 degrees, a more detailed explanation of the zone angles and spread would have been helpful in assessing detection capability.

On this model that has an anti-masking feature the unit will provide a “Trouble” output if either side of the device is covered or has its detection surface obscured. This is stated to trigger after 20 seconds when in its initial 10-minute test mode and then after 3 minutes when in standard operating mode. In practice the unit triggered after 13 seconds during test mode and just under 2.5 minutes in normal operation.

All alarm contacts are rated to 28v DC at 100mA, with alarm duration as 2 seconds ±1.

Conclusion

A very straightforward alarm device with clear operation and simple set-up. Apart from the reservations regarding cable entry and security of access the unit performs well and should prove easy to install.



8.5 out of 10

NOTE: This PSI Product Test was carried out by an independent third party, not editorial staff. The manufacturer had no input in the review or the final result