

# PDM-IXx12 and PDM-IXx12T

## MAGIC DUAL MOTION DETECTOR

VANDERBILT



Vanderbilt's MAGIC PIR and Dual motion detectors are an exciting new advance in security that provide the most reliable, convenient and cost effective solution for industry leading catch performance and false alarm immunity. The detectors feature a modern, slim design and share the same low-profile housing so intruders cannot tell which type of detector they are faced with. MAGIC PIR and Dual detectors are offered in either 12m or 18m range and are optionally available with integrated anti-masking technology.

The PDM-IXx12 and PDM-IXx12T dual motion detectors offer reliable detection of intruders and high false alarm immunity. Their performance is based on an improved version of Vanderbilt's Matchtec algorithm, which combines passive infrared (PIR) and microwave (MW) channels to make extraordinarily accurate decisions on motion within their detection zone.

Intelligent processing routines analyse the relative strength of the IR and MW signals received from a moving object in order to make sound decisions. It is even possible to use multiple detectors in close proximity to each other, since the algorithm reduces interference between the MW modules. This increases flexibility in selecting the installation site.

Flexible installations can be carried out quickly and error-free due to features like Auto Walktest and the new End-of-Line concept (EoL).

### Key Features include:

- Unmatched detection performance based on patented MAGIC mirror technology
- High immunity against false alarms
- 12m volumetric optics with undercrawl protection – 20m gapless curtain (option)
- Unique End-of-line concept eliminates time-consuming resistor wiring
- Flexible, fast and error-free installation with sensitivity adjustment and pet immunity (option)
- Compliance with latest approval standards such as VdS, VSÖ, INCERT, NF, IMQ, SBSC, etc.
- Modern and elegant design
- Low power consumption

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## Features & Benefits

### ■ Reliable detection

Thanks to the patented MAGIC mirror technology, intruders are detected effectively and reliably. The new double-mirror principle provides homogeneous coverage and sensitivity to all areas within the detection field. The proven and enhanced Matchtec algorithm supports the innovative mirror optic.

### ■ High security level

The integrated anti-mask function reliably detects any potential covering of the detector. In addition to this, the sophisticated mirror design ensures full under-crawl protection. Therefore, MAGIC DUAL detector PDM-IXx12T complies with the highest security standards, such as VdS Class C, EN 50131-2-4 Grade 3 and many more.

### ■ High hurdles for intruders

A detector cannot be identified by its housing. Potential intruders – when confronted with MAGIC motion detectors – must assume the highest security level (e.g. EN 50131-2-4 Grade 3) irrespective of the actual detector type.

### ■ Error-free installation

Due to pre-fitted End-of-Line (EoL) resistors, the detectors are ready for use with Vanderbilt's alarm panels (SPC and Sintony). Thus, the time-consuming and error-prone resistor configuration can be omitted. PDM-IXx12/T can also be adapted to other intrusion panels by simply replacing the pre-fitted resistors with numerous optionally available plug-in EoL boards.

### ■ Low current consumption

State of the art energy concepts and electronic components provide low current consumption. Not only energy costs are decreased across the years of utilisation but also more cost efficient uninterrupted power supply units (like batteries) can be used in the intrusion panels.

### ■ Fast & easy set-up

The new Auto Walktest feature accelerates the installation of the detector. Verifying the installation and operation of the detector by means of a Walktest no longer requires repeated openings of the detector nor adapting DIP switch settings.

## Recommended Accessories

### ■ Mounting bracket

The PZ-MBG2 mounting bracket provides convenient cable guiding within the bracket and can be used for all MAGIC Mirror models for both wall and ceiling mounting.

### ■ Pet-Clip

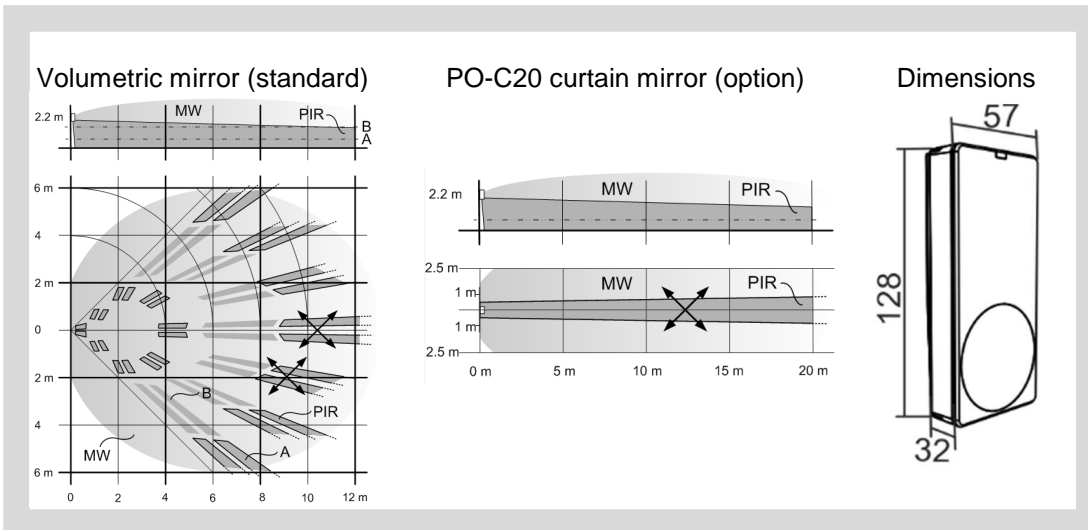
With the help of PO-CL pet-clip the detector ignores the motion caused by animals (up to 20kg) and thus reduces the likelihood of false alarms.

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### ■ Technical Data

Detection characteristic / range	Volumetric / 12m
Optical system	MAGIC mirror
Pet immunity	Yes (optional)
Microwave (MV) frequencies	
PDM-IXA12/T	10.525GHz
PDM-IXD12/T	9.35GHz
PDM-IXE12/T	10.587GHz
Power supply (nom. 12V <sub>DC</sub> )	9V <sub>DC</sub> ~ 16V <sub>DC</sub>
– Max. ripple (0Hz ~ 100Hz)	1.0V <sub>SS</sub>
– Voltage control	Alarm at 8.0V <sub>DC</sub> ± 0.5V <sub>DC</sub>
Power consumption (8V <sub>DC</sub> ~ 16V <sub>DC</sub> )	
– PDM-IXx12 Idle state	4.8mA (rms), 7.1mA (max peak)
LED ON	6.7mA (rms), 9.0mA (max peak)
– PDM-IXx12T Idle state	6.3mA (rms), 8.5mA (max peak)
LED ON	8.3mA (rms), 10.5mA (max peak)
Control inputs	Low ≤ 1.5V <sub>DC</sub> / High ≥ 3.5V <sub>DC</sub> , R <sub>Pull-up</sub> (internal) = 470kΩ
Outputs	Open collector, R=35Ω, I <sub>max</sub> =120mA
Walk speeds	
– PDM-IXx12 (Volume mirror / Curtain mirror PO-C20)	0.2 <sup>m</sup> / <sub>s</sub> ~ 3.0 <sup>m</sup> / <sub>s</sub>
– PDM-IXx12T (Volume mirror / Curtain mirror PO-C20)	0.1 <sup>m</sup> / <sub>s</sub> ~ 4.0 <sup>m</sup> / <sub>s</sub>
Algorithm	MATCHTEC
EoL resistors (pre-fitted)	
– R <sub>i</sub>	4.7kΩ ±5%, 250mW
– R <sub>F</sub>	2.2kΩ ±5%, 250mW
– R <sub>EOL</sub>	4.7kΩ ±5%, 250mW
Environmental conditions	
– Operating temperature	-10°C ~ 55°C
– Storage temperature	-20°C ~ 60°C
– Air humidity (EN 60721)	< 95%rh, non-condensing
– EMC-resistance up to 2.7GHz	10 <sup>V</sup> / <sub>m</sub>
– Housing protection category (EN 60529, EN 50102)	IP41 / IK02
Colour	RAL9003
Approvals	
– PDM-IXA12 / PDM-IXD12 / PDM-IXE12	VdS Class B, EN 50131-2-4 Grade 2
– PDM-IXA12T / PDM-IXD12T / PDM-IXE12T	VdS Class C, EN 50131-2-4 Grade 3

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### ■ Ordering Information

Type	Art. No.	Description	Weight*
PDM-IXA12	V54531-F113-A100	DUAL Detector 10.525GHz	0.138kg
PDM-IXD12	V54531-F124-A100	DUAL Detector 9.35GHz	0.138kg
PDM-IXE12	V54531-F114-A100	DUAL Detector 10.587GHz	0.138kg
PDM-IXA12T	V54531-F116-A100	DUAL Detector 10.525GHz with Anti-mask	0.140kg
PDM-IXD12T	V54531-F115-A100	DUAL Detector 9.35GHz with Anti-mask	0.140kg
PDM-IXE12T	V54531-F117-A100	DUAL Detector 10.587GHz with Anti-mask	0.140kg
PO-C20	V54539-F122-A100	PO-C20 Curtain Mirror for PDM-I12 (4 pcs)	0.033kg
PZ-MBG2	V54539-F124-A100	PZ-MBG2 Mounting Bracket G2 for PDM	0.051kg
PZ-CA	V54539-F125-A100	PZ-CA 1/4" Adapter for Camera Bracket (4 pcs)	0.022kg
PO-CL	V54539-F126-A100	PO-CL Pet Clip for PDM-I12 (10 pcs)	0.050kg
PO-FM	V54530-H101-A100	PO-FM Flush Mount Housing Base PDM-I12	0.040kg
PO-MHB12	V54530-H102-A100	PO-MHB12 Metalized Housing Base PDM-I12	0.030kg
PO-PA01	V54539-F127-A100	EOL PCB R <sub>F</sub> =4k7 R <sub>I</sub> =2k2 R <sub>EoL</sub> =2k2 (100 pcs)	0.151kg
PO-PA02	V54539-F127-A100	EOL PCB R <sub>F</sub> =2k2 R <sub>I</sub> =4k7 R <sub>EoL</sub> =2k2 (100 pcs)	0.151kg
PO-PA03	V54539-F127-A200	EOL PCB R <sub>F</sub> =12k R <sub>I</sub> =1k R <sub>EoL</sub> =1k (100 pcs)	0.151kg
PO-PA04	V54539-F127-A300	EOL PCB R <sub>F</sub> =12k R <sub>I</sub> =6k8 R <sub>EoL</sub> =4k7 (100 pcs)	0.151kg
PO-PA05	V54539-F127-A400	EOL PCB R <sub>F</sub> =1k R <sub>I</sub> =3k3 R <sub>EoL</sub> =3k3 (100 pcs)	0.151kg
PO-PA06	V54539-F127-A500	EOL PCB R <sub>F</sub> =48k R <sub>I</sub> =16k2 R <sub>EoL</sub> =16k2 (100 pcs)	0.151kg
PO-PA07	V54539-F127-A600	EOL PCB R <sub>F</sub> =48k R <sub>I</sub> =48k R <sub>EoL</sub> =48k (100 pcs)	0.151kg

\* Total weight of the product inclusive of the weight of its accessories and packaging.

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