

KSI5102000.300

unum

KSI5102100.300 + Pet Immune

KSI5102010.300 + Antimask

KSI5102110.300 + Pet Immune + Antimask

**DUAL-TECHNOLOGY
MOTION DETECTOR**
Installation manual



Ksenia
security innovation

The **unum** Motion Detectors are professional state-of-the-art motion sensors engineered with the world's best components and materials. Every aspect of these sensors provides the most reliable motion sensing, yet with freedom from false alarms. Additionally, the **unum** series introduces to the market the only sensors with a trendy invisible lens completely integrated into the front cover, thanks to E.L.T.™ (Embedded Lens Technology). As a benefit of decades of experience in designing professional lenses, E.L.T.™ allows the formation of lens and front cover in a gracefully unified design.

SENSOR INITIALIZATION

Following power-on, **unum** are fully operational after a one-minute warm-up. During warm-up, the red Alarm LED is ON.

Default Operating Mode: By enabling the Alarm LED (JP1 ON), the red LED will turn on at the occurring of an alarm.

WALK TEST

Walk Test Mode: Cycle power-off/power-on, then Walk-test immediately after warm-up in the 10-minute walk-test mode.

To test the IR (infrared) system, walk across the monitored area (within the sensor's optical fields-of-view). Each time a field-of-view is entered, the green LED should flash. To test the microwave system, move within the monitored area. During movement, the yellow LED should flash. In this mode, the red LED indicates Alarms. Adjust RV1 to change microwave sensitivity as required. 10 minutes after power-on, the yellow and green LEDs will be disabled.

NOTE: It's highly recommended to do the test once per year at least.

SUPERVISION

unum supervision functions include these tests:

- Ambient temperature in-range
- Detector electronics okay;
- Supply voltage between 8-16Vdc;

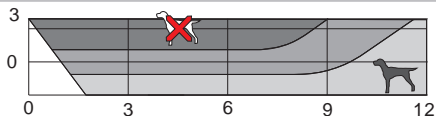
When a failure is detected, then:

- 1) The red alarm LED blinks ON/OFF every second;
- 2) Alarm relay does not re-close after an alarm signal event.

NOTE: the detector will NOT activate an alarm in case of fault.

PET IMMUNITY (only compatible versions)

The **unum** Motion Detectors is designed to allow the presence of pets (10kg or lighter) without signaling an alarm. *NOTE: pets come in many varieties. Some pets (especially larger ones with very short hair), even if lighter than 10kg, may produce enough infrared radiation to cause alarms. DT-PI Motion Detectors UNUM users are strongly advised to test the sensor with their own pets, in order to verify that the unum will not signal an alarm when their pets are moving within its fields of view.* The diagram below shows the **unum**'s zones of greatest human/pet discrimination. The **unum** should be mounted so that pets will occupy only the lighter-colored spaces.



ANTI-MASK (only compatible versions)

Masks are a secured zone (within 1m of the sensor) is monitored. A person entering this zone and bringing hands near the sensor will initiate an accelerated mask detection process. A flashing red LED and open Mask relay indicate masking situation.

TECHNICAL DATA

IR Sensor: Dual Elements

Power Supply: 10 - 16 Vdc

Consumption: 25 mA stand-by, 38 mA at 13 Vdc

Alarm Relay: Solid State, Form A (NC). 50 mA, 30 Vcc

Tamper Switch: Form A (NC). 50mA a 30 Vcc

Housing material: base/ABS • cover/HDPE

Dimensions: 113 x 60 x 45 (H x W x D)

Optical Fields-of-View: short range 18 • medium range 36 • long range 44

Microwave Operating Freq: 10,525 GHz.

Events Detection: SureSpot™ false alarm rejection processor

RF Immunity: 20 V/m, 10 - 1000 MHz • 10 V/M, 1 - 2 GHz

White Light Immunity: 6500 lux

(certification tests were performed at the visible band of 2000 lux)

PIR Sensitivity: selectable sensitivity and number of steps

Microwave Range: 20% - 100% adjustable

Operating Temperature Range: -10 to 55 °C

Storage: -40 to 60 °C

Weight: 104 g

Technical Specifications, appearance, functionality and other product characteristics may change without notice.

INSTALLATION INSTRUCTIONS

1. The wall temperature have to be similar to walls/floor of monitored area
2. The sensor have to be aimed away from windows and reflected sunlight
3. The sensor have to be aimed away from heaters or heater/cooler outlets
4. The sensor have to be aimed so that likely intruder paths cross three views
5. Please leave clear line-of-sight from sensor to monitored area

Note: glass will block PIR sensor 's view; metal will block microwave sensor's view

Warning: Do not partially or completely hinder the view of the detector

Wall Mounting

1. The sensor base have to be fastened flat on vertical wall (± 2 degrees)
2. The sensor have to be mounted at 2,3m or 3m height from the floor

Mounting Bracket

1. Bracket fastened to semi-vertical surface (± 15 degrees)
2. The sensor have to be fastened flat on bracket on vertical wall

OPERATION PROGRAMMING JUMPERS

If there is a way for intruders to pass only a very short distance in the sensor's view or if aggressive detection is required then use HIGH sensitivity (JP2 OFF) otherwise LOW sensitivity is fine for ordinary applications.

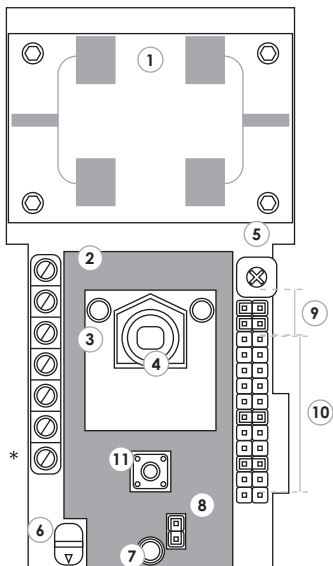
FUNCTION	JP	ON	OFF
PIR / MW LED	1	ENABLED	DISABLED*
Number of Steps	2	3 - 5	1 - 3
Sensitivity	3	LOW	HIGH
Alarm LED		ENABLED	DISABLED

*Using this setting you can remotely manage the switching on of the LEDs via the clamp 'LED EN'. By applying a 12V voltage (system armed) the LEDs will signal an alarm detection.

RED ALARM LED INDICATOR OPERATION

LED	unum DT	
	Sensor State	LED Display
RED	Warm-up	ON if LED is enabled
	Alarm test mode	ON 5 seconds if LED is enabled
	Alarm	ON 5 seconds if LED is enabled
	Fault / Mask	Flashing if LED is enabled
	Normal	OFF
YELLOW test mode	MW Event	ON
	No Event	OFF
GREEN test mode	PIR Event	ON
	No Event	OFF

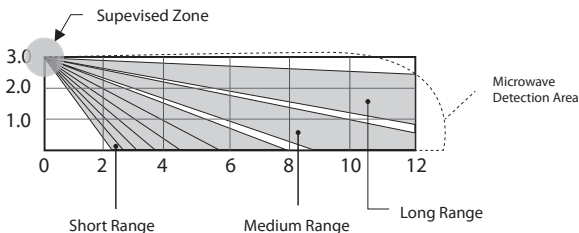
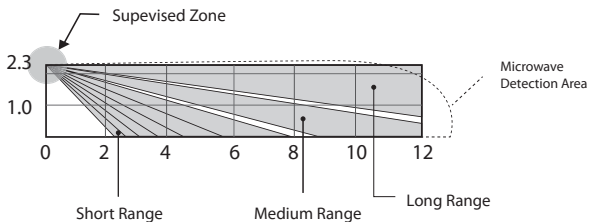
PARTS IDENTIFICATION



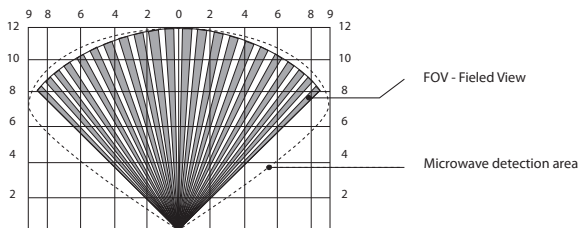
- 1 Microwave Module
- 2 Connection Terminals
- 3 Walk Test LED
- 4 PIR
- 5 Trimmer Microwave
Rotate clockwise to increase range of microwave detection
- 6 PCBA placing indicator
- 7 Signaling LED
- 8 LED ON / OFF
- 9 Programming Jumpers
- 10 End-of-line protection*
(remove the jumpers in case you don't want use the integrated end-of-line resistances)
- 11 Opening Tamper

* Only on Antimasking versions

Optical view pattern
side view in meters



Optical view pattern
top view in meters

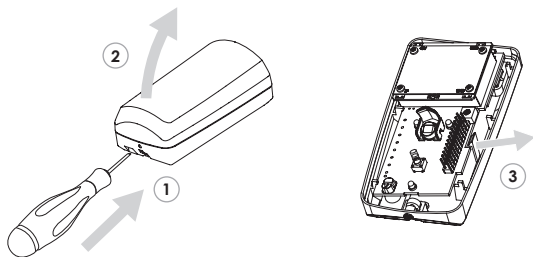


SENSOR DISASSEMBLY

In slot at sensor bottom, use screwdriver to push inward (1).

Remove cover (2).

Push outward on PC board latch at sensor base right side. Using PC board as handle, gently lift PC board right side and remove. (3).



2,3 m.

Installation height: 2,3 m.



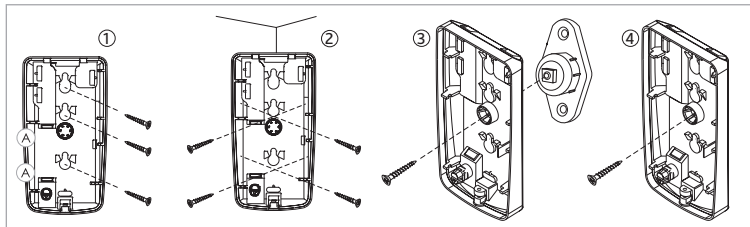
3 m.

Installation height: 3 m.

Identify necessary holes on diagram:

1. For wall mounting or 45 degree wall mounting, knock out hole covers.
2. For bracket mounting, use drill to open a 3 mm hole in the center of the square recess at the rear of the base.
3. Cut cable wires to appropriate length and connect wires to sensor terminal block (A).

BASE HOLE PREPARATION



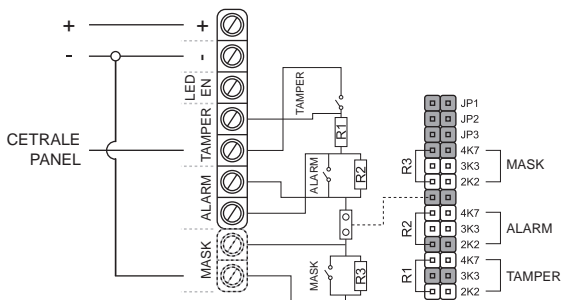
1. Wall installation
2. Corner installation
3. Bracket installation
4. Removal Tamper

Note: All fixing devices required for the proper installation are included in the package.

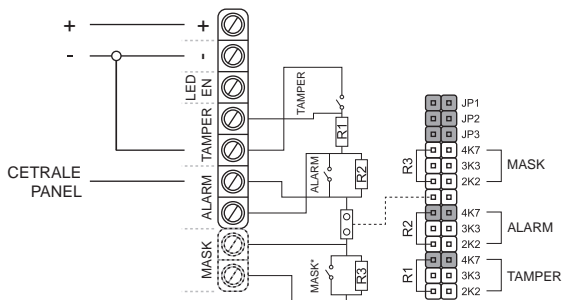


In order to maintain the conformities listed on page 10, the detector has to be installed **WITHOUT** bracket

1. Connection with Ksenia panel (triple balancing)



2. Connection with Ksenia panel (2 parallel EOL resistors)



* Only on Antimasking versions



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