unum DT/DT+AM

Dual-Tech Motion Detector/ Anti-Masking Motion Detector

Installation guide

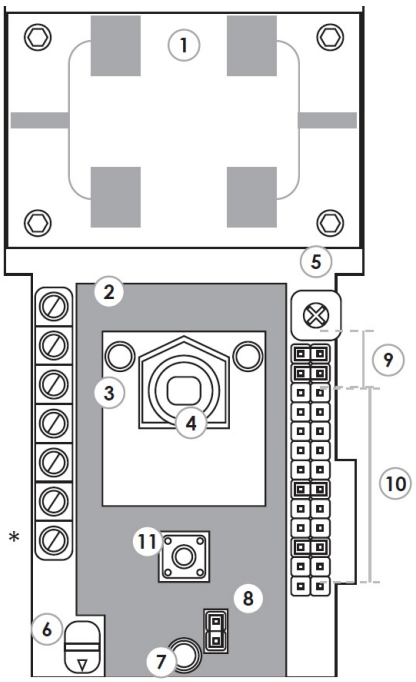


KSI5102000.300 - unum DT
KSI5102100.300 - unum DT + Pet Immune
KSI5102010.300 - unum DT + AM
KSI5102110.300 - unum DT + AM + Pet Immune

INTRODUCTION

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.

PRODUCT DESCRIPTION



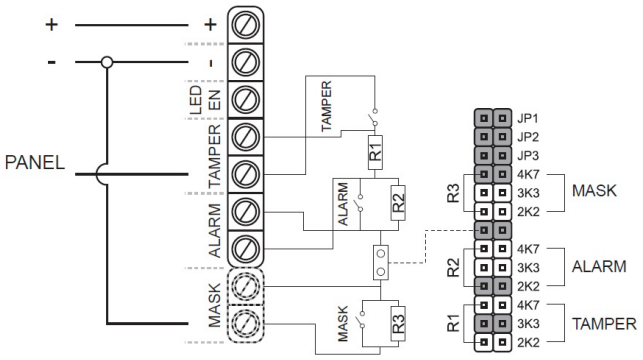
LEGEND

1. Microwave Module
2. Connection clamps
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

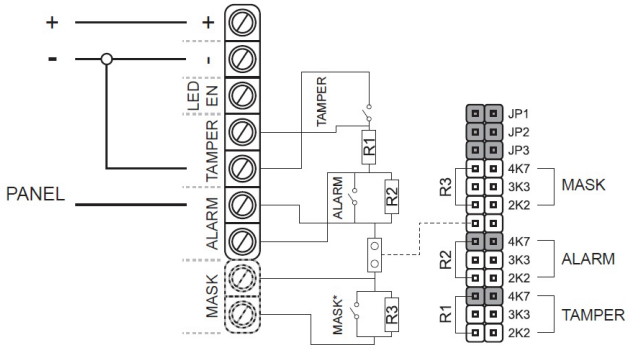
(*) Only present in unum AntiMasking versions

WIRING DESCRIPTION

Connection with lares 4.0 control panel (triple balancing)



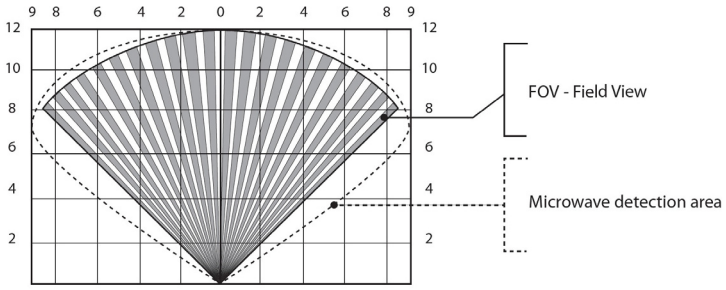
Connection with ares 4.0 control panel (2 parallel EOL resistors)



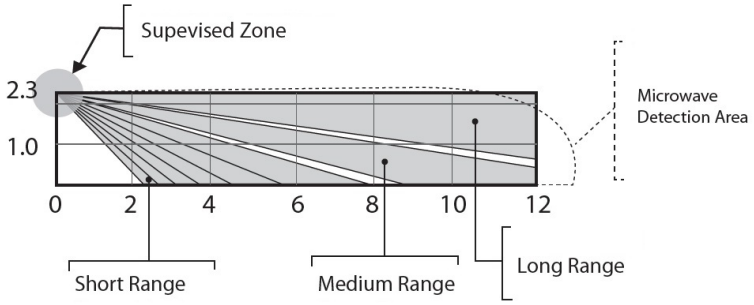
Mask(*) Only on Antimasking versions

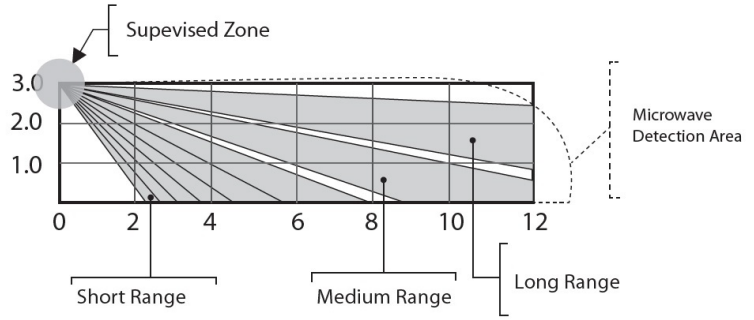
COVERAGE DIAGRAM

Optical view pattern top view in meters



Optical view pattern side view in meters

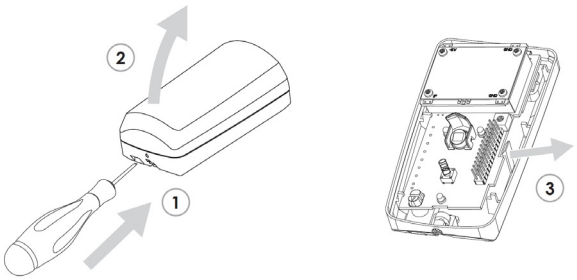




INSTALLATION

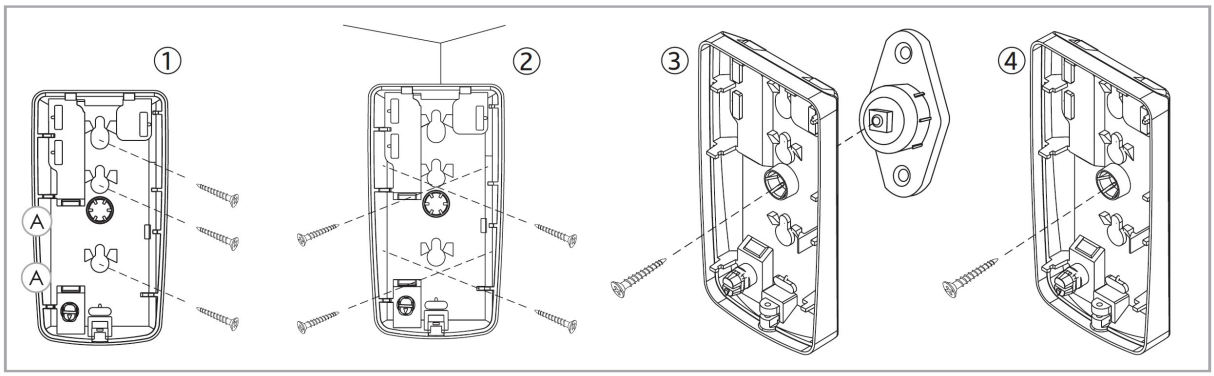
SENSOR DISASSEMBLY

- 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).





BASE HOLE PREPARATION
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”.



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.

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 obscure 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 2.3 m or 3 m 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.

ACCESSORIES
Wall-Mounting Bracket: code KSI5900000.300.

Note: Limitations of Security Products: Security products and alarm systems do not offer guaranteed protection against burglary, fire, or other emergencies. They may fail to warn for diverse reasons, including (but not limited to): power failure, dead batteries, improper installation, coverage "blind spots", coverage areas overlooked during installation, defeat by technically sophisticated intruders, component failure, or inadequate maintenance. Alarm systems should be checked weekly to ensure that all devices are working properly. AN ALARM SYSTEM IS NOT A SUBSTITUTE FOR INSURANCE.

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 FUNCTION

LED	unum DT	
RED	**Sensor State**	**LED display**
	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

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.

SUPERVISION

unum supervision functions include these tests:
- Ambient temperature in-range
- Detector electronics okay
- Supply voltage between 8-16Vdc

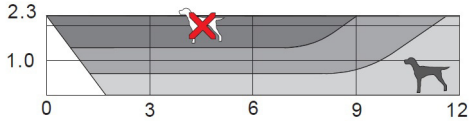
When a failure is detected, then:
1) The red alarm LED blinks ON/OFF every second;
2) Alarm relay does not re-close after an alarm signal event.
NOTE: the detector will NOT activate an alarm in case of fault.

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.

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:
KSI5102000.300 - unum DT & KSI5102100.300 - unum DT + Pet Immune

- IR Sensor: Dual-Element-Pyroelectric
- Power Supply: 8-16 Vdc; 24 mA at 12 Vdc
- Alarm Relay: Solid State, 60V, 50 mA, isolation 1500 Vrms
- Tamper Switch: Form A contact, normally closed (NC) 50 mA at 30 Vdc
- Events Detection: HighBar false alarm rejection processor
- RF Immunity: 20 V/m, 10-1000 MHz;10 V/m, 1-2 GHz
- White Light Immunity: 6500 lux
- Sensitivity: Selectable: 2-event or 3-event
- Operating Temperature Range: +5°C to +40°C
- Housing Material: Base: ABS, Cover: HDPE
- Overall Dimensions: 113×60×45 mm (H×W×D)
- Pet immunity: up to 10 Kg

TECHNICAL DATA:
KSI5102000.300 - KSI5102010.300 - unum DT + AM & KSI5102110.300 - unum DT + AM + Pet Immune

(in addition to what stated for unum PIR)

- Microwave Operating Freq.: around 10GHz (see unit label)
- Events Detection: Sure Spot processing engine
- RF Immunity: 20 V/m, 10-1000 MHz; 10 V/m, 1-2 GHz
- Microwave Range: 20%-100% adjustable
- Lighting rejection: selectable 50 or 60 Hz
- Pet Immunity: Up to 10 Kg

QUANTITY DATA

lares 4.0 models	wls 96	16	40	40 wls	140 wls	644 wls
unum DT & DT-AM sensors are considered like ZONES, so that their limit is just like the maximum number of zones that the lares 4.0 control panels can manage	96	16	40	40	140	644

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

CERTIFICATIONS

unum DT	unum DT-AM	
Europe - RoHS, CE EN50131 Grade 2 - Class II	Europe - RoHS, CE	