

LuNAR GreenLine DTAM
Installation Instructions



EN50131-1, PD6662, TS50131-2-4: Grade 3, Class II

LuNAR GreenLine DTAM

Dual Technology 360° Ceiling Mount with Anti-Mask

Rokonet's Dual Technology Anti Mask Detector, LuNAR™, is a ceiling mounted detector, used in high risk applications. The LuNAR™ DT AM Detection is based on PIR (passive infra-red) which responds to changes in the ambient thermal radiation caused when an intruder crosses the protected area, and MW (microwave), which transmits signals and analyzes the frequency changes of the reflected signal from an intruder using the Doppler effect. An ALARM is initiated only when both technologies trigger simultaneously.

In addition to its Passive Infrared (PIR) and Microwave (MW) detection methods it combines 2 state of the art Anti-Camouflage technologies, which prevent BOTH masking AND cloaking attempts (using the unique Anti-Cloak™ Technology (ACT™) of Rokonet).

The detector features 110° wide angle Fresnel lens, covering 360° field of view detection pattern

LuNAR™ Main Features

- MW & PIR technologies
- Anti-Cloak™ Technology (Patent Pending) - Anti-Cloak™ Technology identifies cases in which PIR detection is problematic and automatically switches to microwave-only detection.
- Active IR Anti-Masking with separate relay
- EN50131-1, PD6662, TS50131-2-4: Grade 3, Class II
- Indicates trouble in either MW or PIR channels
- Microwave range adjustment
- "Green line" setting - MW disabled during UNSET
- Opto -relays - low current consumption and long life cycle
- Wall and cover tamper
- Selectable EOL (End of Line) Resistors
- Local Self Test
- Remote Self Test Input
- LEDs disable input
- 30 V/m RF immunity
- Anti-fluorescent interference signal processing

Installation Considerations

- Before installing, study the space to be protected carefully in order to choose the exact location of the unit for the best possible coverage.
- The detector must be mounted on the ceiling, preferably in the center of the room.
- Never install the LuNAR in an environment that causes an alarm condition in one technology.
- Avoid installations where rotating machines (e.g. fans) are normally in operation within the coverage pattern.
- Do not mount the detector in direct sunlight or near any heat sources. Point the unit away from glass exposed to the outdoors and objects that may change temperature rapidly.
- The installation surface should be solid, smooth and vibration free.
- For optimum detection, select a location likely to intercept an intruder moving across the coverage pattern.
- Recommended mounting height, that allows 13m (40ft) detection diameter, is approximately 4m (13'4") (See figure 1).

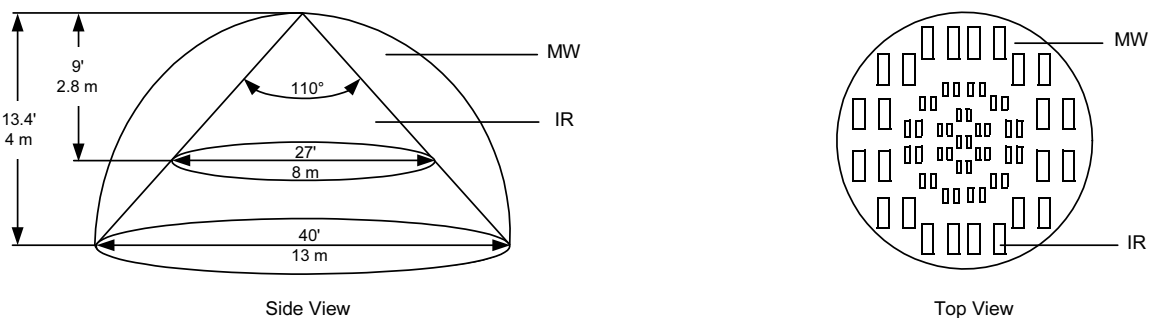


Figure 1. Coverage

Installation

- Remove the LuNAR front cover using the following procedure:
 - Hold the base of the detector with one hand and twist the cover clockwise with the other hand until it stops (see Figure 3).

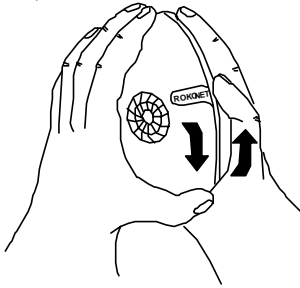


Figure 3. Front Cover Removal

- Separate the cover from the base.
 - To avoid accidental damage, put the cover in a safe place.
- Using a suitable tool, open the following knockouts on the detector's base (see figure 4).
 - A1, A2, A4 and A5: Ceiling mounting knockouts
 - A3: Wiring knockouts (open out at least one wiring knockout)
 - A6 (optional): Back tamper knockout

Note:

The mounting holes are accessible without removing the PCB (Printed Circuit Board) from the base. To avoid damage to the PCB, do not drill with the detector held in place.

- Put the base in a safe place, drill the four holes in the ceiling and insert anchors (if necessary).
- Back Tamper Installation (optional):
 - Remove the Back Tamper shorting jumper
 - Install Back Tamper spring
 - Fasten Back Tamper in place with the two supplied screws.
- Insert external cables through the cable hole/ holes.
- Align the detector with the mounting holes and fasten it firmly to the ceiling with all four screws.
- Wire terminal (see Terminal Wiring section).
- Set jumpers (see Jumper Setting section).
- Perform a Walk test (see Walk Test section).
- Install the front cover back to its place (in a reverse sequence of the removal).

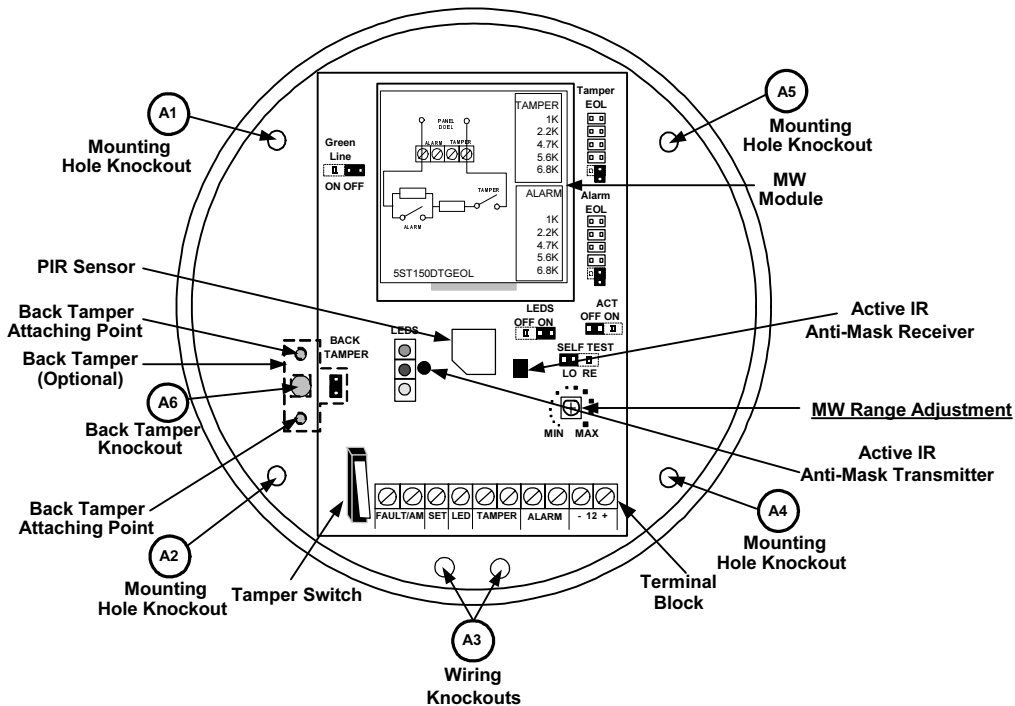
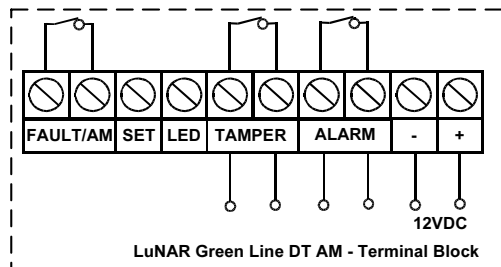










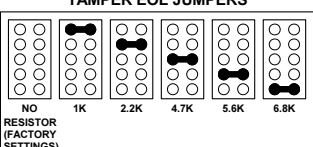
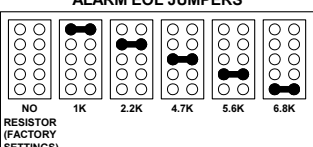
Figure 4. PCB Layout

Terminal Wiring



Terminal	Description
- 12 +	12VDC Input
ALARM	N.C relay, 24VDC , 0.1A
TAMPER	N.C relay, 24VDC , 0.1A
LED	12VDC activated input LEDs are disabled if 12VDC is applied (see also Green Line in Jumper Settings table) LEDs are enabled if nothing is connected or GND is applied (unless LED jumper is OFF)
SET	12VDC activated input SET - If 12VDC is applied, AM is disabled UNSET - If nothing is connected or GND is applied, AM is enabled (see also "Green Line" and "Remote Self Test" in Jumper Settings table)
FAULT/AM	Normally closed output The FAULT/AM output opens in the following events: <ul style="list-style-type: none"> Detector lens masked Self test failed Input voltage is low (6VDC - 9VDC)

Jumper Settings

Jumper	Position	Function
ACT	Used to determine if ACT mode is enabled or disabled	
	Anti-Cloak™ Technology will cope with any attempt of a burglar using camouflage techniques to conceal his IR radiation. When this situation is identified ACT™ automatically switches the detector to trigger alarms based primarily on detection from the microwave channel for a predefined window of time. ACT™ also overcomes PIR technology's limitation of poor detection sensitivity when the ambient temperature is close to that of the human body. When this occurs the detector switches to single channel microwave triggering of alarms.	
		ON: ACT Enabled Note: The MW range must be adjusted to the minimum needed, using the potentiometer located at the bottom of the PCB, in order to provide full coverage for the entire protected area. IMPORTANT: Do not use ACT™ mode if you are expecting that there will be moving objects outside the required protected area, a corridor for example.
 (Default)	OFF: ACT Disabled	
LED	Used to determine the operation of the detector's LEDs	
		ON: LEDs are enabled Note: When 12VDC is applied to the LED input of the terminal block, LEDs will be disabled.
	 (Default)	OFF: LEDs are disabled
Self Test	Used to test the PIR and MW channels for detection	
		LO (Local Self Test): If there is no alarm detection after a 1 hour period the detector will self test both the PIR and MW channels. In case the local self test has failed, the FAULT/AM Relay is activated.
	 (Default)	RE (Remote Self Test): Remote Self Test is activated when SET terminal is switched from SET to UNSET mode (12VDC to GND/N.C.). In case the remote self test passes, the Alarm Relay is activated for 5 seconds. In case the test fails, FAULT/AM Relay is activated.
Green Line	The LuNAR DT AM includes a Green Line feature which is a new concept in detectors that follows environmentally guidelines by avoiding surplus emission.	
		ON: Green Line is On: MW module is deactivated in "UNSET" mode and LEDs are remotely disabled. Both 12VDC applied to the LED terminal and GND or nothing to SET terminal.
	 (Default)	OFF: Green Line is OFF : MW is constantly activated
TAMPER EOL		
	The jumpers are used when connecting the detector to a Double End Of line Zone. The two jumpers allow the selection of Alarm and Tamper EOL resistors (1K, 2.2K, 4.7K, 5.6 or 6.8K) according to the control panel (see Figure 3 Schematic of EOL Resistors). Important: The settings of the Alarm and Tamper EOL jumpers should be identical.	
ALARM EOL		

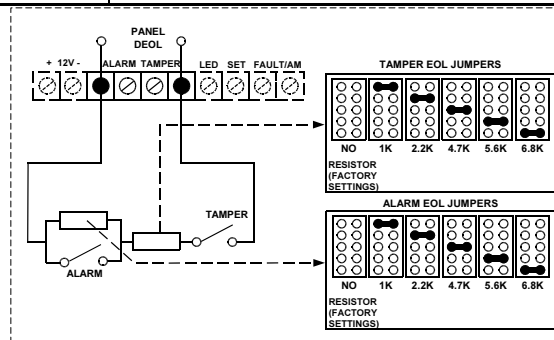


Figure 3. Schematic of EOL Resistors

Walk Test

- Two minutes after applying power (warm-up period), walk test the Detector over the entire protected area to verify proper operation of the unit.
- Ensure you have installed back the front cover before applying power to the detector.
- The MW range can be adjusted by using the potentiometer located on the PCB. It is important to set the potentiometer to the lowest possible setting that will still provide enough coverage for the entire protected area.

Microwave Adjustment

Adjust Microwave coverage area by using the trimmer on the PCB



LEDs Display

LED	State	Description
Yellow	On	PIR detection
	Flashing	Trouble in PIR channel
Green	On	MW detection
	Flashing	Trouble in MW channel
Red	On	Indicates ALARM
	Flashing	Fault / Anti Masking detection Anti Masking detection is operational only in "Unset" mode. The detector is in "Unset" mode when no signal or GND is attached to the SET terminal.
All LEDs	Flashing (One after another)	At Power - up, the LEDs will blink continuously, one after the other, until the end of the warm-up period (2-3 minutes). At the end of power-up period the RED LED will continue to flash until the end of AM initiation (to end the flashing, close the front cover).

Notes:

- To enable LED indications, the LED jumper has to be in ON position and no signal or GND is attached to the LED terminal.
- LEDs are disabled by connecting 12VDC to the LED terminal.
- AM and Trouble indications continue until masking is removed or trouble is corrected.

Technical Specification

Electrical	
Current consumption	12mA at 12VDC, 39mA at 12VDC (max. with all LEDs ON)
Voltage requirements	9 -16VDC
Alarm contacts	24VDC, 0.1A
Tamper contacts	24VDC, 0.1A
FAULT/AM contacts	24VDC, 0.1A
Environmental	
RF immunity	(10MHz to 1GHz): 30V/m
Operating temperature	-20°C to 55°C (-4°F to 130°F)
Storage temperature	-20°C to 60°C (-4°F to 140°F)
Optical	
Lens	Wide angle spherical Fresnel
Coverage	110° angle overview
Detection Zones	3 optical, 12 external sectors, 12 middle sectors, 6 internal sectors

Ordering Information

Part Number	Description
RK150DTG300A	LuNAR Green Line DT AM 10.526GHz
RK150DTG3UKA	LuNAR Green Line DT AM 10.687GHz
RK150DTG3FRA	LuNAR Green Line DT AM 9.9GHz
RK150DTG3DEA	LuNAR Green Line DT AM 9.35GHz

RTTE Compliance Statement

Hereby, Rokonet Electronics Ltd, declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC



CE Clarification

Table for P/N: RK150DTG300A

AT	BE	CZ	DE
DK	ES	FI	FR
GR	IE	IT	it
LU	MT	NL	PT
SE	UK		

Part No: RK150DTG3UKA
Intended for use in the UK only

CE Clarification

Table for P/N: RK150DTG3FRA

AT	BE	CZ	DE
DK	ES	FI	FR
GR	IE	IT	it
LU	MT	NL	PT
SE	UK		

Part No: RK150DTG3DEA
Intended for use in the Germany only

Rokonet Limited Warranty

Rokonet Electronics, Ltd. and its subsidiaries and affiliates ("Seller") warrants its products to be free from defects in materials and workmanship under normal use for 12 months from the date of production. Because Seller does not install or connect the product and because the product may be used in conjunction with products not manufactured by the Seller, Seller cannot guarantee the performance of the security system which uses this product. Seller's obligation and liability under this warranty is expressly limited to repairing and replacing, at Sellers option, within a reasonable time after the date of delivery, any product not meeting the specifications. Seller makes no other warranty, expressed or implied, and makes no warranty of merchantability or of fitness for any particular purpose.

In no case shall seller be liable for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever.

Seller's obligation under this warranty shall not include any transportation charges or costs of installation or any liability for direct, indirect, or consequential damages or delay.

Seller does not represent that its product may not be compromised or circumvented; that the product will prevent any persona; injury or property loss by burglary, robbery, fire or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm may only reduce the risk of burglary, robbery or fire without warning, but is not insurance or a guaranty that such will not occur or that there will be no personal injury or property loss as a result.

Consequently seller shall have no liability for any personal injury, property damage or loss based on a claim that the product fails to give warning. However, if seller is held liable, whether directly or indirectly, for any loss or damage arising from under this limited warranty or otherwise, regardless of cause or origin, sellers maximum liability shall not exceed the purchase price of the product, which shall be complete and exclusive remedy against seller. No employee or representative of Seller is authorized to change this warranty in any way or grant any other warranty.

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