LUNAR DT

RK - 150 T

Dual-Technology Ceiling Mounted Detector

ROKONET

RISCO GROUP

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ENGLISH

GENERAL DESCRIPTION

The **RK – 150 T** is a microprocessor based dual-technology ceiling mounted detector used for a wide range of applications. The unit features a 110° wide angle Fresnel lens covering a 360° field-of-view detection pattern. It combines infrared and microwave capabilities (eliminates false-alarms) with superior R21 / EMI protection.

The **IR channel** responds to differences between the thermal radiation caused when an intruder crosses the protected area and the ambient thermal radiation.

The **MW channel** transmits signals and analyzes the reflected frequency echo changes due to Doppler effect (caused by the moving intruder).

An **Alarm** is initiated only when both channels detect simultaneously. **thereby greatly reducing the chances of a false alarm and significantly increasing the catch-performance.**

LED DISPLAY

1. **When LEDS Jumper is IN**
   - YELLOW LED indicates PIR detection
   - GREEN LED indicates MW detection
   - RED LED indicates alarm (simultaneous PIR and MW detection)
2. **When MEMORY Jumper is OUT**
   (FOR UNITS Memory only)
   Events on RED LED are latched

INSTALLATION

STEP 1 PRELIMINARY CONSIDERATIONS

The RK – 150 T has been designed to be installed above the center of the protected area. To provide for best area coverage it is arranged into three all-round levels incorporated from 12 detection circuits (3 sectors x 4 levels) as shown in Figure 4.

STEP 2 FRONTAL COVER REMOVAL

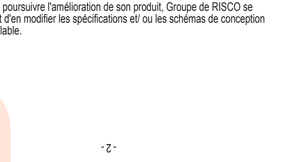
Remove front cover by holding the unit its base on the palm of your hand and turning the cover clockwise as shown in Figure 2.

Figure 2. Removal of Front Cover

STEP 3 MOUNTING

a. Open the knockout mounting and cable holes on the back cover of the unit using a drill or other suitable tool.
b. Insert the cable through the cable hole.
c. Mount the back cover of the unit onto its final position.

Figure 1. **RK - 150 T** . Internal View



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SPECIFICATIONS

ELECTRIQUES :

Technologies de détection :	à double élément PIR + Micro-ondes
Consommation électrique :	25 mA à 12 VDC
Tension d'alimentation :	9-15 VDC régulé
Contact d'alarme :	24 VDC, 50 mA
Autoprotection (anti-sabotage) :	normalement fermé, 24 VDC, 0.5 A
Compte de pulses :	réglable 1, 2 (polarité alternée)
Compensation thermique :	par microprocesseur Thermistor (brevet en instance)
Immunité RF :	30 V/m et jusqu'à 1 GHz
Test de passage à pied :	3 diodes LED

OPTIQUES :

Lentille :	Fresnel sphérique grand angle
Couverture :	angle 110°, vue d'ensemble 360°
Zones de détection :	3 niveaux optiques, 12 secteurs extérieurs, 12 secteurs intermédiaires, 6 secteurs internes

PHYSIQUES :

Poids :	138.6 g (5 Oz)
Dimensions :	Ø 135x27 mm

ENVIRONNEMENTALES :

Température de fonctionnement :	de 0° C à 55 ° C (32° F à 131° F)
Température de stockage :	de -20° C à 60° C (-4° F à 140° F)

Dans le but de poursuivre l'amélioration de son produit, Groupe de RISCO se réserve le droit d'en modifier les spécifications et/ ou les schémas de conception sans avis préalable.

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ETAP 4 CÂBLAGE DES BORNES DE CONNEXION

Effectuez la connexion du bloc des terminaux (bornes de connexion) situé au bas de ka carte PCB en procédant comme suit :

12 VDC: entrée de l'alimentation.
ALARM: sortie normalement fermée.
AUTOPROTECTION (TAMPER) : sortie sèche normalement fermée.

Remarque : pour les appareils à mémoire, utilisez le terminal RESET pour introduire un signal de réinitialisation Faiblement Actif (Active Low) au voyant LED "verrouillé".

ETAP 5 RÉGLAGE DES CAVALIERS

Le **RK–150 T** dispose de 3 cavaliers qui peuvent être soit en position connectée (IN), soit en position inutilisée (OUT).

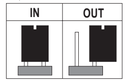

Figure 3. Positions des cavaliers

LED :	IN – active les 3 diodes LED, OUT – désactive toutes les diodes LED.
MEMOIRE :	(réservé aux appareils à mémoire) IN – les événements ne sont pas verrouillés, OUT – les événements en diode ROUGE sont "verrouillés".
PULSE :	IN - pas de compte de pulses OUT – compte des pulses avec polarité alternée (2 pulses).

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LED:	IN	- Enables all 3 LEDs
	OUT	- Disables all LEDs

Figure 3. Jumper Positions

MEMORY:	IN - (For units with Memory only) - Events are not latched OUT - Events on Red LED are latched
PULSE:	IN - No pulse Count OUT - Alternate Polarity Pulse Count (2 pulses)

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The MW Characteristics of RK – 150 T correspond to the optical coverage but they are dependable on reflections from the protected area and should be verified by performing Walk-Test.

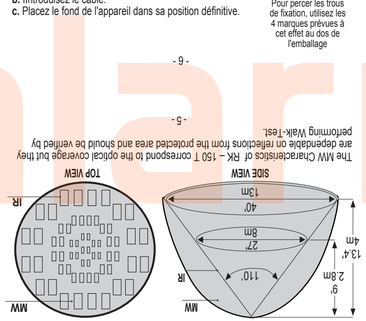


Figure 4. **RK – 150 T - PROTECTION PATTERNS**

* * *

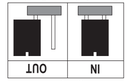
After completing the installation and testing stages, reset the LED and the Pulse Count jumpers to their desired position. If necessary. The unit is now ready for normal use.

STEP 7 FINAL SETUP

Note: For units with memory use the **RESET** Terminal to input an Active Low reset signal to the latched LED.

STEP 5 JUMPER SETTINGS

The **RK – 150 T** has 3 jumpers which can be either IN (inserted) or OUT (unused). Unused jumpers are placed on one leg only as shown below.



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STEP 6 WALK TEST

After a two-minute warm up period turn power on, walk test the detector. Walk test the entire protected area to verify proper operation of the unit.

CAUTION: Make sure to replace front cover before performing Walk Test.

Note: The MW range can be adjusted using the potentiometer located at the side of the PCB. It is important to set the potentiometer to the lowest possible position that will still provide coverage for the entire protected area.

STEP 4 TERMINAL WIRING

Wire the cable to the Terminal Block at the bottom of the PCB as follows:

12 VDC: Power Supply input.
ALARM: Normally Closed output.
TAMPER: Normally Closed qty output.

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SPECIFICATIONS

ELECTRICAL:

Technology:	Dual element PIR - Microwave
Current consumption:	25 mA at 12 VDC
Supply voltage:	9-16 VDC regulated
Alarm contact:	24 VDC, 50 mA
Pulse count:	Selectable 1-2 (alternate polarity)
Temperature compensation:	By Microcontroller (patent pending)
RF immunity:	30V/m up to 1 GHz
Walk test:	3 LEDs

OPTICAL:

Lens:	Wide angle spherical Fresnel
Coverage:	110° angle, 360° overview
Detection Zones:	3 optical levels, 12 external sectors, 12 middle sectors, 6 internal sectors

PHYSICAL:

Weight:	138.6 G (5 OZ)
Size:	Ø135x27 mm

ENVIRONMENTAL:

Operating temperature:	0° C to 55° C (32° F to 131° F)
Storage temperature:	-20° C to 60° C (-4° F to 140° F)

NOTE FOR UL:

1. The tamper switch must be connected to a 24 hour alarm circuit.
2. The detector is intended to be connected to a listed burglar alarm control unit capable of providing 4 hours of standby power.
3. Units containing the memory function have not been investigated by UL and are not UL Listed.

In order to continue improving its product, Risconet reserves the right to change specifications and/or designs without any prior notice.

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No employee or representative of Seller is authorized to change this warranty in any way or grant any other warranty.

WARNING: This product should be tested at least once a week.

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ETAP 1 CONDITIONS PRÉALABLES

Le **RK–150 T** a été conçu pour être placé au-dessus du centre de la zone à protéger. Pour assurer la meilleure couverture possible, sa lentille est organisée en trois niveaux panoramiques comportant 12 secteurs externes, 12 secteurs intermédiaires et 7 secteurs internes comme l'indique le schéma en figure 4.

ETAP 2 RETRAIT DU COUVERCLE

Maintenez l'appareil, la base au creux de votre main, et tournez le couvercle dans le sens des aiguilles d'une **montre pour l'ouvrir** comme l'indique le schéma en fig. 2.

Figure 2. Retrait du couvercle

ETAP 3 ASSEMBLAGE

a. A l'aide d'un foret ou de tout autre outil approprié, ouvrez les pastilles défonçables prévues pour l'assemblage et le trou destiné au passage du câble, situés à l'arrière de l'appareil.
b. Introduisez le câble.
c. Placez le fond de l'appareil dans sa position définitive.

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ETAP 6 TEST DE PASSAGE À PIED

Après une séquence d'échauffement de deux minutes correspondant à la mise sous tension, effectuez un test de passage à pied pour vérifier l'efficacité du détecteur sur la totalité de la zone à protéger.

Attention ! Assurez-vous d'avoir bien réinstallé le couvercle frontal avant d'effectuer le test de passage à pied.

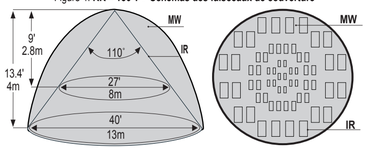
Remarque : le potentiomètre situé sur le côté gauche de la carte PCB permet de régler la portée de détection micro-onde. Il est important de régler le potentiomètre sur le niveau le plus bas possible qui fournisse cependant une couverture suffisante sur la totalité de la zone à protéger.

ETAP 7 PARAMÉTRAGE FINAL

Une fois terminées les diverses étapes de l'installation et des tests, remettez si nécessaire les cavaliers des diodes LED et du compte des pulses dans la position voulue. L'appareil est maintenant prêt à fonctionner en utilisation normale.

* * *

Figure 4. **RK – 150 T - Schémas des faisceaux de couverture**



Les caractéristiques MW du RK–150 T correspondent à la couverture optique, mais elles dépendent des réflexions émises par la zone protégée et doivent être vérifiées lors du test de passage à pied.

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AFFICHAGE LED

1. Lorsque le cavalier des diodes LED est en position connectée (IN) :
* La diode LED JAUNE indique une détection PIR.
* La diode LED VERTE indique une détection micro-onde (MW).
* La diode LED ROUGE indique une alarme (détection simultanée des canaux PIR et MW).

2. Lorsque le cavalier MEMOIRE est en position déconnectée (OUT) :
(option réservée aux appareils à mémoire)
Les événements se produisant sur LED rouge sont "verrouillés".

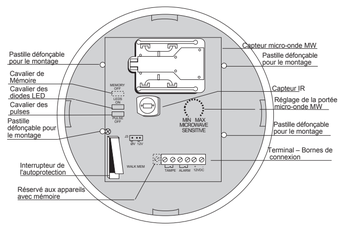

Figure 1. **RK - 150 T** Vue interne

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INSTALLATION

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a. A l'aide d'un foret ou de tout autre outil approprié, ouvrez les pastilles défonçables prévues pour l'assemblage et le trou destiné au passage du câble, situés à l'arrière de l'appareil.
b. Introduisez le câble.
c. Placez le fond de l'appareil dans sa position définitive.

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Effectuez la connexion du bloc des terminaux (bornes de connexion) situé au bas de ka carte PCB en procédant comme suit :

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AUTOPROTECTION (TAMPER) : sortie sèche normalement fermée.

Remarque : pour les appareils à mémoire, utilisez le terminal RESET pour introduire un signal de réinitialisation Faiblement Actif (Active Low) au voyant LED "verrouillé".

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Le **RK–150 T** dispose de 3 cavaliers qui peuvent être soit en position connectée (IN), soit en position inutilisée (OUT).

Figure 3. Positions des cavaliers

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Figure 3. Jumper Positions

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Figure 4. **RK – 150 T - PROTECTION PATTERNS**

* * *

After completing the installation and testing stages, reset the LED and the Pulse Count jumpers to their desired position. If necessary. The unit is now ready for normal use.

STEP 7 FINAL SETUP

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STEP 6 WALK TEST

After a two-minute warm up period turn power on, walk test the detector. Walk test the entire protected area to verify proper operation of the unit.

CAUTION: Make sure to replace front cover before performing Walk Test.

Note: The MW range can be adjusted using the potentiometer located at the side of the PCB. It is important to set the potentiometer to the lowest possible position that will still provide coverage for the entire protected area.

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SPECIFICATIONS

ELECTRICAL:

Technology:	Dual element PIR - Microwave
Current consumption:	25 mA at 12 VDC
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RF immunity:	30V/m up to 1 GHz
Walk test:	3 LEDs

OPTICAL:

Lens:	Wide angle spherical Fresnel
Coverage:	110° angle, 360° overview
Detection Zones:	3 optical levels, 12 external sectors, 12 middle sectors, 6 internal sectors

PHYSICAL:

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Except as specifically provided in this warranty, all prior, current or collateral warranties and representations are disclaimed and Seller does not assume any liability for damages, whether direct, indirect, consequential or incidental, which may arise from the use of or inability to use the product. Without limiting the generality of the foregoing, Seller disclaims any warranty or liability relating to: (i) the suitability of the product for any customer's particular application; (ii) the adequacy of the product for any customer's intended purpose; (iii) the likelihood that the product will prevent any personal injury, property damage or other loss; and (iv) the likelihood that the product will operate without false alarms. Seller shall not be liable for damages caused by the product's failure to warn of an intrusion or other event. In addition, Seller shall not be liable for damages based on any theory of tort, including but not limited to negligence and strict liability, or for any special, indirect, incidental or consequential damages, whether Seller was aware of the possibility of such damages, and in no event shall Seller's liability exceed the purchase price of the product. In case Seller shall be held liable, directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, Seller's maximum liability shall not in any case exceed the purchase price of the product, which shall be the complete and exclusive remedy against Seller.

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ETAP 1 CONDITIONS PRÉALABLES

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ETAP 2 RETRAIT DU COUVERCLE

Maintenez l'appareil, la base au creux de votre main, et tournez le couvercle dans le sens des aiguilles d'une **montre pour l'ouvrir** comme l'indique le schéma en fig. 2.

Figure 2. Retrait du couvercle

ETAP 3 ASSEMBLAGE

a. A l'aide d'un foret ou de tout autre outil approprié, ouvrez les pastilles défonçables prévues pour l'assemblage et le trou destiné au passage du câble, situés à l'arrière de l'appareil.
b. Introduisez le câble.
c. Placez le fond de l'appareil dans sa position définitive.

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ETAP 6 TEST DE PASSAGE À PIED

Après une séquence d'échauffement de deux minutes correspondant à la mise sous tension, effectuez un test de passage à pied pour vérifier l'efficacité du détecteur sur la totalité de la zone à protéger.

Attention ! Assurez-vous d'avoir bien réinstallé le couvercle frontal avant d'effectuer le test de passage à pied.

Remarque : le potentiomètre situé sur le côté gauche de la carte PCB permet de régler la portée de détection micro-onde. Il est important de régler le potentiomètre sur le niveau le plus bas possible qui fournisse cependant une couverture suffisante sur la totalité de la zone à protéger.

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Une fois terminées les diverses étapes de l'installation et des tests, remettez si nécessaire les cavaliers des diodes LED et du compte des pulses dans la position voulue. L'appareil est maintenant prêt à fonctionner en utilisation normale.

* * *

Figure 4. **RK – 150 T - Schémas des faisceaux de couverture**

Les caractéristiques MW du RK–150 T correspondent à la couverture optique, mais elles dépendent des réflexions émises par la zone protégée et doivent être vérifiées lors du test de passage à pied.

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AFFICHAGE LED

1. Lorsque le cavalier des diodes LED est en position connectée (IN) :
* La diode LED JAUNE indique une détection PIR.
* La diode LED VERTE indique une détection micro-onde (MW).
* La diode LED ROUGE indique une alarme (détection simultanée des canaux PIR et MW).

2. Lorsque le cavalier MEMOIRE est en position déconnectée (OUT) :
(option réservée aux appareils à mémoire)
Les événements se produisant sur LED rouge sont "verrouillés".

Figure 1. **RK - 150 T** Vue interne

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alarm shop