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 RFI / 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 the 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.**

RK – 150 T FEATURES

* Dual IR and MW Technologies.
* Microprocessor controlled.
* Automatic True Temperature Compensation
  - Proprietary algorithm – Patent pending.
* Microwave Range Adjustment.
* Superior Rejection of Fluorescent-Interface.
* Alternate Polarity Pulse Count
* High RFI Immunity of 30v/m up to 1 GHz
* Memory (optional)

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

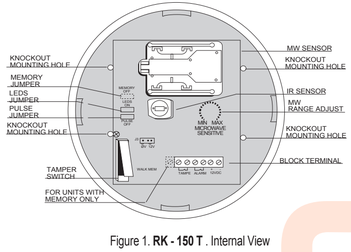


Figure 1. **RK - 150 T** . Internal View

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 its lens is arranged into three all-round levels incorporating 12 external sectors. 12 middle sectors and 7 internal sectors as shown in Figure 4.

STEP 2 FRONTAL COVER REMOVAL

Remove front cover by holding the unit its base in 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.

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 dry output.

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.

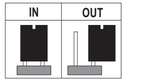


Figure 3. Jumper Positions

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

MEMORY: (For units with Memory only)
IN - Events are not latched
OUT - Events on Red LED are latched

PULSE: IN - No pulse Count
OUT - Alternate Polarity Pulse Count (2 pulses)

STEP 6 WALK TEST

After a two-minute warm up period from power up, 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.

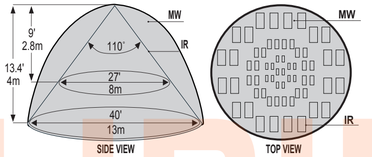
Note: The MW range can be adjusted using the potentiometer located at the left side of the PCB. It is important to set the potentiometer to the lowest possible position that will still provide coverage for the entire protected area.

STEP 7 FINAL SETUP

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.

* * *

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



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.

SPECIFICATIONS

ELECTRICAL:

Detection technology:	Dual element PIR - Microwave
Current consumption:	25 mA at 12 VDC
Supply voltage:	9-16 VDC regulated
Alarm contact:	24 VDC, 50 mA
Anti-tamper:	Normally closed, 24 VDC,0.5 A
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

ENVIROMMENTAL:

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, Rokonet reserves the right to change specifications and/or designs without any prior notice.

FRANÇAIS

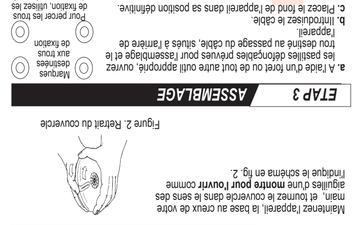
DESCRIPTION GENERALE

Le **RK–150 T** est un détecteur plafond à double technologie et microprocesseur, utilisé sur un large éventail d'applications. Equipé d'une lentille grand angle Fresnel 110° qui couvre un champ de vision de 360°, cet appareil associe les capacités technologiques du **RK–150 T** à une immunité RFI / EMI supérieure. Il combine infrarouge et hyperfréquence afin de détecter le mouvement de l'intrus.

Une **Alarme** n'est initiée que lorsque les deux technologies se détectent simultanément, réduisant ainsi considérablement le risques de fausses alarmes et renforçant largement les performances de capture.

Caractéristiques du RK–150 T

* Double technologie MW & PIR.
* Contrôle par microprocesseur.
* Compensation automatique de la température réelle.
  - Algorithme déposé – Brevet en instance.
* Réglage de la portée de détection MW (micro-onde).
* Haut niveau de traitement anti-oscillement.
* Compte de pulses avec polarité alternée.
* Haute immunité RFI de 30 V/m à 1 GHz.
* Mémoire en option (optional) * Memory (optional)


Capteur micro-onde MW
Capteur PIR
Capteur des diodes LED
Capteur des diodes LED
Réglage de la portée de détection micro-onde MW
Réglage de la portée de détection PIR
Bornier de connexion
Bornier de connexion
Bornier de connexion