

# TECHNICAL MANUAL



## **TRIALRF - TRIALRFH TRIALRFV**

Outdoor double technology  
detectors equipped with under-  
crawl protection

0900C0875





## FOREWORD

### FOR INSTALLERS

Please follow carefully the specifications about electric and security systems realization further to the manufacturer's prescriptions indicated in the manual provided.

Provide the user the necessary indication for use and system's limitations, specifying that there exist precise specifications and different safety performance levels that should be proportioned to the user needs. Have the user read carefully the instructions provided in this document.

### FOR USERS

Carefully check the system functionality at regular intervals making sure all enabling and disabling operations were made correctly.

Have skilled personnel make the periodic system's maintenance. Contact the installer to verify correct system operation in case its conditions have changed (e.g.: variations in the areas to protect due to extension, change of the access modes, etc.)

This device has been designed, assembled and tested with the maximum care, adopting control procedures in accordance with the laws in force. The full correspondence to the functional characteristics is given exclusively when it is used for the purpose it was projected for, which is as follows:

#### Outdoor double technology wireless detectors equipped with under-crawl protection

Any use other than the one mentioned above has not been forecasted and therefore it is not possible to guarantee the correct functioning of the device. Similarly, any other use of this technical manual other than the one it has been compiled for - that is: to illustrate the devices technical features and operating mode - is expressly prohibited.

The manufacturing process is carefully controlled in order to prevent defaults and bad functioning. Nevertheless, an extremely low percentage of the components used is subjected to faults just as any other electronic or mechanic product.

As this item is meant to protect both property and people, we invite the user to proportion the level of protection that the system offers to the actual risk (also taking into account the possibility that the system was operated in a degraded manner because of faults and the like), as well reminding that there are precise laws for the design and assemblage of the systems destineted to these kind of applications.

The system's operator is hereby advised to see regularly to the periodic maintenance of the system, at least in accordance with the provisions of current legislation, as well as to carry out checks on the correct running of said system on as regular a basis as the risk involved requires, with particular reference to the control unit, sensors, sounders, dialler(s) and any other device connected. The user must let the installer know how well the system seems to be operating, based on the results of periodic checks, without delay.

Design, installation and servicing of systems which include this product, should be made by skilled staff with the necessary knowledge to operate in safe conditions in order to prevent accidents. These systems' installation must be made in accordance with the laws in force. Some equipment's inner parts are connected to electric main and therefore electrocution may occur if servicing was made before switching off the main and emergency power. Some products incorporate rechargeable or non rechargeable batteries as emergency power supply. Their wrong connection may damage the product, properties and the operator's safety (burst and fire).

## DISPOSAL INSTRUCTIONS - USER INFORMATIONS



According to Directive 2012/19/EU on the Waste of Electric and Electronic Equipment (WEEE), it is here specified that this Electrical-Electromechanic Device started to be commercialized after 13<sup>th</sup> August 2005, and it shall be disposed of separately from ordinary waste products.

IT08020000001624



## 1. GENERALS

TRIALRF, TRIALRFH and TRIALRFV are double technology high performance wireless detectors, able to perform accurate analysis of the received signal, through sophisticated algorithms and an advanced microprocessor. The detector is designed also for outdoor and indoor installation.

**A key point is the use of 2 digital PIR sensors to obtain very high detection precision and great noise immunity, by using a particular silicon filter for protection against glares due to white light.**

The alarm status with AND management, tampering and supervision activate a transmission, the low battery status is automatically appended to the first useful transmission.

The wireless signal is encoded and transmitted only to **Villeggio, HELIOS control units or other compatible devices**; the encoding used by the wireless section is selectable in order to be compatible with the protocol used by the Helios system or by the Villeggio system with fw. 5.x or higher.

**Note:** for Villeggio series control units equipped with firmware version lower than 5.0.0, select the HELIOS protocol. The Villeggio protocol is supported only by Villeggio series control units with 5.0.0 firmware or higher and other compatible devices.

The power is supplied by 7.2V 2.4Ah Lithium-Thionyl Chloride battery (supplied as standard equipment), ensuring several years of battery life. The operating range is 150 m in open field. For remote device identification, a digital code is transmitted over a frequency for low power applications (LPD). The detector is provided with an identification code programmed by factory default setting, to further speed up the installation operations; the stored code is chosen randomly from a base greater than 2 billion combinations ( $2^{31}$ ). A model operating at a different frequency is available for side-by-side mounting. The particular shape of the TRIALRF housing simplifies the installation also with 6° angled bracket (supplied); a protective sunshield is supplied for outdoor installation. The tilt adjustment is made easier by adding a joint (also a 90° swivel joint is available). The joint group can be ordered with the **SNDTRIAL** code.

**The detector of the TRIAL series is not equipped with interchangeable lens (if a detector with horizontal protection lens is required, it must be ordered by specifying the TRIALRFH mode; if a detector with vertical protection lens is required, it must be ordered by specifying the TRIALRFV model). In this manual we will refer to the TRIALRF version, adding further indication about the other models when required.**

It is recommended to follow the basic rules of IR and dual technology detectors installation described in this manual.

## 2. FEATURES

### 2.1 General features

- Sturdy plastic housing for indoor/outdoor installation. Its design is simple and elegant.
- IR section with two digital PIR sensors with high sensitivity and with silicon filter for white light protection.
- IR lens with coverage diagram that changes according to the detector model.
- Lower lens with under-crawl device.
- Lens ultrasonically welded and non-replaceable.
- MW section with 10.525 GHz (or 9.9 GHz) low noise planar antenna certified RTTE/99-05 with pulsed circuitry for neon light.
- Sophisticated circuitry for management of the MW section, with activation and processing of the detection signal of the IR section motion.
- Advanced AND management (the function is activated using the appropriate dip switch).
- Sophisticated circuitry for alarm generation, with coded wireless transmission.
- A transmission circuit equipped with special amplifiers for a greater operating range.
- Functional status display through LEDs that can be excluded via dip switches.
- Walk-test automatic operation when turned on for testing and operation check.
- Selection of the detector sensitivity, that can be set via dip-switches to Minimum and Maximum to improve operation.
- Detection range up to 15 meters, with 2 dip switches for range selection.
- Special signal processing to eliminate false alarms.
- Inhibition timer selectable via dip switches: 5 minutes between an alarm and the next, for battery protection in case of continuous motion in the protected area (for special operations, it can be set to 30s at the expense of autonomy).



- WALK-TEST timer for a quicker detector operation test. The pause time between an alarm and the next is 10s. The test must be performed within a time of 10 minutes**
- Timer for supervision transmission towards the receiving device, with fixed time step of 26 minutes.**
- 150 m connection range in open field (except for environmental constraints).**
- Sophisticated control of the charge status of the internal battery, the possible failure is appended to the first useful transmission.**
- Identification code programmed by factory default setting to further speed the installation operations.**

- The stored code is chosen randomly from a base greater than 2 billion combinations ( $2^{31}$ )**
- The detector is equipped with a protective sunshield for outdoor installation and a 6° angled bracket for installations at 2.1 m height.**
- SNDTRIAL optional accessory is available to compose a jointed mounting on the wall or at 90° in relation to the protection area to obtain.**
- TRIALRF model is equipped with volumetric lens, TRIALRFH is equipped with lens realizing a horizontal curtain protection, the TRIALRFV is equipped with vertical curtain protection lens.**

The TRIALRF detector complies with the EN50131-2-4:2008 for the grade 2, the detector is designed for the environmental class III. The manufacturer, EL.MO. S.p.A., declares that the TRIALRF, TRIALRFH and TRIALRFV radio devices comply with the 99/05 R&TTE directive.

You can log into the [elmospa.com](http://elmospa.com) website to read the full Declaration of Performance: registration is quick and easy.

## 2.2 Electrical features

<b>Model:</b>	TRIALRF, TRIALRFH, TRIALRFV	<b>Tamper:</b>	protection against housing opening and removal
<b>Protection class:</b>	IP55	<b>Coding:</b>	transmission code stored on factory. Valid code chosen among 2 billion combinations
<b>Performance level:</b>	II° with or without swivel.	<b>TX for supervision:</b>	cadence 26min between two transmissions not editable supervision
<b>EN 50131 compliance:</b>	grade 1, environmental class III.	<b>TX frequency:</b>	digital transmission on frequencies for LPD devices.
<b>Power supply:</b>	7.2V 2.4Ah Lithium battery(2ER14505).	<b>Connection range:</b>	150 m in open field.
<b>Operating minimum voltage:</b>	4V	<b>Note:</b>	<b>range restrictions due to environments conditions</b>
<b>Low battery voltage</b>	5V (restore 5.5V).	<b>Autonomy:</b>	about 2 years with inhibition at 5min, about 1 year with inhibition at 30s, see note.
<b>Power consumption @ 7,2V:</b> 40 $\mu$ A idle status, 15,5 mA in TX peak.		<b>Note: with ON LEDs the autonomy decreases of 15%.</b> <b>in order to safeguard the autonomy, it is not recommended to leave the inhibition time at 30s when the sensor is installed in sites with motion of people, vehicles, etc.</b>	
<b>Front LED indicators:</b> MW section, alarm/tamper and other indications, IR section.			
<b>LEDs exclusion:</b>	with dipswitch, No. 1 ON.	<b>Dip switch selections for:</b>	V or H protocol, sensitivity, range, inhibition, LEDs status.
<b>Sensitivity:</b>	Settable for 2 IR pulses + 3 MW pulses or 3 IR pulses + 5 MW pulses.	<b>Operating temperature:</b>	-10 / +55 °C. guaranteed by the manufacturer
<b>Solo per TRIALRFV:</b>	Settable between 1 IR pulse + 3 MW pulses or 2 IR pulses + 5 MW pulses.	<b>Humidity:</b>	93% Ur.
<b>Timings:</b>	45 s stabilization at power on. 10min of automatic WALK TEST after the first power on 10s for IR integration.  5s of IR pre-alarm coinciding with alarm pending from MW section with maximum sensitivity (dip 3 OFF). 10s with minimum sensitivity (dip 3 On).  30s or 5min of sensor inhibition after an alarm in operation. Adjustment with dip 5, from 5min to 30s.  26min for supervision	<b>Dimensions, weight:</b>	H 167 - W 95 - D 75 mm only detector, 270 g without joint accessory
<b>Integration time:</b>	IR 10s, MW section is active for 5s or 10s from IR pre-alarm in according to the setting sensitivity.	<b>Options:</b>	<b>SNDTRIAL joint (can be tilted also at 90°).</b>
		<b>Parts supplied:</b>	screws, dowels, rapstrap cable tie for lithium battery fastening, 2ER14505 7.2V 2.4 Ah lithium battery, plate inclined at 6° and sunshield, technical manual.

### MW SECTION

<b>Filter against noise:</b>	digital for neon lights.
<b>Integration:</b>	fixed for 2 pulses.
<b>TX frequency:</b>	10,525 GHz.
<b>Emitted power:</b>	13 dBm E.I.R.P.
<b>Spurious issued:</b>	<-30 dBm.
<b>Sensitivity:</b>	see sensitivity sections above specified
<b>Range :</b>	15m, 2 dip switches for range selection (100%, 75%, 50%, 25%).

### IR SECTION

<b>Lens type:</b>	see diagrams of the individual products.
<b>No. sensitive zones:</b>	see diagrams of the individual products
<b>Coverage area:</b>	see diagrams of the individual products
<b>Range:</b>	see diagrams of the individual products
<b>PIR sensor:</b>	digital, highly immunity against RF noise, with silicon filter.



### 3. 3. VIEW OF THE DETECTOR

Exploded view of the detector with all the accessories.



**Note:** the joints are supplied with the **SNDTRIAL** product, they are to be mounted according to the needs and they are equipped with rubber washers with special clutch function. For the assembly see the specific data sheet.

**Note:** if you wish to realize a horizontal curtain protection, it is not possible to replace the lens, but you must purchase the complete **TRIALRFH** product. The product must be strictly fixed at the height required by the protection to be realized, and it requires the use of the 6°-tilted bracket (also when mounted at heights between 1 and 1.5 m). See also "Example of protection sunshield fixings optional SNDTRIAL joint" on page 10.

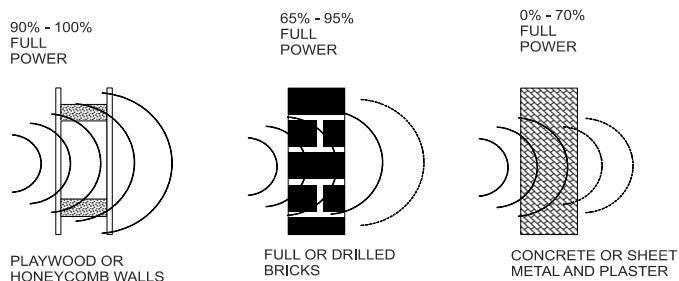
**Note:** in order to realize a vertical curtain protection, it is not possible to replace the lens but you must purchase the complete **TRIALRFV** product. The fixing must be strictly to the required height of the protection to be realized, see application with joint.



## 4. INSTALLATION

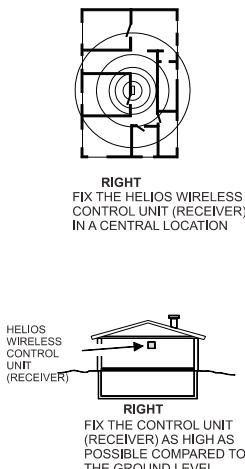
### 4.1 General installation recommendations

- During the installation and during handling of the board, do not touch the PIR sensors with your fingers.
- In case you need to point the detector towards windows or plastic curtains, make sure the MW range does not cross them (if necessary, adjust the MW range to the minimum)
- When installing two detectors next to each other, the second one has to be a model operating at a different frequency:  
TRIALRF **RWRDTMP004#00** (standard) and TRIALRF **RWRDTMP010#00** (different frequency).  
TRIALRFH **RWRDTMP005#00** (standard) and TRIALRFH **RWRDTMP011#00** (different frequency).  
TRIALRFV **RWRDTMP006#00** (standard) and TRIALRFV **RWRDTMP012#00** (different frequency).
- Do not mount the sensor close to or with direct pointing. It is necessary to separate them by at least 5 m.
- Do not install near any metal oscillating shutters, vibrating metal walls (e.g. refrigeration units).
- Carefully consider the attenuation of the wireless signal in some typical construction materials.

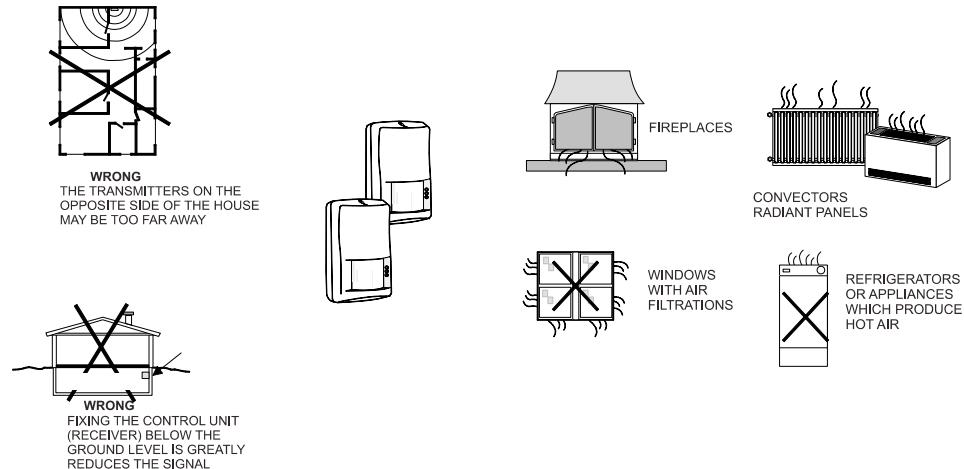


- For indoor installations, observe the images below showing some allowed and not allowed cases:

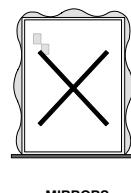
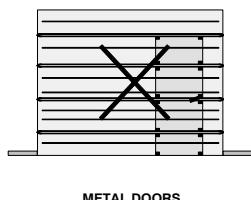
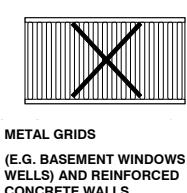
Installation situations.



Operational situations of noise for the IR section of the detector



Some objects that can modify and/or reduce the range, e.g. with Helios and Villeggio systems.

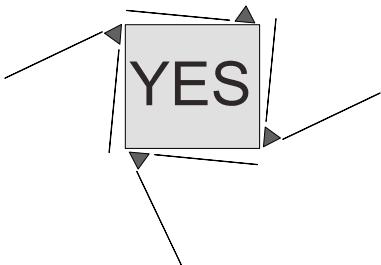




- For outdoor installations observe the following images showing the allowed and not allowed cases.

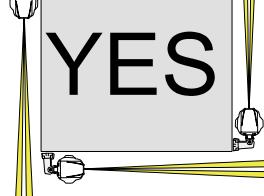
Perimeter with not overlapping coverage.

TRIALRF and TRIALRFH.

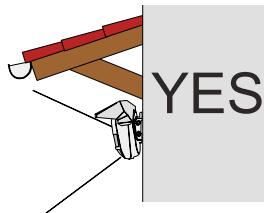


Only TRIALRFV  
The example shows also the SNDTRIAL joint

Outdoor, protected by a porch or a balcony (recommended).



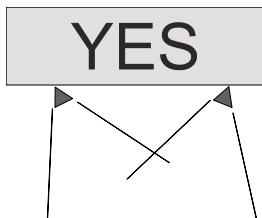
TRIALRF and TRIALRFH.



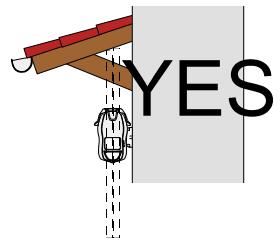
YES

Side with covers slightly overlapping.

TRIALRF and TRIALRFH.



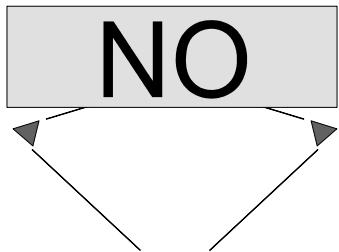
Only TRIALRFV  
The example shows also the SNDTRIAL joint



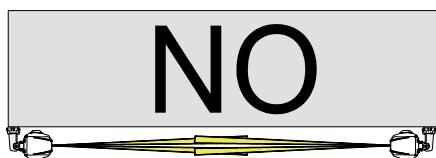
YES

Side with completely overlapped coverages

TRIALRF and TRIALRFH.



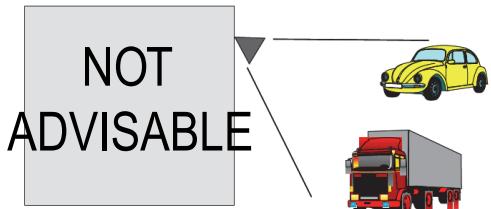
Only TRIALRFV  
The example shows also the SNDTRIAL joint



NO

Pointing toward the outside areas affected by the passage of cars or trucks also with car-truck distances >> 15m.

TRIALRF and TRIALRFH.



NOT  
ADVISABLE



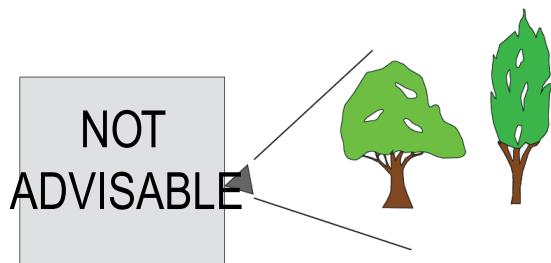
Only TRIALRFV  
The example shows also the SNDTRIAL joint



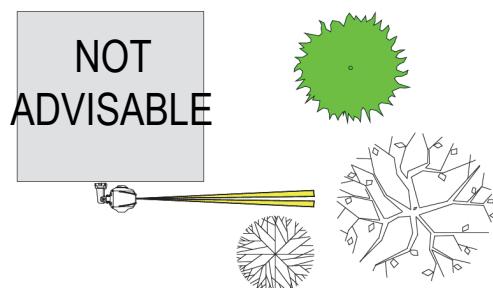


Outward pointing toward trees or shrubs, the minimum distance must be > 15m

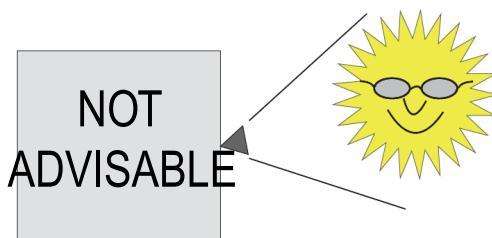
TRIALRF and TRIALRFH.



Only TRIALRFV  
The example shows also the  
SNDTRIAL joint

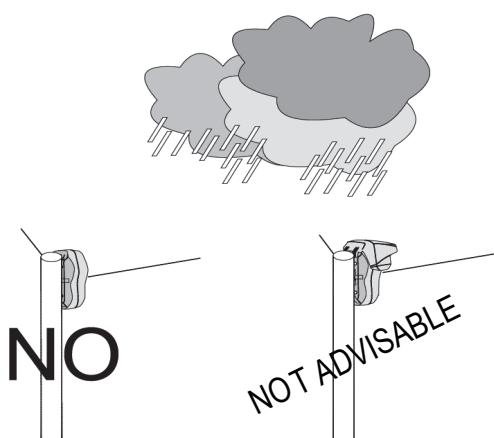


Direct pointing towards the sun for TRIALRF, TRIALRFH and TRIALRFV.



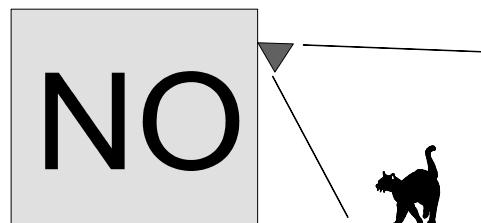
Outdoor installation without or with protection.

**Important note: the installation is not advisable because bad weather (such as heavy rain, hail, etc.) can cause false alarms.**

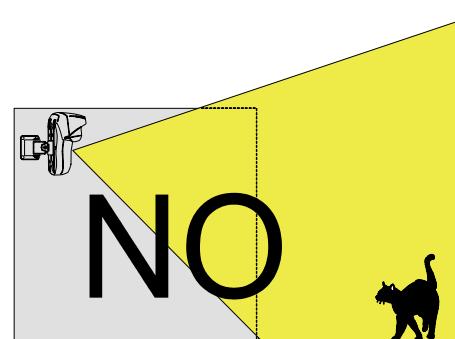


Installation with standard lens with animals presence. It is required to use the TRIALRFH product when installation height is greater than 1 m.

TRIALRF and TRIALRFH.



Only TRIALRFV  
The example shows also the SNDTRIAL joint





## 4.2 Opening and reclosing operations of the housing



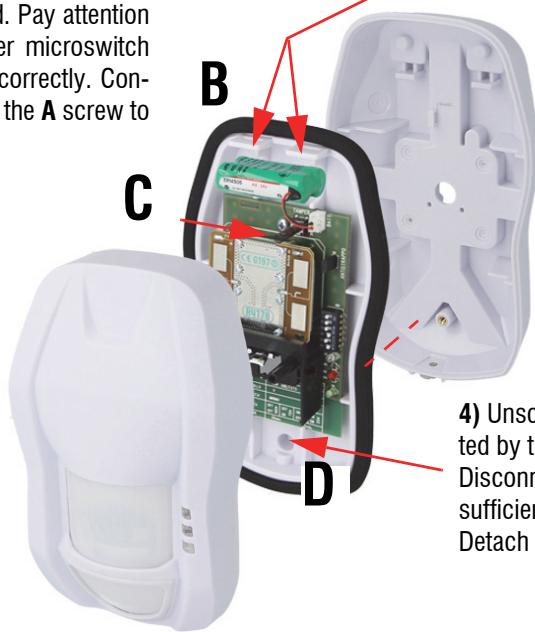
The installer must operate in the total absence of electrostatic charges already at the housing opening, the electronic board of the detector can be damaged by electrostatic discharge.

The precautions should be observed both during the installation phase and during maintenance.

- 1) Unscrew the fixing screw of the cover on the housing bottom, indicated by the **A** arrow.



- 3) The reclosing operation of the cover requires the inverse operations previously exposed. Pay attention that the closing spring of the Tamper microswitch protection indicated with **C** is seated correctly. Conclude the fixing operation by screwing the **A** screw to the base of the cover.



- 2) Detach the front cover: turn it from below, pivoting on the top of the detector, then unhook the clips indicated by the **B** arrow in the image below.

- 4) Unscrew the inner base fixing screw indicated by the **D** arrow. Disconnect the internal base applying a force sufficient to contrast the perimetral seal. Detach the fixing base.

**ATTENTION:** the lack of care in reclosing the housing, with the consequent failure of the Tamper circuit, involves the generation of a tamper alarm at each supervision transmission. The tamper code is appended also to any other detector transmission: it is therefore possible, for example, that an alarm is triggered during the day not due to the motion registered by the detector (ignored when control unit is disarmed) but due to the tamper signal appended to the intrusion transmission just made.



#### 4.3 6° tilt base

The use of the 6° tilted plate is required for the detector mounting at a 2.1 m height for both wall and corner application, and also for TRIALRFH (horizontal curtain) mounting at height between 1 and 1.5 m. First, fix the plate to the wall or corner, then fix the base to the plate using the four screws provided.

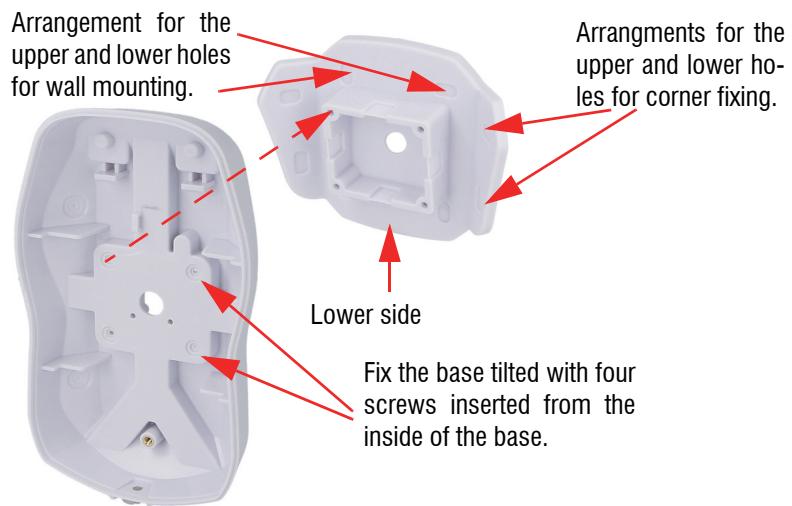
##### ATTENTION

By mounting the bracket to 6° reversed than the image, you will get an incorrect installation with protection of the detector moved upwards



YES

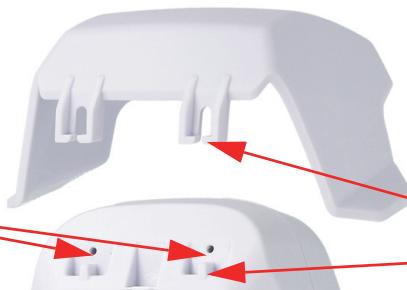
NO



#### 4.4 Sunshield installation

Example of protection sunshield fixing optional SNDTRIAL joint

Holes to insert the screws for sunshield fastening, in order to further strengthen the fixing.  
Inox screws provided.



**Note:** using the indicated tracks, the sunshield can also be hooked after the detector has been fixed to the plate. The tracks allow to achieve a good degree of steadiness even without the rear screws.

Track to facilitate the sunshield attachment

#### 4.5 Optional SNDTRIAL joint

The details of the **SNDTRIAL** joint are supplied with a data sheet of the various installation modes for all possible combinations.

#### 4.6 Installation types

Summary of the installation types of the joint according to the fixing heights and the type of used detector.

Installations options:

- A. TRIALRF and TRIALRFV direct fixing at 1 m (without joint and without 6° bracket)
- B. TRIALRFH fixing at 1 - 1.5 m height with 6° bracket (without joint).
- C. TRIALRF corner fixing at 1 m (without joint and without 6° bracket).
- D. TRIALRFH corner fixing at 1 - 1.5 m height with 6° bracket (without joint).
- E. TRIALRF and TRIALRFV direct fixing at 2.1 m with 6° bracket (without joint).
- F. TRIALRF corner fixing at 2.1 m with 6° bracket (without joint).

Installation options with **SNDTRIAL** optional joint:

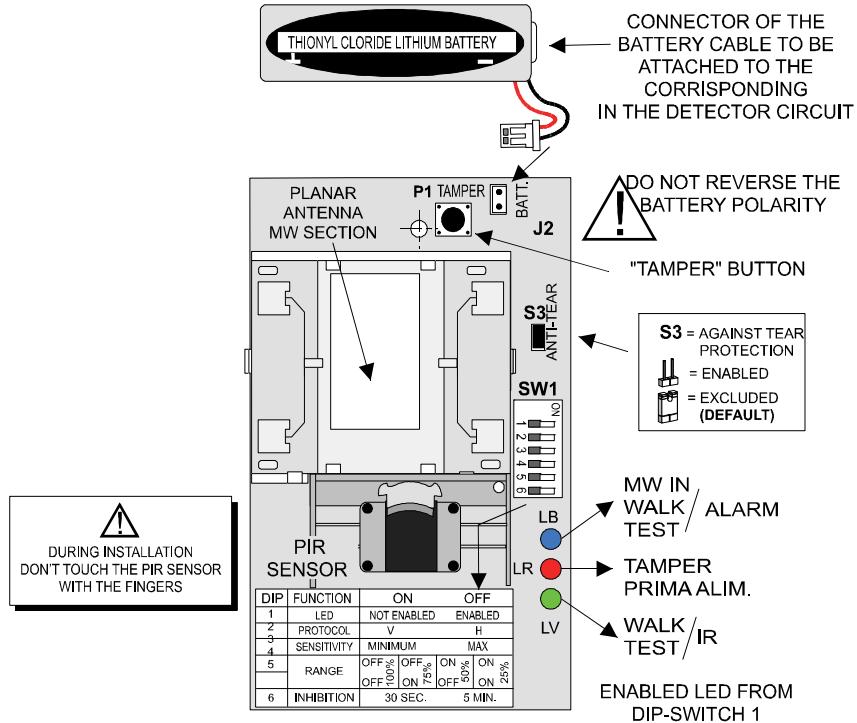
- A. Joint fixing at any height only for TRIALRF with rotation up to +\/-45 ° and pan/tilt up to +\/- 45 ° (the joint is required height from 2.1 m and up to 3 m max).
- B. 90° joint fixing for TRIALRF or TRIALRFV (vertical curtain lens) at any height up to 3 m, 90° rotation (right or left depending on bracket mounting) and pan/tilt up to +\/-45°.



## 5. CONNECTIONS AND SELECTIONS

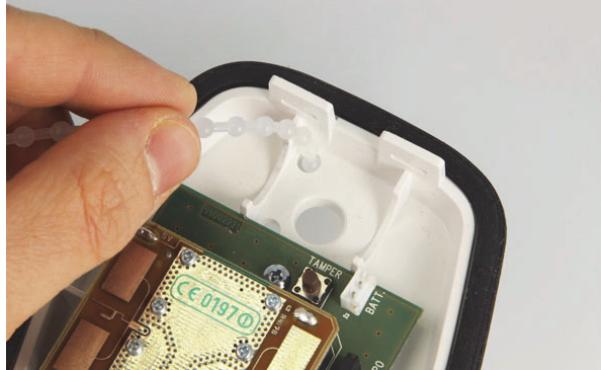
View of the detector electronic board.

7,2V - 2,4Ah BATTERY 2 TYPE ER 14505  
OR EQUIVALENT



Battery fixing with rapstrap cable tie: operations sequence.

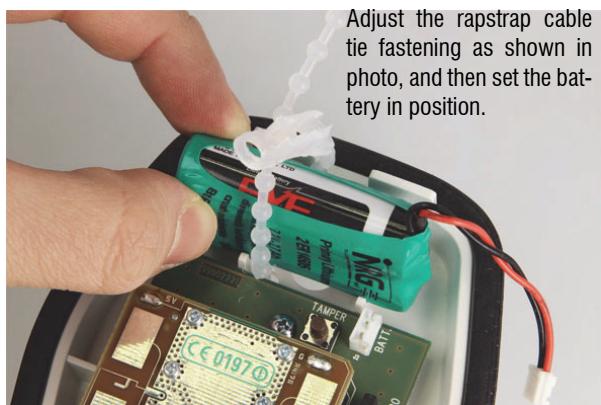
Insert the rapstrap cable tie into the upper hole.



Turn the housing base upside down, then insert the rapstrap cable tie into the lower hole.



Adjust the rapstrap cable tie fastening as shown in photo, and then set the battery in position.



Clamp the rapstrap cable tie, making sure the battery is firmly stable. Arrange the residual portion of the cable tie **only** in the position indicated by the arrow.



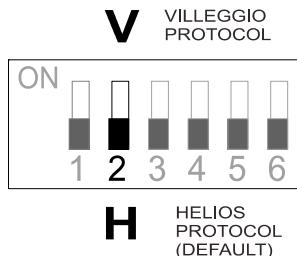


## 6. SETUP PROCEDURE

### 6.1 Setting of the communication protocol

The transmitter mod. TRIALRF is an accessory for wireless systems having HELIOS or Villeggio control units (or other expressly compatible models) as processing units. In order to successfully send generated event codes, it is necessary to correctly set the communication protocol.

For this purpose, use dip switch 2 of the internal selector:



**Note:** use Villeggio control units equipped with firmware version 5.0.0 or higher and other compatible device

**Note:** use also the Villeggio control units equipped with firmware version lower than 5.0.0.

**ATTENTION:** setting a wrong position for the selector will impede correct transmission with the compatible control unit.

**Note:** the use of the Villeggio protocol (only with compatible devices) improves communication reliability and battery life.

## 7. FIRST POWERING PROCEDURE

The TRIALRF transmitter requires special care in the first powering phase. The procedure can be summarized in the following points:

1. Insert the supplied 7.2V battery observing the polarity as shown in the previous chapter.
2. Press and release 3-4 times the Tamper button.
3. Clear any low battery memory in the control unit or in compatible receiving device.

**WARNING:** if the battery is new or has been unused for a long period, an erroneous low battery signalling may occur upon the first activations.

This is due to the chemical characteristics of **Lithium Thionyl Chloride** batteries and it can be fixed by performing the above operations.

In case the battery is exposed to low temperatures, it is advisable to keep the battery at room temperature before inserting it.

## 8. DETECTOR CODE LEARNING

- Open the plastic housing of the detector and check for proper powering.
- Enter the programming menu of the compatible control unit, accessing the wireless device acquisition menu.
- Cause a transmission by pressing and releasing, for example, the tamper button. Once the detector code has been stored, it will be possible to set the parameters for that device.
- Install the detector in allowed locations, refer to the images in the "INSTALLATION" section, check proper operation by performing test transmissions, possibly using also the WALK-TEST function.
- Close the detector housing, making sure the tamper button is perfectly pushed.



## 9. OPERATION

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TRIALRF detector, powered by battery, features a special operation as follows:

When the stabilization time ends (red LED steadily ON for 35s), the device will automatically switch to WALK-TEST mode allowing the LED indications for 10min.

It is normally in standby mode, waiting for alarms from the IR section while keeping the MW section OFF (all LEDs OFF). Once the set number of pulses have been counted (number of green LED flashes), the IR section enters pre-alarm condition (green LED steadily ON) for 5 s or 10 s, and at the same time the MW is turned on. If within these 5 s or 10 s the set number of MW pulses (3 for max sensitivity = 3 blue LED flashing) are counted, an alarm is generated and transmitted (green LED + blue LED ON for 1.5 s).

On the contrary, if within these 5 s or 10 s no MW alarms occur, the device returns to standby mode and it will be ready to receive IR alarms 2 s after the green LED turning off.

In WALK-TEST mode, after an alarm transmission, 10 seconds have to pass before the device is ready for a new alarm sequence (during this inhibition, all the LEDs are off).

After 10 min from accessing WALK TEST mode, the sensor switches to OPERATION mode: it will indicate only the general alarm (IR+MW) through the blue LED flashing, and from time to time it will remain inhibited for the set time interval (default=max=5 min) after the last alarm transmission (all the LEDs are off during inhibition).

**Note:** in case of indoor installation **or in case TRIALRFV is used** to protect corridors, carefully consider its operation and set the sensitivity to maximum, dip switch 3 to OFF.

## 10. LED INDICATIONS

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The LED indicators of the TRIALRF detector display the following operating status:

**Green LED** = in WALK-TEST, it turns on impulsively each time the PIR sensor detects any movement. During operation, the green LED never lights up.

The sensitive area in which detection occurs changes according to the used lens type. For accurate coverage test, see the description of the WALK-TEST operation.

**Red led** = it turns on impulsively for transmission in progress as a result of tampering events. It turns on with steady light during the stabilization time at first powering, 35 s.

**Blue led** = during operation, it turns on impulsively after a RF transmission, in WALK-TEST mode it turns on impulsively upon each MW section detection.

**WALK-TEST** = this procedure is useful for the accurate verification of the coverage area of the detector; the green LED and the blue LED will light up impulsively to display the alarm transmission during the detector test.

Impulsive switching on of only red LED for tampering status transmission during WALK-TEST.

In WALK-TEST mode, after an alarm sending, at least 10 seconds have to pass before a new alarm sequence (during this inhibition time, all the LEDs are OFF).

The device automatically leaves WALK-TEST procedure after 10 minutes.

**Note:** to return in WALK-TEST mode, it is necessary to switch off the detector, wait 30 seconds and switch it on again. Be very careful when removing the battery connector.



## 11. BATTERY REPLACEMENT AND DISPOSAL

In TRIALRF detector a 7.2V 2.4Ah 2ER14505 lithium battery is used: it must be replaced only with one of the same model. The following rules are to be strictly observed for correct insertion:

- A. Remove the discharged battery.
- B. Press and release the Tamper button 3-4 times to discharge any capacitors still charged.
- C. Insert the new battery.
- D. Press and release the Tamper button 3-4 times.
- E. Reset any low battery memories in control unit or in the compatible receiving device.

Low battery disposal must be performed in full compliance with current city regulations and in the appropriate containers. The detector disposal should be performed according to the regulations in the country where the system was carried out. The material used for this product is very harmful and polluting if dispersed in the environment.

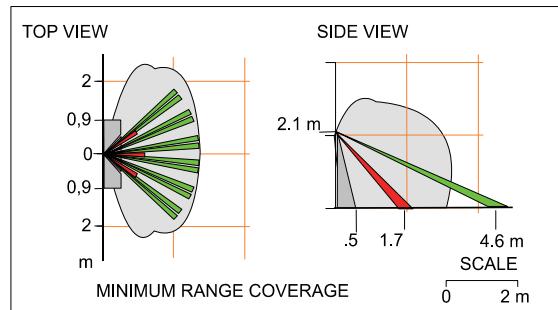
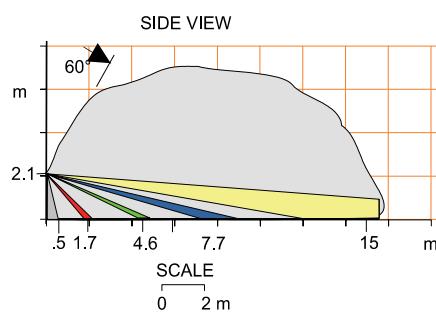
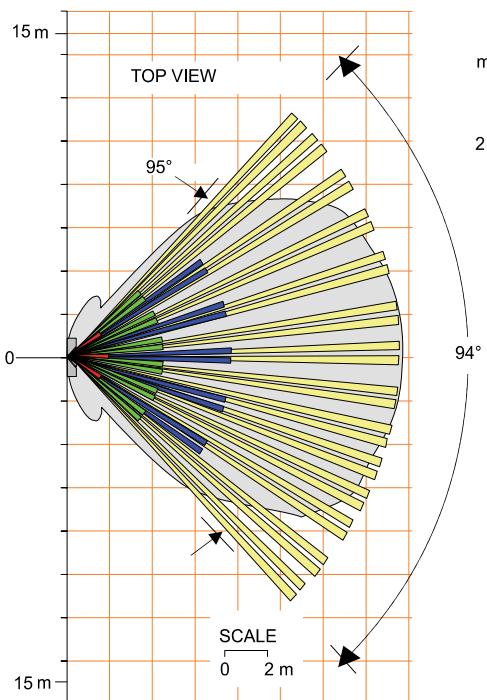
## 12. COVERAGE DIAGRAM

Coverage diagram of the detector mod. TRIALRF with standard lens (EWA 1.2 GI 12 V2).

**Range:** 15 m.

**IR coverage:** Volumetric,  
IR 94° opening.

**Beams**  
arrangement: 1 x 28 areas placed on 4 plane.  
1 x 3 under-crawl areas on 1 plane.



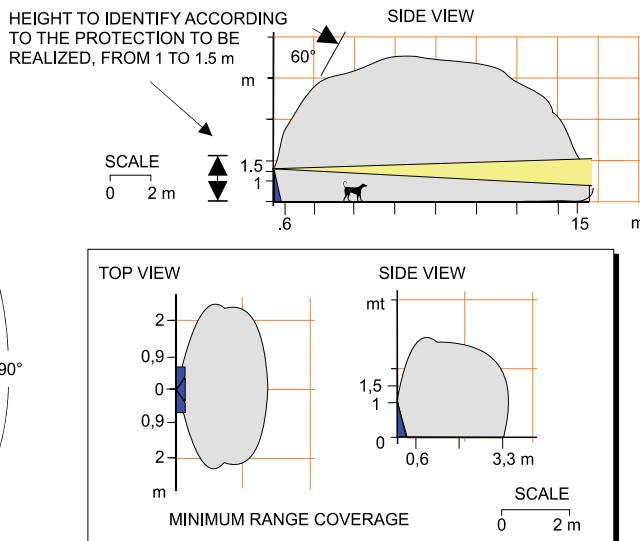
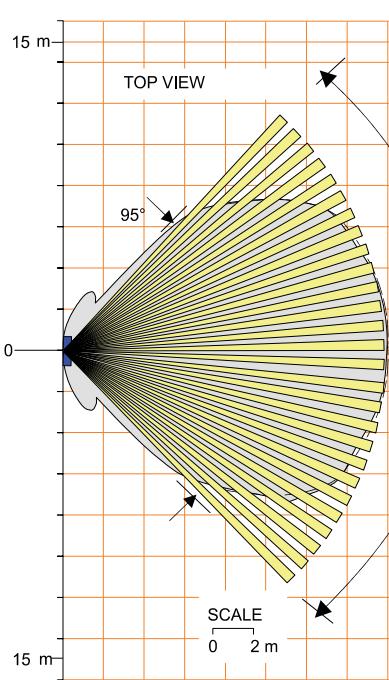
The coverage pattern refers to the mounting bracket tilted at 6°, at 2.1 m height.  
For more details see par. "6° tilt base" on p. 10.



**IMPORTANT:** the user must check that the field of view of the detector is not partially or totally obscured.



Coverage diagram of TRIALRFH equipped with horizontal curtain lens (AA 1.2 GI 12 V1).



The coverage pattern refers to the mounting bracket tilted at 6°, at 1 m height.  
For more details see par. "6° tilt base" on p. 10

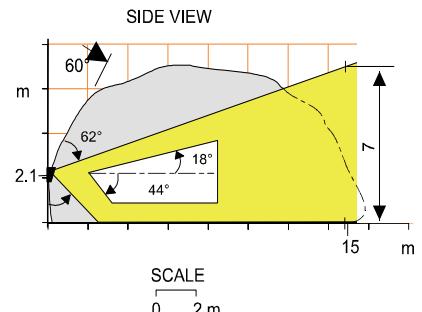
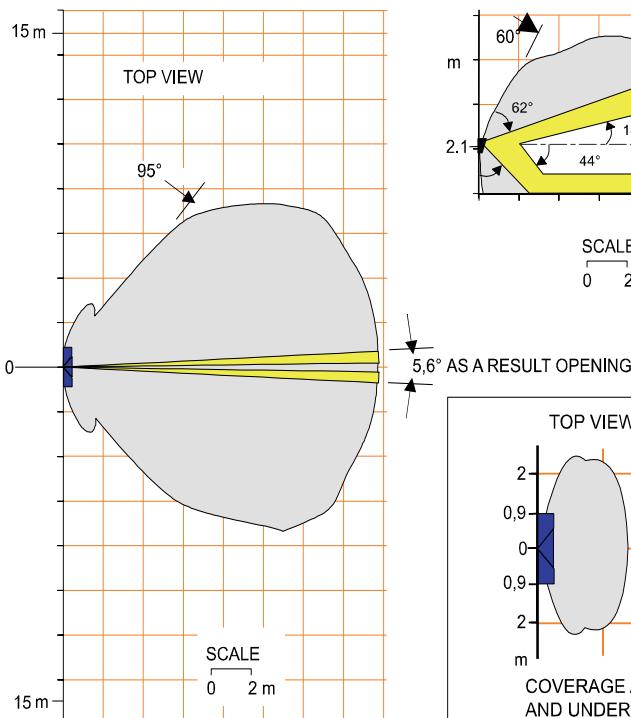
**IMPORTANT:** the user must be careful that the under-crawl protection is still active even with perimeter protection lens.

Coverage diagrams of the mod. TRIALRFV detector with wall protection lens (VB 1.2 GIV1).

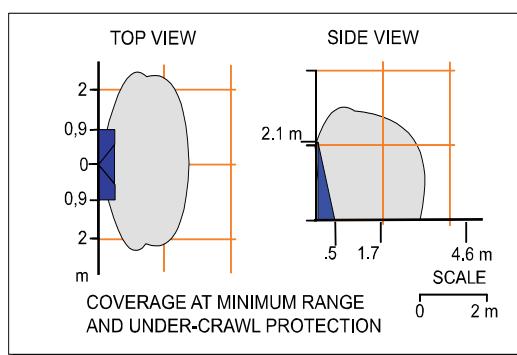
**Range:** 15 m.

**IR coverage:** Wall protection,  
IR opening 5,6°.

**Beams**  
arrangement: 1 zone on vertical floor



The coverage pattern refers to the mounting with angled at 6° to 2.1m.  
For more details see par. "6° tilt base" on p. 10.



Outdoor double technology detectors equipped with under-crawl protection  
modd. **TRIALRF - TRIALRFH - TRIALRFV** - TECHNICAL MANUAL - July 2014 Edition - March 2017 rev. 0900C0875  
Product features as described above do not bind the manufacturer and may be modified without prior notice.

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