Akab-w

INSTALLATION MANUAL

FEATURES
-Antimask autoset
-Digital sampling of the signal
-Modes of detection: EI OR - AND
-Detection sensibility selectable
-Memories of alarm type
-Interactive LED OFF
-Antifliker
-Solid state relays
-Microwave stripline with pulse emission
-Fresnell lens 18 zones on 4 planes
with look down zone
-Vertical adjust
-Sealed optics
-Wall tamper
-Cover 90 degrees for 15 Mt
-Corner, wall or bracket mounting
-Bracket (optional) antiviolation
with regulation 90°horiz. 30°vert

The AKAB-W is a motion detector with 3 modes of detection, equipped with two high quality sensors:
A) A dual element infrared (IRP)
B) A microwave microstrip (uW).
Both the sensors are supervised by a microcontroller that optimises performance.

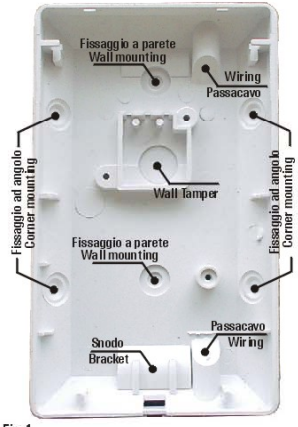


Fig.1

The AKAB-W offers the advantage of 3 different modes of detection with two levels of sensibility, which enables the choice of the most useful for the area to be protected.
In addition to the traditional AND / OR the AKAB-W offers the EI modality recommended for installation in area where is possible sabotage with spray varnish on the IRP lens.
Furthermore the AKAB-W offers a multitude of function among which is the **Antimask autoset** and memory of alarm type.

SYSTEM INSTALLATION
Select the best possible location in the room for both the IRP and uW technologies. If possible, aim the unit towards the room's interior and away from windows, moving machinery, heating and cooling sources

WALL MOUNTING
The maximum range is obtained at mounting height of 2,10 Mt., Vertical Adjust in A position (fig 8); It's possible to mount the detector at a height up to 4 Mt (fig 6-7).

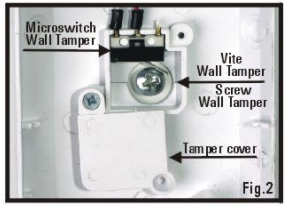


Fig.2

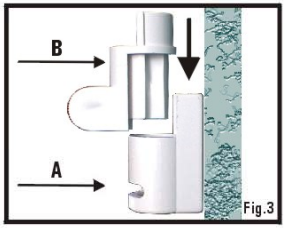


Fig.3

Make sure that the sensor has a clear line of sight to all areas you wish to protect. Remove the front cover, loosen the screw and remove the circuit board. Engrave, as need, the keyholes on the back cover (fig 1), knock out the Wall Tamper keyhole if required (CEI 79-2 II°Liv.) cut out the wire keyhole.
Sign the holes on the wall having care to sign the hole Wall Tamper at the centre of the keyhole. Make the fixing hole (6mm) on the wall. Fix the screw Wall tamper at the wall leaving the screw head out of 5/6 mm. Run the cable through the wire keyhole.
Fix the back cover on the wall with the screws furnished; make sure that the screws are securely fixed in their keyholes. Apply the microswitch Wall Tamper in his housing (fig.2), fold up the lever so that will remain pushed by the screw and than fix the tamper cover with the furnished screw.
Mount the circuit board.
Connect the microswitch to the Wall Tamper connector (fig 4).
Wire the cable on the terminals.

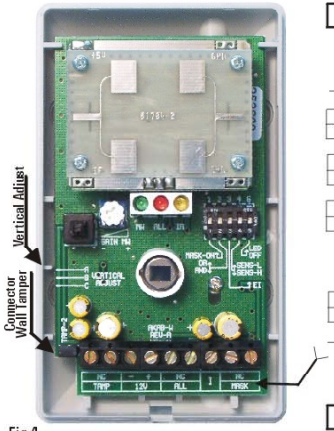


Fig.4

NC TAMP	Normally closed contact. If the cover is removed, or if the detector is removed from the wall (Wall tamper connected) an open contact will be given
- + 12V	Supply input
NC ALL	Alarm output normally closed contact, will open under alarm condition.
I	INHIBIT: input signal for system armed/not armed. A positive (+12) determines system not armed
NC MASK	Antimask output, normally closed contact.

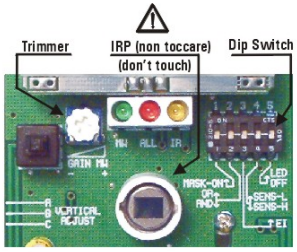
BRACKET MOUNTING
(OPTIONAL)
Fix the grip A (fig.3) on the wall with the screw furnished. Make up the bracket inserting the grip B into the grip A. Remove the front cover, loosen the screw and remove the circuit board. Engrave the bracket keyhole and the wire keyhole on the bottom of the back cover (Fig.1), and with the screw furnished fix the bottom of the back cover on the bracket.Direct the back cover to the wanted direction then block it by clamping the screw. Run the cable through the house. Mount the circuit board.Wire the cable on the terminals.
Apply power to the AKAB. A 60" self test will be performed; during this period the leds will flash alternately. At the end proceed with the calibration.

TEST (CALIBRATION)
DIP SWITCH N°1 in pos.OFF
(Antimask OFF)
DIP SWITCH N°5 in pos.OFF
(Led enabled)
⚠ **Attention: in this modality the ANTIMASK function is disabled**

UW
Set the trimmer at minimum, (range min. 4mt, max 15mt), go to the border of the protected area and, with leds off, move towards the unit to verify the detection of the uW and set sensitivity; the green led will light up. Whenever the green led will not light up increase the range of the uW by turning the trimmer clockwise; repeat the test until the required condition is obtained.
N.B. REGULATION OF THE uW: the range must be regulated to the minimum necessary because the uW can penetrate walls and detect from outside the protected area.
NOTE: regulating the uW at a high range does not improve detection in the desired area.

IRP.
Mount the front cover and, when leds are off move in the area where IRP must verify intrusion. The lighting of the yellow led enables verification of no shadow zones in the protected area.

Putting all the Dip Switches in pos. OFF the detector will be set to work in the STANDARD* mode.



1) VISUALIZZAZIONI IN STATO DI MEMORIA			
ALLARME	Led VERDE	Led ROSSO	Led GIALLO
IRP+mW	SPENTO	ACCESO	SPENTO
IRP	SPENTO	ACCESO	ACCESO
mW	ACCESO	ACCESO	SPENTO
MASK	LAMP	ACCESO	LAMP

1) MEMORY DISPLAY			
ALARM	GREEN Led	RED Led	Yellow Led
IRP+mW	OFF	ON	OFF
IRP	OFF	ON	ON
mW	ON	ON	OFF
MASK	FLASH	ON	FLASH

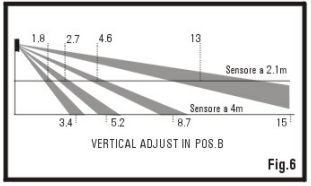


Fig.6

Diagrammi di copertura con rilevatore montato a 2 e 4 metri di altezza e Vertical Adjust in posizione Be C

Cover range with detector mounted at 2 or 4 meters height, and Vertical Adjust in position B and C

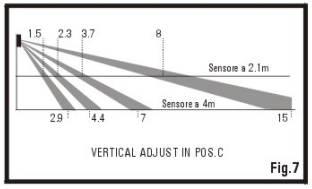


Fig.7

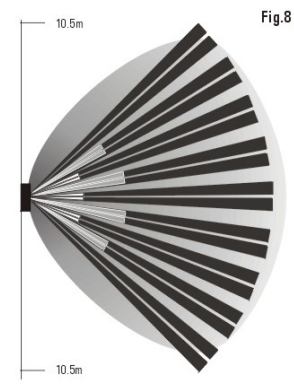
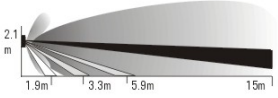


Fig.8



SPECIFICATION

VOLTAGE:	12V ⎓ +/-30 %
CURRENT MAX:	40mA
CURRENT stand by:	20mA
MICROWAVE:	microstrip 8dBm 9.9-10.525 Ghz
ALARM PERIOD:	3 sec
RFI IMMUNITY:	0.1 to 500 Mhz 3 V/m
SOLID STATE RELAY:	100mA/24V
COVER TAMPER:	100mA/30V
WALL TAMPER:	300mA/48V
OPERATING TEMP:	-10°C/+55°C
CERTIFICATED TEMP.:	+5°C/+40°C
AMBIENT UMIDITY:	95%
MTBF TEORIC:	98.803 ORE
DIMENSIONS:	108 x 64 x 46 mm
PERFORMANCE LEVEL:	IMQ I° Liv.
(With kit Wall tamper):	IMQ II° Liv.

R&TTE CE 0682

FCC ID : SC3AKAB

following two conditions:
1) This device may not cause harmful interference, and
2) This device must accept any intererence received,including interference that may cause undesirable operation.
This equipment has been tested and fund to compily with the limits for Class B digital device, pursuant to part 15 of th FCC Rules. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause radio interference, please contact the dealer.
The user is cautioned that changes or modifications not expressly approved by R&D Electronics srl could void the user's authority to operate this equipment

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***ANTIMASK DISABLED / AND / HIGH SENSIBILITY / LED ENABLE**

If exploitation of the detector to its maximum capabilities is desired see paragraph DETECTION MODE.

⚠ **Is recommended to disable the ANTIMASK function all the times that an operation is made on the detector.**

DETECTION MODE

AND
DIP SWITCH N°2 IN POS. OFF
The alarm condition occurs, if both the sensor, at (or about) the same time give an intruder signal.
Recommended for installation in areas that could create environmental disturbance.

OR
DIP SWITCH N°2 IN POS. ON
The alarm condition occurs, only if one of the 2 sensors gives an intruder signal.
Recommended for installation in areas that does not present environmental disturbance and that requires an elevated capability of detection.

EI
DIP SWITCH N°3 IN POS. ON
IN THIS POSITION THE DIP SWITCH N°2 DOES NOT HAVE EFFECT
The alarm condition occurs, if both the sensors, at (or about) the same time give an intruder signal, (like "AND") or if there are many detections of uW with no detection of IRP.
Recommended for installation in areas that require the "AND" mode but could present shadow zones for the IRP, or where sabotage is possible with for example varnish spray on the IRP lens.

SENS -L
DIP SWITCH N°4 IN POS. ON
Sensitivity detection reduced for both the detectors.
IRP: detection will occur when crossing both edges of a zone
uW: speed detection 0.5 sec. With a human movement of 6.6 Mt/sec.

FUNCTION

ANTIMASK
Any object placed close to the detector, which is able to mask the uW, will activate the alarm, displayed by the flashing of the leds which will be signalled by the MASK terminal. This condition will remain until the cause that has generated it is removed, and it will be memorised.

ANTIMASK ENABLE
The enabling of the Antimask function is the last operation to be made. Set the Dip Switch N°1 in ON position, the red led will flash for 60 seconds In this 60 seconds close the front cover and move away quickly from the detector. The detector will get in the autoset modality. In this phase the leds will light alternately, and the detector will make the automatic calibration of the antimask level in function of the ambient. It's important that during this phase that nothing should be present near the detector to not compromise the autosetting.

LED OFF:
DIP SWITCH N°5
The ON position disables the display of detection and alarm. With the INHIBIT line connected, when the system will be armed off, the detector will enable the display for 30 sec. from the first detection.

RELAYS INHIBITION
With the INHIBIT line connected, at the arming off of the system, the alarm relays will be inhibited.

MEMORIES
With the INHIBIT line connected, at the arming off of the system, the memory will be activated. It will display the eventual memory of the cause that has generated the first alarm, by the LED's. (see Tab.1), which will be reset by the control panel unit at its insertion. If no alarm has been memorised, the LED's will continue to display the detection.

FCC NOTE :
This device complies with Part 15 of the FCC Rules. Operation is subject to the