GAPID WS

**THREE-AXIAL ACCELEROMETER SENSOR
ANTI CLIMBING / CUTTING**

Installation Manual
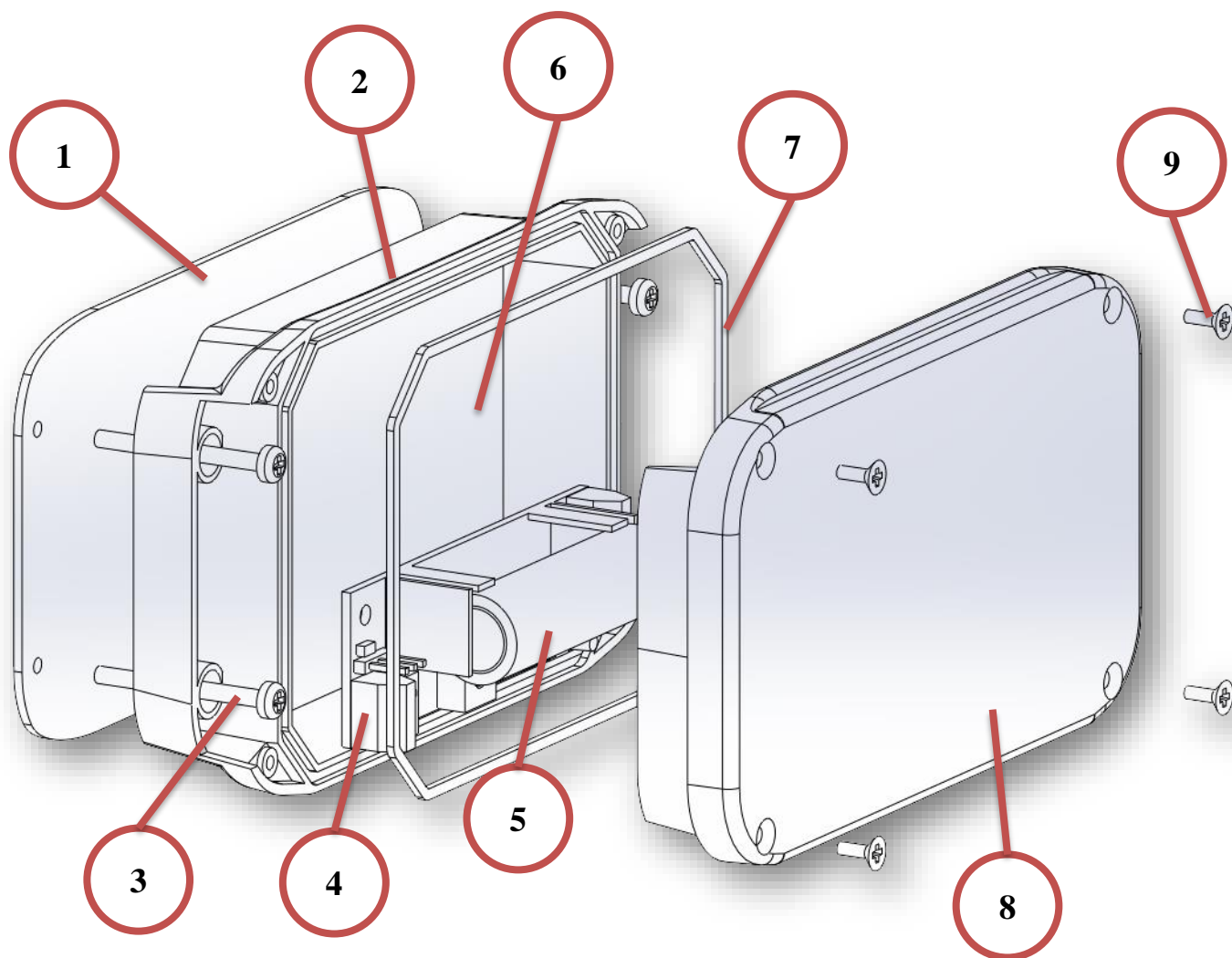
POLITEC
Perimeter protection

INDEX

NB: Installation tips

- *Once installed, you must ensure that the sensor is properly closed through its water-tight cover.*

- *Not using appropriate accessories will void the degree of protection (IP).*

1   MAIN COMPONENTS LIST

N°	Description
1	Fixing plate
2	Base
3	Fastening screws
4	Motherboard
5	Battery 3,6V 2,7Ah
6	Radio transmitter compartment
7	O-Ring
8	Closing cover
9	Closing screws

2   MOUNTING

1. Place GAPID in the middle of the panel or the grid and fasten it to mounting plate located on the other side with proper screws. Tighten well the screws to prevent improper device moving.
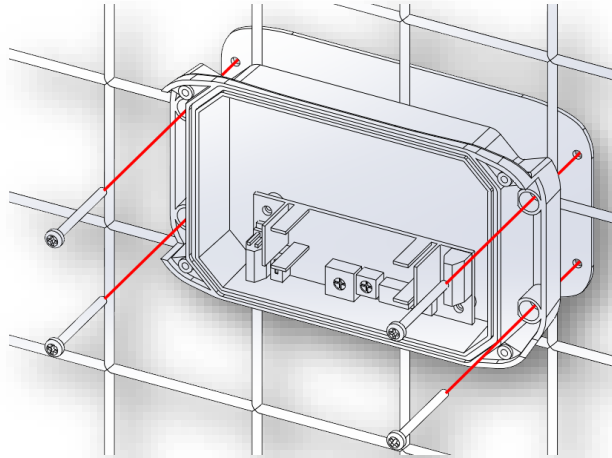
2. Put the O-Ring in the dedicated place.
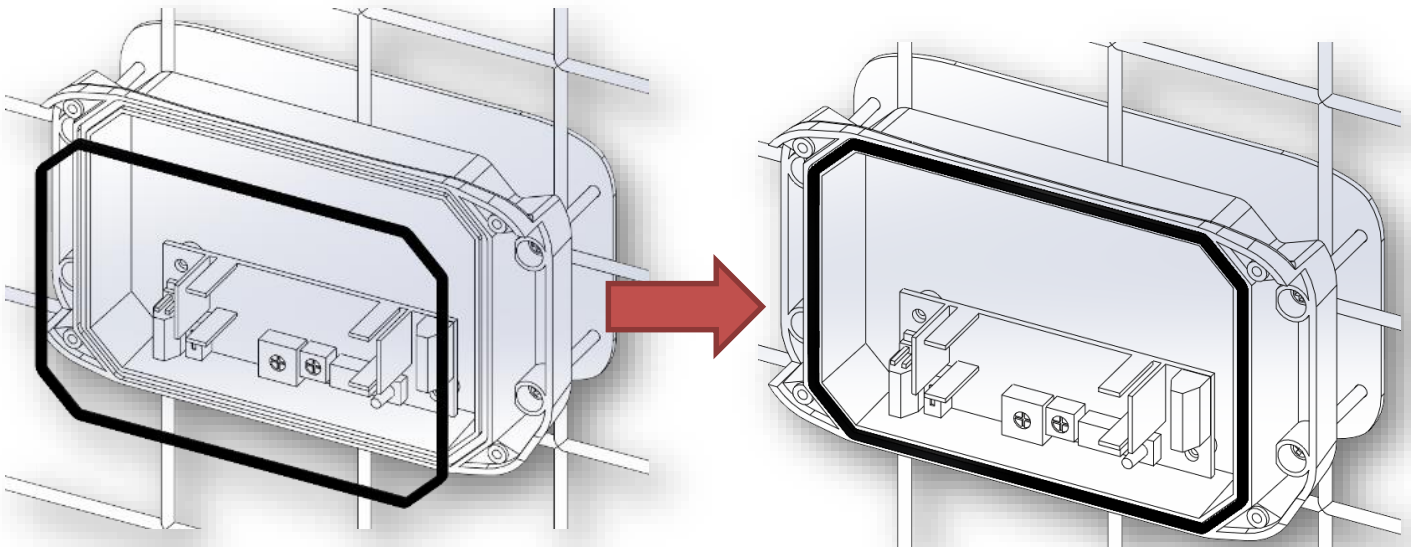
3. Make wiring with the radio transmitter and power the sensor by paying attention to the battery polarity.

4. Stick with the velcro strip the radio transmitter.

RADIO TRANSMITTER

5. After programming and calibration of the sensor, close it carefully, paying attention to well placement of OR.

3 CABLE AND CONNECTIONS

GAPID WS is pre-wired with cables to connect to the radio transmitter

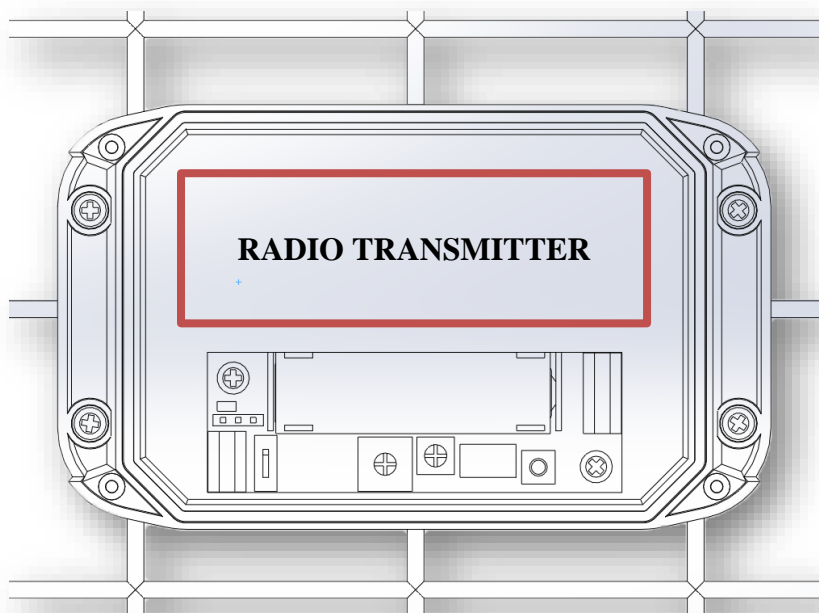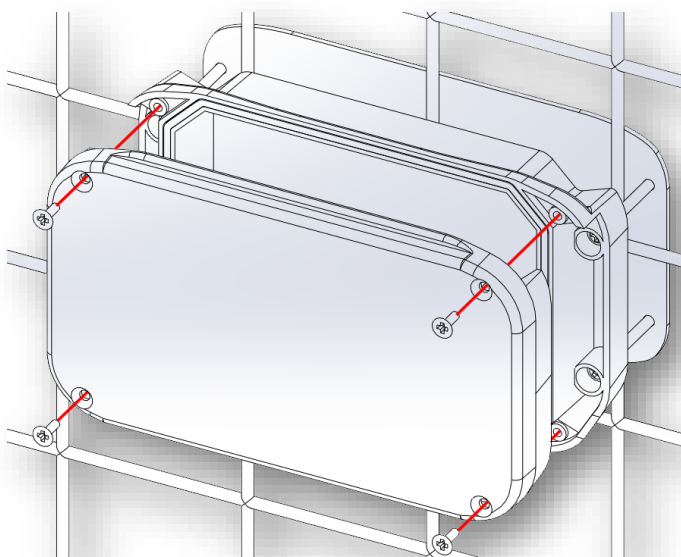| COLOR	DESCRIPTION	FUNCTION
Red	3.6V	Supply by cable
Screen	GND	Negative power supply
White	BL	Battery low

COLOR	DESCRIPTION	FUNCTION
Red	TMP	Tamper output NC
Green	TMP	Tamper output NC
Yellow	ALM	Alarm output NC
White	ALM	Alarm output NC

N.B.: CUTTING AND COVER THE CABLES NOT USED.

4 MOTHERBOARD
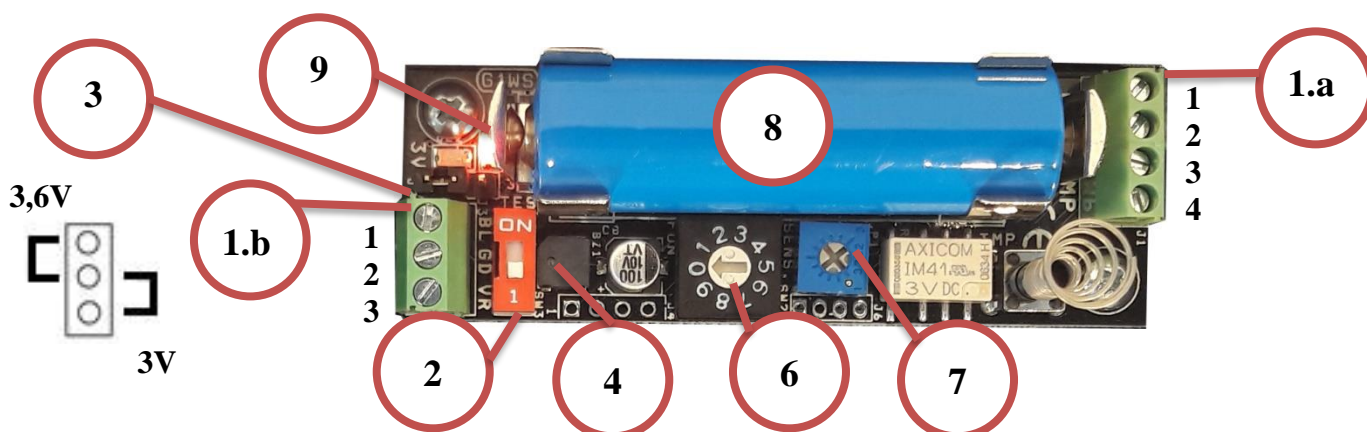
1.a	TERMINAL BLOCK	1 2	TMP	Output for Tamper balancing
		3 4	ALM	Output for Alarm balancing
1.b TERMINAL BLOCK		1	BL	Low battery output - negative open collector
		2	GD	Negative power supply
		3	+VR	Radio transmitter power supply
2	TEST DIP			
3	SUPPLY SELECTOR			
4	BUZZER			
5	ANTI-REMOVAL TAMPER			
6	FUNCTION SELECTOR			
7	SENSITIVITY TRIMMER ADJUSTMENT			
8	PLACE FOR BATTERY 3,6V 2,7Ah			
9	SIGNALING LED			

5 DECRIPTION OF COMPONENTS

1. TERMINAL BLOCK:

Free output NC contact of tamper and alarm, with possibility of balancing in terminal block.

2. TEST DIP:

SET ON to activate LED and BUZZER signals.
During normal working mode this DIP **MUST** be set **OFF**.

3. SIGNALING LED:

RED LED	when test mode is activated, it turns on together with BUZZER when sensor goes to alarm.
BLUE LED	Anytime an operation mode is set by function selector, this led will blink to indicate a new program selection.

6. FUNCTION SELECTOR:

6.1. STANDARD INSTALLATION

1	Light Metallic Grid
2	Rigid Grid\Thick
3	Garden Netting Not Welded
4	Welded Garden Netting
5	Wall\Railings – Anti Break down
6	Windows

6.2. SELF-LEARNING

7	Self-learning For Alarm
8	Self-learning For Disqualification
9	Self-learning For Spontaneous Vibration

6.3. RESET

0	Reset

7. SENSIVITY TRIMMER ADJUSTMENT

For any selected application it is possible to adjust the alarm sensibility.

Increase sensitivity involves a greater detection range and a lower intervention time. It is suggested to increase sensitivity when the fence is easy to be climbed.
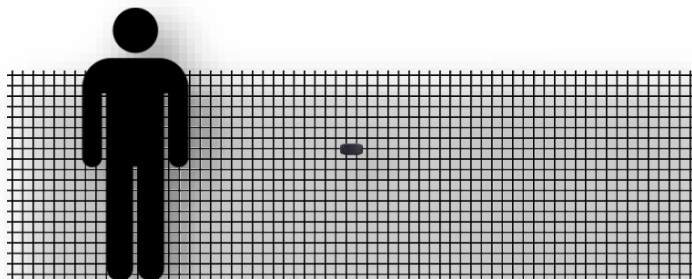
Higher Sensitivity
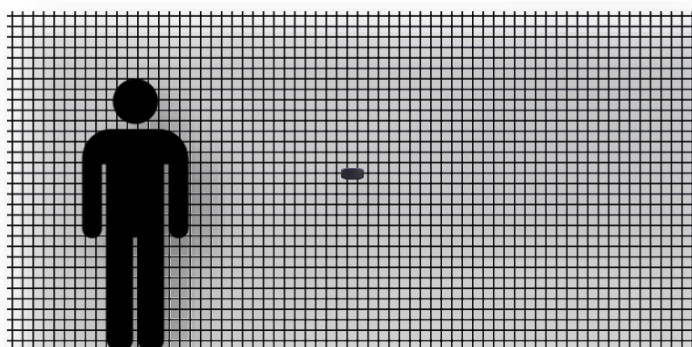
Lower Sensitivity

6 DESCRIPTION OF THE FUNCTIONS

6.1 LIGHT METALLIC GRID

With this program GAPID detects attempts of climbing, break down and cut of metal grids with thickness up to 5mm.
With maximum sensitivity is reached a radius of action of about 2.5 m.

N.B.: **Sensitivity may depend on the type of grid and from its anchorage to the ground.**

6.2 RIGID GRID/THICK

With this program GAPID detects attempts of climbing, break down and cut of metal grids with more than 5mm thickness.
With maximum sensitivity is reached a radius of action of about 2.5 m.

N.B.: **Sensitivity may depend on the type of grid and from its anchorage to the ground.**

6.3 GARDEN NETTING NOT WELDED

With this program GAPID detects attempts of climbing, break down and cut of garden netting not welded.
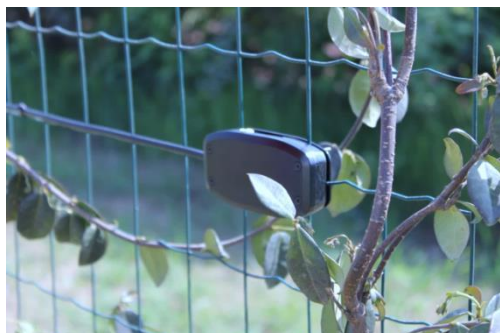With maximum sensitivity is reached a radius of action of about 2.5 m.

N.B.: **Sensitivity may depend on the type of garden netting and from its anchorage to the ground.**

N.B.: **Avoid for this type of net the application of sun screens which can act as a "sail effect" possibly causing false alarms in case of strong wind.**

6.4 WELDED GARDEN NETTING

With this program GAPID detects attempts to of climbing, break down and cut of welded garden netting **well anchored to the ground.**
With maximum sensitivity is reached a radius of action of about 2.5 m.

N.B.: **Sensitivity may depend on the type of garden netting and from its anchorage to the ground.**

6.5 WALL \ RAILINGS – ANTI BREAK DOWN

With this program GAPID detects attempts to break down of walls and cutting of iron railings.
With maximum sensitivity is reached a radius of action of about 2.5 m.

N.B.: **Sensitivity may depend on the type and thickness of the wall / railings.**

6.6 WINDOWS

With this program GAPID detects attempts to break down of windows. With maximum sensitivity is reached a radius of action of about 2.5 m.

N.B.: **Sensitivity may depend on the type and thickness of the glass.**

6.7 SELF-LEARNING FOR ALARM

It is possible to record to sensor a different signal than standard ones (climbing, cut, break down, exc…).
Anytime will be reproduced a similar signal for intensity and duration as the one recorded during self-learning, GAPID will give an alarm output.
To Have an alarm signal, with **low sensitivity**, the received signal must be identical to the one recorded, instead with **high sensitivity**, the received signal may deviate slightly to the one recorded.

6.8 SELF-LEARNING FOR DISQUALIFICATION

It is possible to record to sensor a different signal than standard ones (climbing, cut, break down, exc…).
Anytime will be reproduced a similar signal for intensity and duration as the one recorded during self-learning, GAPID will inhibits the alarm output for the duration of that signal.
To have a disqualification, **with high sensitivity**, the received signal must be identical to the one recorded, instead with **low sensitivity**, the received signal may deviate slightly to the one recorded.

NB: if recorded signal is large in duration there is the risk that your system can go into alarm before the sensor has been able to correctly identify all the signal.

6.9 SELF-LEARNING FOR SPONTANEOUS VIBRATION

It is possible to record to sensor the spontaneous vibration of the fence.
In particular metallic grids and garden netting may fluctuate due to environmental effects such as wind and rain. These oscillations NOT occur during attempts to climb over, cutting and similar.
It is so possible to teach the resonance of the fence to GAPID so that it gets filtered in order to prevent false alarms due to these oscillations.

6.0 RESET

All the signals recorded during the self-learning functions will be cleared.

![POLITEC Perimeter protection logo]
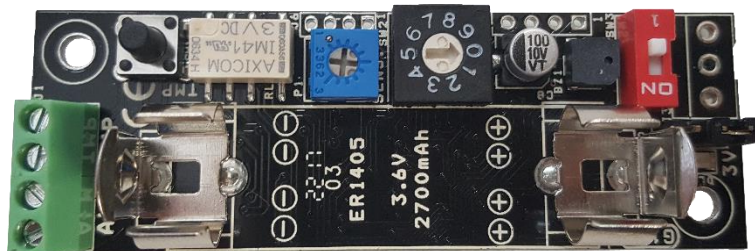
7. CALIBRATION

1. Set ON the DIP to start the calibration.
2. Select standard function requested due to application.
   BLUE signal LED will indicate chosen program followed by a confirmation "BIP" by the buzzer.
3. Adjust the sensitivity using the trimmer dedicated performing the intrusion test.
   Whenever the sensor detects an alarm, the event is signalled with the lighting of RED LED and buzzer.
   Between an alarm and the next must pass 30 seconds.
4. Set to 1 the DIP to finish the calibration.

7.1. CALIBRATION WITH SELF-LEARNING FUNCTIONS

Use them only if you want to record a special signals other than the standard ones.

ALL THREE FUNCTIONS MAY BE USED AT THE SAME TIME.

7.1.1. SELF-LEARNING FUNCTION FOR ALARM

a. Set ON the DIP.
b. Select the function n.7 and wait the confirmation of BLUE signal LED and buzzer.
c. Perform the disturbance to be recorded. Once such disturbance started the RED LED will light up and turn off as soon as such disturbance will be finished and will be given a double beep of confirm acquisition. If the RED LED does not turn ON means that the disturbance is too light to be recorded.
d. Re-select standard function.
e. Set to 1 the DIP to finish.
   It is suggested to perform a disturbance for a time up to 10sec.

7.1.2. SELF-LEARNING FUNCTION FOR DISQUALIFICATION

a. Set ON the DIP.
b. Select the function n.8 and wait the confirmation of BLUE signal LED and buzzer.
c. Perform the disturbance to be recorded. Once such disturbance started the RED LED will light up and turn off as soon as such disturbance will be finished and will be given a double beep of confirm acquisition. If the RED LED does not turn ON means that the disturbance is too light to be recorded.
d. Re-select standard function.
e. Set to 1 the DIP to finish.
   It is suggested to perform a disturbance for a time up to 10sec.

7.1.3. SELF-LEARNING FUNCTION FOR SPONTANEOUS VIBRATION

a. Set ON the DIP.

b. Select the function n.9 and wait the confirmation of BLUE signal LED and buzzer.

c. Perform the disturbance to be recorded for example hitting the fence making it oscillate. Once such disturbance started the RED LED will light up and turn off as soon as such disturbance will be finished and will be given a double beep of confirm acquisition. If the RED LED does not turn ON means that the disturbance is too light to be recorded.

d. Re-perform the disturbance as point *c*. It is necessary to have to consecutive recordings to confirm the learning. If after a few attempts you do not get two surveys with satisfactory outcomes means that the fence has different oscillation frequencies, and you cannot use this function.

e. Re-select standard function.

f. Set to 1 the DIP to finish.

8. TECHNICAL FEATURES

MAX COVERAGE AREA	3 x 5 m (max dimension of panel with sensor placed in the middle)
SETTING AND SENSOR PROGRAMMING DIRECTLY ON BOARD	
3 SELF-LEARNING FUNCTIONS	
5 STANDARD OPERATING FUNCTIONS	
POWER SUPPLY	3,6 V
BATTERY LIFE	3 year with battery 3,6V 2,7Ah
POWER CONSUMPTION	0,05 mA at rest / 0,8 mA on alarm
OUTPUT	Alarm (NC) Tamper (NC) Battery Low (Negative open collector)
DIMENSIONS (L x H x D)	129 x 76 x 29 mm
CASE MATERIAL	Black polycarbonate anti-scratch, UV resistant
WEATHER RATING	IP 66
OPERATION TEMPERATURE	-40°C +80°C
Mounting kit included with screws and metallic plate.	
WARRANTY 2 YEARS	

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