



# POOLEYE ALARM PE41

IN-GROUND POOL ALARM SYSTEM

Note of installation and use



SMARTPOOL  
687 Prospect Street  
LAKEWOOD, NJ 08701  
USA  
[www.smartpool.com](http://www.smartpool.com)

Thank you for choosing SMARTPOOL.

We are certain that the quality and innovation standard our alarm system represents, PoolEye PE41, will be fully satisfactory.

**Read Carrefully and Keep the Manual for future Use**

# Inside the box

The content is as described below. If you note any missing piece, immediately contact our service department or your place of purchase.



**4 posts**



**1 control box with alarm**



**1 transformer and cable**



**1 installation and instruction manual**



**1 bag of hardware**

16 screws  
**Sleeves not included**

16 washers

4 4mm screws

4 splash caps

4 rechargeables batteries



4 connectors (green)



**1 bag with**

4 small cable strain relief with gasket and nut

1 large cable strain relief with gasket and nut

Read before operating this unit :

(CONDITIONS AND LIMITS OF USE OF THE ALARM POOLEYE PE41)

ATTENTION : BEFORE OPERATION OF ALARM POOLEYE PE41, READ THE FOLLOWING COMPLETELY.

The PE41 alarm system has been designed to comply with the requirements of the Norm NF P90-307 and the Law 2003-9 of January 3, 2003. The alarms function is to detect the intrusion of small children within a protected zone.

The PE41 alarm system is a 12 volt DC device, powered via standard line current, i.e. 230V / 50Hz through a transformer 230VAC /12 VAC.

The power source must be protected with a breaker rated at 30mA. The line must be fully grounded. Do not use ungrounded electrical cables.

All electrical wiring and junction boxes should be mounted out of reach of children.

The maximum distance between the posts is 20m.

Every post is joined to the junction box by shielded cable. This cable is available at your local wholesale or retail electric distributor, electronic supplies stores, or home centers.

The maxi distance of the cable between the posts and the power station is of 35m.

The posts must be mounted on patios made concrete or deck board plank provided that all is fully grounded.

Your alarm system has an siren situated in the control box base unit. It is advised that this base unit be installed so that the siren would be heard or seen immediately and clearly identified from any direction.

All 4 posts must be installed to insure systems proper function.

The alarm should be tested periodically.

Clear the area around the perimeter of the swimming pool to insure its proper function.

The patio must be clean and dry in order to be able to work in the best possible conditions.

Install the alarm in dry weather. Do not to use these devices in case of rain or on wet patios. In any case, your electric devices must be connected to a breaker box equipped with a breaker capacity of 30mA.

#### NECESSARY TOOLING

Permanent marker or pencil

Shovel

Drill

Cutter

Philips Screwdriver

Flat Screwdriver

Electric Cable (enough for the pool perimeter)

String

Plumb bob

Level

Allen key of 11

The cable (2 pair, 4 conductor) of 24AWG type (cable 6/10 references LY or SYT + with screen). This cable is available at the wholesale or retail electric distributor, electronic supplies stores, and home centers.

If the cable is installed on soil, the cable must be suited for aboveground use.  
If the cable is buried, it must be placed inside a protective conduit.

For an installation on a concrete patio:

You will need 16 8mm molly bolts and their accompanying mollies.

For an installation on patios made from deck board planks:

16 wood screws, 6x40 or 6x50

## SETTING UP OF THE SYSTEM

1): Determine the mounting positions of the 4 posts:

The four posts must be arranged in the form of a square or rectangle consistent with the dimensions of the pool (to see fig 1).

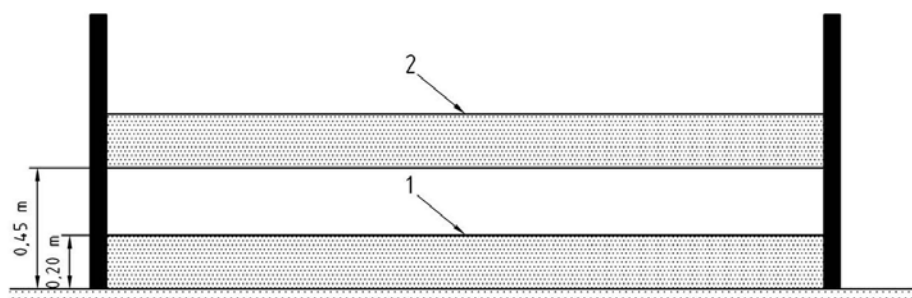


Fig 1

Install the posts with a minimum distance of one meter of the pool edge (The greater the area is before the pool edge, the sooner you will be able to intervene when the alarm is sounded). **The maximum distance between the 2 posts is 20 m.** The installation must be done on clean, dry concrete or decking and must be level. The installation is only possible on a patio made of concrete or on a patio made of deck board planks, anchored solidly to the ground. The land must be graded level.

. (Fig 2)

(Fig 2) protective Segments to respect



Zone 1 : detection of the body of a child of less than 5 years crawling

Zone 2 : detection of the body of a child of less than 5 years that would step over the zone 1

Use weights tied to lengths of string to simulate the path of the OR beams. Place the weights at the proposed post location and stretch the string out between them to visually create the perimeter..

This visual reference mark will simulate a pattern of the beams between the poles. Verify that there are no obstacles between these poles represented by the lines of string. The strings must as taut as possible, simulating a square or a rectangle. If the shape is irregular, readjust closer to the 90° angle in a square or oblong shape. The angles should correspond to the exact site of the posts. Note: Measure the diagonals, these must be of equal lengths in a rectangle

2) : Mark the site of the Control Box. Ideally, close to the house in order to hear the warning siren inside of the house. Choose a solid surface. (to see Fig 3).

The bottom edge of the Control Box must be to at least 1.60m above the ground and a minimum of 3.5m from surface of the water.

Use the screws of 4mm to fix temporarily to the power station. Start with fixing the screw of the side of the case where is the siren. The siren will conceal the screw, so it is preferable to start with this one and do the other side second.

Install the control box at 1.60m from the ground



Install the control box 1.60m above the ground and a minimum distance of 3.50m from the swimming pool. The electrical circuit must be protected by a differential 30mA

Fig3 cable plan  
Of the control box (+75cm) MORE

3): Determine the best layout for the cables to join every post to the control box

ATTENTION: Every post is joined to the control box; you will have 4 cables at the junction box, the (one from each post) plus one power cable for a total of five.

Join every post to the control box, use a cable cutter: to cut the cables to the desired lengths once they are discovered

Limit the cable lengths always to the minimum, but not more than 35m of cable between posts and the control box.

Avoid all passage under paved walk ways. If you must run wires under a sidewalk, follow the instructions of stage 4, and then do as follows. Lay the cable on the ground following the desired path for the cable. Refer to diagram A for ideas. Begin by leaving 75cm of slack at the post for later use and run the cable to the control box leaving an additional 75cm of slack past the control box. You may pick any post to be post 1, but once this has been determined, you must use a pen or a marker or taper and clearly label both sides of the cable as post 1. You must now repeat this process for the remaining three posts. **It is imperative that the remaining posts are oriented in a clockwise fashion only! Please refer to Diagram A for further clarification.**



4) : For cable installations under a cemented walk way:

Start digging a hole on both sides of the walk way. Dig back a minimum of 40cm in relation to the sides of the walk way. One of the holes should be deepened to at least one shovel depth.

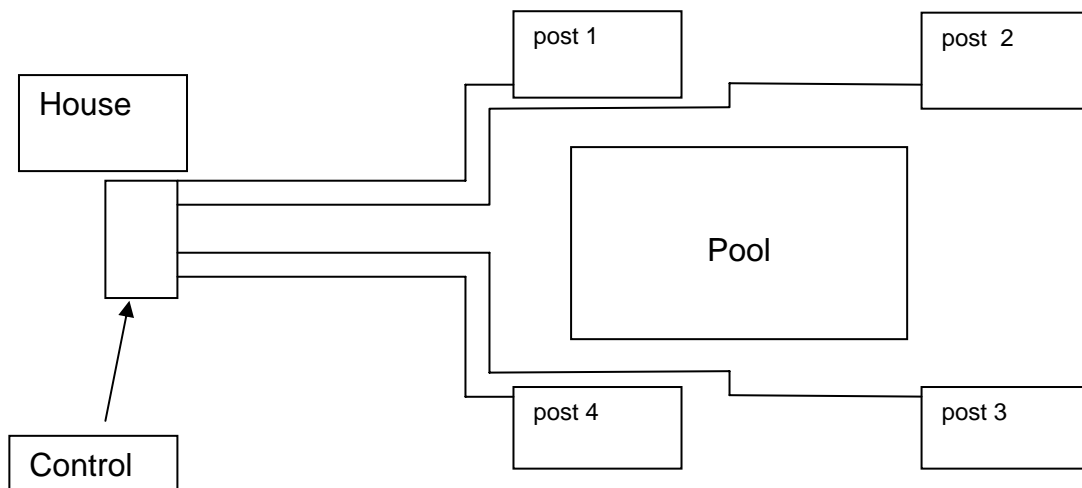
With the help of the shovel, dig as far as possible under the alley. Insert the handle of the shovel under the walk way and, by regular jerks, drive it as far under the cross walk way completely.

The cable, when buried, must be protected by a conduit.

To insert the conduit, remove the handle and carefully insert the conduit into the hole just made. There to insert your cable into the conduit and continue the installation.

Distribution of the cables

**Diagram A**



#### ADJUSTING OF THE POWER STATION

Consult the fig 5 in page 8 as reference

**ATTENTION: not PLUG IN 230V POWER SUPPLY OR THE BATTERIES BEFORE THE SPECIFIED TO!**

Remove the control box from its mounting site.

Remove the 4 screws. Separate the top from the bottom part of the case.

Install the water tight cable nuts as shown in FIG 4 into the control box. Take care to place the rubber washer on the outside of the control box as in FIG 4. Be sure to place the 4 small cable nuts into the small holes and the large one into the large opening.

The washer with the butt weld goes outside of the case and is blocked by the nut installed inside the case



} Nut inside the case  
} Washer and attached nut is assembled outside of the case



Insert the cables through the washers (Fig4) with caution allow about 30cm cable inside the casket. Do not tighten the washers yet. See steps 6) and 7) for the cabling order sequence.



**Fig4**

Pass the cables through the washer and butt weld then through the nut.

Next pass the AC cord (from transformer) through the large cable nut. Carefully attach the two conductors to the green terminal strip where it is marked 12VAC PWR IN and tighten screws on terminal block.. Now hands tighten the cable nut.

**NOTE: THE COLORS OF THE CABLE MAY VARY. PLEASE SUBSTITURE ANY COLORS YOU MAY HAVE FOR THE RED/WHITE/BLACK COMBINATION**

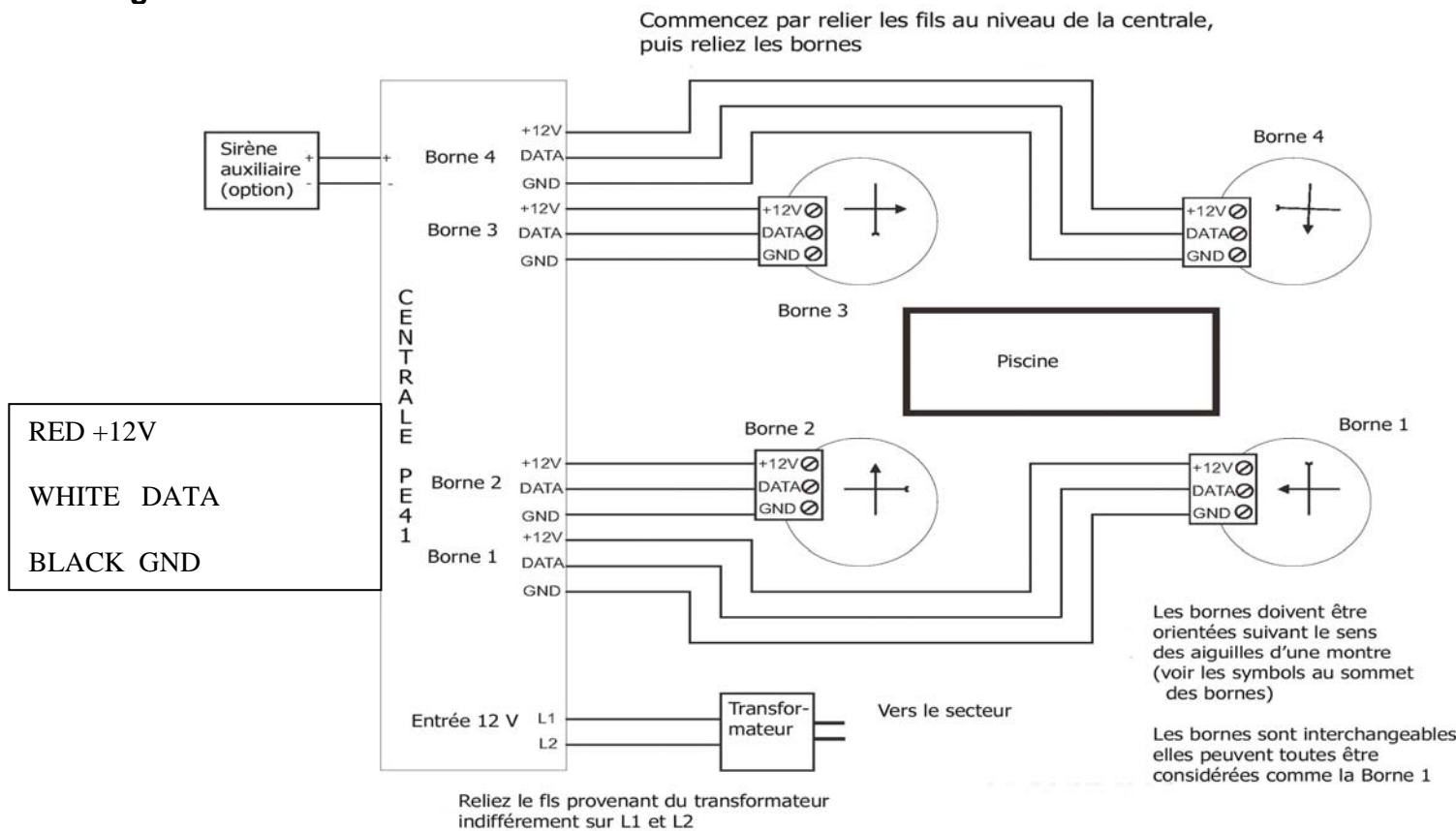
Now take the cable marked as # 1 and insert it trough the cable nut directly to the right. Measure how much cable you will need to wire this cable to the terminal where it says post1. Always leave a small amount extra. Remove about 10cm of the cables outer jacket to reveal the inner cables. Next strip back approximately 7mm of insulation from each of the wires. The red wire will go to +12V on post 1. The white wire will go to data, and the black wire will go to GND. Be sure to tighten all screws securely. Review FIG5 for visualization.

Disregard any extra cables which may be in the cable.

Repeat the processes for posts 2, 3, and 4. **AGAIN PLESE MAKE SURE THAT YOU HAVE ARRANGED POSTS IN A CLOCKWISE FASHION OR THE SYSTEM WILL NOT ALIGN**

Slowly pull with care cables outward from the case (allow about 4 cm of excess to each conductor). Tighten all cablenuts. **NOT TO INSTALL THE BATTERIES YET. WAIT UNTIL THE POWER STATION IS READY FOR OPERATION.**

**Fig5**

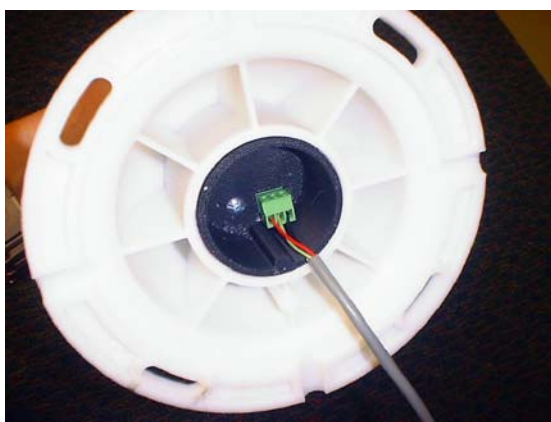


**RACCORDEMENT DU SYSTEME D'ALARME POOLEYE PE41**

### ADJUSTING OF THE POSTS

Strip 5mm of insulation from all conductors.

Insert the conductors in the strip, 3 for each post. Pay special attention to the colors / reference marks (+12V RED, DATA WHITE, GND BLACK) that were used at the time of the installation at the control. Also pay special attention to detail in connecting the post 1 with the cable identified with the same color/reference as the post 1 at the time when adjusting the case. Tighten the conductors well. Reconnect the connector to the bottom of the post. Reattach the post the bottom flange to the mount.



**Fig6**

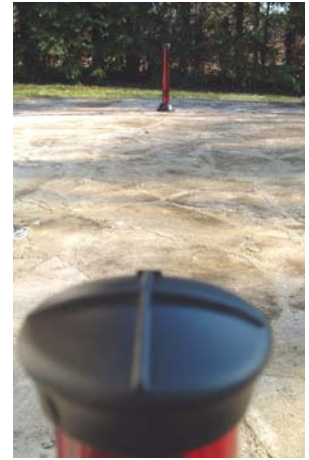
Mount the post in place in the site that should be its definitive site.  
Repeat the same operation for the 3 other posts.

**VERIFY THAT YOU MADE ADJUSTMENTS ACCURATELY**

**PRE-ALIGNMENT OF THE POSTS**



Start with the post number one. Review the sights which are in the top of each post. The post shall be oriented so that when viewed from eye level (as shown in fig 7) the point of the arrow will directly line up with the next post in the system. The tail of the next post shall align with the previous arrow point. See post configuration and arrow orientation in FIG 5 above.



**Fig7**

## TEST OF THE SYSTEM (PROGRAM ALIGNMENT)

Read this chapter in whole before beginning

During this step of the installation, it is advisable to cover the siren, with a towel or similar to keep the siren level at a reasonable level during the alignment period. The best time to perform the installation is early in the evening as it will be easier to view the alignment LEDS in the fading sun light. It may be difficult to see the alignment LEDS in bright sunlight.

1/ Insert the rechargeable batteries into the battery holder taking care to insert them as shown on the battery holder. Take the wire leading from the battery pack and carefully plug it into the PCB board on the control where it says BAT. You will hear a beep from the siren. The beep repeats itself every 60 seconds, indicating the presence of the batteries, but alerting that the AC plug is disconnected from the mains.

2/ Plug the transformer into the wall.

**3/ CASE N° 1 : IF YOU DO NOT HEAR ANYTHING T THIS TIME THE SYSTEM IS ALIGNED.**

Try to penetrate in the protected perimeter, which means pass between the posts in order to break the beam and create an alarm condition. The siren should sound. To stop the siren, press 4, 3, 2, 1 on the keyboard of the control box. The alarm system is again active. Then, push simultaneously on the keys 1 and 4 and hold for 3 seconds (the LEDS "ERREUR FAISCEAU S" and DESACTIVEE are lit indicating as well as the system is stopped). To disconnect the system while removing the hold (you will hear a beep every 60 seconds indicating a working on batteries). 4/ CASE N°2: If the siren sounds, your system is not aligned and it is going to be necessary to adjust the position of one or more posts. Begin by putting the alarm into pass mode so it will be easier to work with the posts. Press and hold down keys numbers 3 and 4 on the keypad simultaneously for 2 seconds. The siren must not sound solidly only with a intermittent beep and the LEDS "BEAM ERROR" and ALARM will be li on the control box. You will have about 10 minutes to achieve the alignment before automatically reverting to standard perimeter protection with full siren. So at the end of 10 minutes, you didn't succeed in aligning the system, you will need to push and hold keys 3 and 4 on the keypad for 2 seconds in order to return in PROGRAM alignment

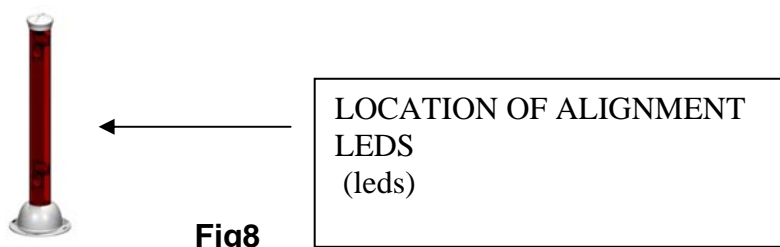
6/ Start by verifying visually that the posts form a square or a rectangle.

Also verify that the symbols on top of the posts are arranged well according to the face 5 of the page 6 (sense of the arrows)

7/ Look very closely at each post individually taking care not to position yourself or any part of your body between the posts. There should be two small led lights on each post, one at the top and one on the bottom. If one or both of the LED are not lit, the post is not in alignment.

Turn the post slowly and smoothly first in one direction the until the led comes on signalling alignment. If this does not work try rotating in the opposite direction until alignment is achieved. The 4 posts are aligned when all LEDS are lit, and " BEAM ERROR " on the control unit is extinguished .

NOTE :During normal operation the AC led on the Control box will remain lit. If AC current interrupted, the back up batteries will maintain the perimeter, but the AC LED on the control will go off to conserve the batteries. In normal working, that means the emergency batteries once in place, the LED are lit. If a cut of line current occurs, the alarm will always be active thanks to the emergency batteries.

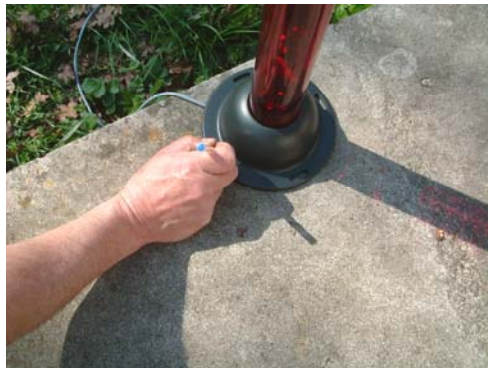


TO FIX THE POSTS

1) once the aligned posts, it is necessary to attach them to the patio or deck.

**REPEAT THE FOLLOWING EXPLANATIONS FOR EVERY POST**

2) Without moving the post, mark the mounting holes where the screws will attach pierce while using a permanent marker or a pencil. Be careful to make the mark in the centre of the hole. (see Fig9).



**Fig9**

3) Drill the holes previously marked and clean them carefully in order to withdraw the dust that accumulates at the bottom.



**Fig10**

4) Put the post back in place, and screw, but without tightening completely down, in order to be able to adjust the alignment of the posts before final alignment.



**Fig11**

5) Once the 4 installed posts, insert the connector from the batteries again onto the card in the control box and to reconnect the transformer on the AC mains. Test the alarm again in order to verify the alignment. If need be to readjust the alignment according to the method explained to the chapter **TEST OF THE SYSTEM (DEFINITIVE ALIGNMENT)**.

6) Once the aligned posts, tighten the screws to lock the posts into place.

7) Place screws into control box.

Comment: following the installation, it will be necessary 48 hours so that the batteries are charged. T

8) Fix the control box permanently.

9) To bury the cables (the cables must be under girdle (non well stocked))

IF you wish to install the posts on wood deck, provide yourselves with screw to wood 6x40 or 6x50 and proceed as explain above

## TO BURY THE CABLES

1) With the help of a shovel, dig a trench of 30 to 35 cm of depth according to the path of the cables, of every post to the control box.



**Fig12**

2) Spread the cables then under girde in the trenches to cover earth.



**Fig13**

IF THE CABLES ARE NOT BURIED, IT IS IMPERATIVE TO PROTECT THEM TO AVOID ANY DETERIORATION

## USE OF THE ALARM

### **1 / working and stop of the siren**

1) Once the alarm system in place and the perfectly aligned posts, the system is operational.

Comment: the system is operational as soon as the device is plugged in.

2) As soon as the alarm is active, all intrusion in the protected perimeter immediately triggers the alarm and the siren.

3) The siren will sound during 2 minutes and 30 seconds or until the entry of the personal code on the keyboard situated on the control box (the code is by default the 4,3,2,1).

Comment: when that the siren sounds, the LED " ALARME " of the control box is lit

4) Immediately upon the stopping of the siren, either at the end of the 2 minutes 30 seconds or following the entry of the personal code, the alarm is again active and ready to detect all intrusions

### **2 / PROGRAM PROGRAMS (Programming of a personal code)**

The programming mode permit the user personalize the alarms code.

1) Push and hold simultaneously numbers 1 and 3 on the keypad and hold for two seconds. The LED " PROGRAMME " on the control box will light. Enter a personal code of your choosing then, up to 4 numbers.

2) The personal code serves to deactivate the alarm if the device is active and the silence the siren (to see PROGRAM BATHING), it also serves to stop the siren after the detection of an intrusion (to see Working and stop of the siren)

### **3 / PROGRAM BATHING (Deactivation of the alarm during the bathing)**

1) To reach the swimming pool and to bathe, it is necessary to deactivate the alarm temporarily.

2) The deactivation of the alarm is achieved by entering his/her personal code on the keyboard of the control box. The LED " DESACTIVEE " of the control box lights. It is then possible to enter and to come out of the perimeter during 45 minutes without triggering the siren.

3) At the end of 45 minutes, the alarm rearms automatically and begins its normal surveillance.

4) If you leave the swimming pool before 45 minutes, it is possible to reload the alarm instantaneously by pushing on the ARM key on the keypad.

REMARK : A beep is issued at the end of 43minutes, warning the bathers that the alarm will rearm in two minutes. You may at this time again re-enter your code for another 45 minute period

#### 4 / PROGRAM COMPLETE STOP (TO BE USED ONLY IN EXTREME EMERGENCY)

1) It is possible to stop the alarm completely by simultaneously pressing and holding keys 1 and 4 on the keypad for 2 seconds. The LEDs " ERREUR FAISCEAU S" and DESACTIVEE will be lit, but the posts will be completely inactive (LEDs of the posts off). No detection is active in this mode.

2) To revert to the mode of detection (normal mode) t push again simultaneously and for 2 seconds on the keys 1 and 4.

#### RESOLUTIONS OF THE PROBLEMS

Problems	Reasons	Solutions
The alarm doesn't function	The electric plug is faltering	With the help of a voltmeter or an electric device that will act as witness (like a lamp), verify the presence of the current to the level of the outlet.
The siren sounds continually	The posts are not aligned correctly	Align the posts while following the instructions described in the note of installation and use
	An object or a plant is in the path of one of the beams	Remove the object or the plant
	The posts are dirty	Clean the posts (to see interview below)
	The connections are not correct	Verify all connections are right and verify if the wires are tightened well into the connections

#### HIVERNAGE

Attention: An accumulation of snow, can build up and trigger the alarm.

In order for the alarm to work properly, excess snow must be removed from between the posts.

To stop the alarm (to see 4 above / PROGRAM COMPLETE STOP), provided that your basin is Inaccessible because non secured, or protected by another compliant security system.



## INTERVIEW

The alarm system PE41 périmétrique has been conceived to function during several consecutive years with a maintenance minimum.

### 1) The posts

The posts must be cleaned if you note the reduction of the performances of the system or if the posts are notoriously dirty. To clean the posts use water and a non aggressive cleaning solution (the use of a too aggressive cleaning solution could damage the surface of the post and could modify the performances of the device irreparably).

### 2) The control box

Clean the control box with a rag to keep a clean appearance.

### 3) Rechargeable batteries

The batteries must be replaced every year. To change the batteries, you must disconnect the electric plug of the sector. Remove the control box from its site then, remove the 4 screws then to open it. Conduct the replacement of the rechargeable batteries AA NIMH 1800 mAh. Tighten up the case then to reinstall it at its site. Plug the electric plug on the sector.

ATTENTION, the rechargeable batteries must not be thrown in the nature nor with other common garbage. They must be deposited in a place of collection of the batteries and accumulators in order to permit their retraining and to preserve the environment.

**BE CAREFUL TO CONTROL ALL COMPONENTS OF THE ALARM SYSTEM REGULARLY. IF ONE OF THE COMPONENTS WAS DAMAGED, IMMEDIATELY BRING CLOSER YOURSELVES OF THE STORE OR YOU BOUGHT THE SYSTEM OF ALARM TO GET THE PIECE OF REDRAFT.**

**IT IS IMPERATIVE TO CHANGE THE BRIEFEST ON TIME TOGETHER ALL UNION ELEMENT OF DAMAGED ELEMENTS. TO USE PIECES ACCEPTED BY THE FOURNISSEUR/INSTALLATEUR ONLY**

## **ADVICES OF SECURITY**

The security of your children only depends on you ! The risk is maximum when the children are less than 5 years old. Be ready to make be there!

This alarm system itself does not replace common sense or individual responsibility. The alarm does not substitute itself for the vigilance of the parents and/or the responsible adults, that stays the essential factor for the protection of the children.

This alarm is a protective device that signals a danger (or risk of danger). The fast intervention in less than 3 min. of a responsible adult is obligatory when the warning bell siren sounds.

The user who disarms the system must be conscious that the human surveillance must take over. The biggest vigilance of the parent/de the responsible adult is necessary between the end of the bathing and the reactivation of the alarm system.

#### SUPERVISE AND ACT :

- \* the surveillance of the children must be close and permanent ;
- \* designate only one responsible adult for security;
- \* reinforce the surveillance when there are several users in the pool ;
- \* learn the gestures that save and especially those specific to the kids ;
- \* no jumping or diving in pool ;
- \* no running by pool ;
- \* don't allow the access to the swimming pool without a vest for a child not knowing how to swim well and non accompanied in the adult;
- \* don't allow any toys close by and in the pool area that is not under control ;
- \* stock the products of water treatments out of the range of the children.

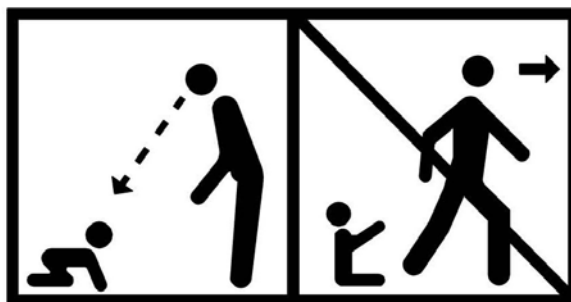
#### FORESEE:

an accessible telephone close to the basin not to let your children without surveillance when you call ;  
buoy and perch close to the basin.

Only is allowed the change of the batteries, batteries, and fuses, that must make itself in season in beginning.

#### IN CASE OF ACCIDENT :

take the child of water the most quickly possible ;  
immediatly call the help and follow the advice that will be given to you ;  
replace the dresses wet by hot covers.



To memorize and to display close to the swimming pool the numbers of emergency

FIREMEN (18)

PARAMEDICS (15)

**ANTI-POISON CENTER**

(verify on the first page of your directory the number of the regional center and report the number below)