

# immerstar®

Conforms to the  
French standard  
NFP 90-307-7 :  
2009



## Installation / User Manual

Read carefully and keep for future reference



## Introduction

The Immerstar Pool Alarm System is adaptable on the edge of in-ground, semi-in-ground or above-ground swimming pools, maximum 12 x 5 in size (range of 7 metres) to detect the fall of a person in to the pool.

Beyond that, we recommend equipping the pool with additional protective measures.

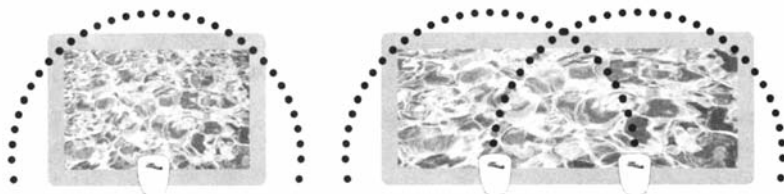
In compliance with the standard NFP 90-307/A1, your alarm is configured for a rectangular pool 4 x 8 m in size and 1.40 m depth.

IMMERSTAR analyzes the movement of the water in your pool and knows how to distinguish interference waves (cascade, filtration, rain, wind) from those emitted by the falling of a body. The response time is proportional to the distance between the point of detection and the point of immersion.

Warning! The installation and use of an alarm system is no substitute for the attention of adults. The IMMERSTAR is an additional tool to human vigilance for the supervision of pools.

## Limits of Use

- You can use the IMMERSTAR alarm only if the pool installation allows complete intervention (including rescuing from the pool) in under 3 minutes from the house or place of accommodation.



- The standard NFP 90-307/A1 relating to pool alarms specifies the detection of any fall within a maximum delay of 12 seconds: therefore the IMMERSTAR may not be situated more than 7 metres away from any potential fall site. In order to make large sized pools compliant, you could be obliged to install one or more additional IMMERSTAR alarms.
- The safety, alarm and fault signals must be audible from the house or place of accommodation. This must be verified during installation.
- Shape and size of the pool: For pools of unique shape or in the case of large pools (close to 12 x 5 metres), only an onsite test can verify the compatibility of the IMMERSTAR in your pool.

Warning: Some pool equipment may be incompatible with the proper functioning of the IMMERSTAR alarm (pool covering, cleaning robot). Ask your installer for advice.

- The IMMERSTAR alarm is not designed for self-supporting pools with soft walls, pools without a border, mirror pools, pools equipped with a gradually sloped access or pools equipped with a high rate of filtration (similar to that of a counter-current system). The use of a bubble cover can impede the functioning of the IMMERSTAR alarm.
- In surveillance mode, the IMMERSTAR alarm device adapts its sensitivity to the agitation conditions in the pool. Its sensitivity can be diminished in the case of very strong winds, storms or bad weather conditions. The wind tests were performed according to the methods specified by the standard NF P90-307/A1. Be extra vigilant if there is strong wind, gusts of wind or bad weather conditions that could affect the sensitivity of your IMMERSTAR alarm.

## Package Contents

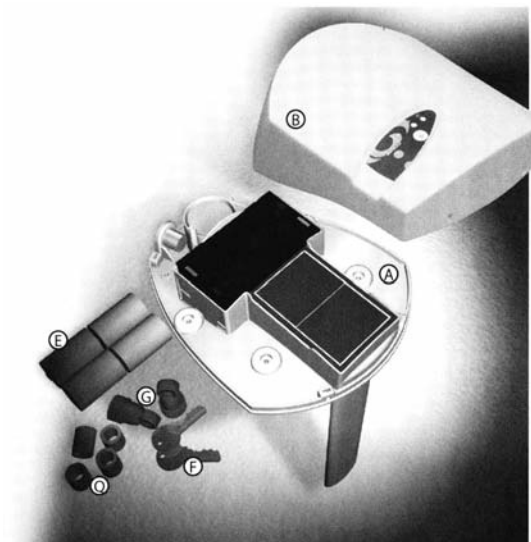
Despite all care we take in the quality of our products and their packaging, we ask you to check the contents and the condition of your IMMERSTAR alarm device before installation.

The package should contain:

- A - A circuit board with a 100 dB siren, contactor with lock and battery compartment,
- B - IMMERSTAR housing,
- E - 4 professional alkaline batteries,
- F - 2 contact keys,
- F - 2 control magnets.

A plastic bag containing:

- H - 4 plastic raw plugs,
- J - 4 square steel nuts,
- K - 4 steel screws 4 x 20 mm,
- L - 4 steel screws 4 x 30 mm,
- M - 2 steel screws 4 x 40 mm,
- N - 2 steel screws 4 x 50 mm,
- P - 4 soft washers,
- Q - 4 spacers for adaptation to all borders,
- R - An installation and operation manual.



## Pre-Installation Checks

IMMERSTAR alarm systems are tested at each stage of their manufacture, nevertheless, if a device has been damaged upon shipping, storage or any other handling that could affect its components, only a test during installation can assure that it works properly.

Place the 4 supplied alkaline batteries into your IMMERSTAR alarm making sure to get the polarity correct.

The compartment is designed to lock the batteries in the working position: clip them into place by pressing them firmly with your thumb. Attach the plunger tube to the IMMERSTAR alarm, not forgetting the O-ring.

- 1 - Put your detector on the edge of a table or bench.
- 2 - Switch the alarm on using one of the keys.
- 3 - The red and green diodes blink alternately: IMMERSTAR is currently in its calibration phase.
- 4 - After 3 seconds, the alarm emits a series of beeps: IMMERSTAR has just swapped automatically to swimming mode and the red diode blinks
- 5 - After about 3 seconds, the IMMERSTAR emits a series of beeps swapping automatically to surveillance mode and the green diode blinks.
- 6 - Immerse the tube into a bucket of water, then make an alternating up-and-down movement of the alarm.
- 7 - The siren should go off. You can stop it by switching the alarm off with the key.

If the test is successful, then your pool alarm is ready to be installed.

If the test failed, check to make sure the batteries are correctly in place and then repeat the test.

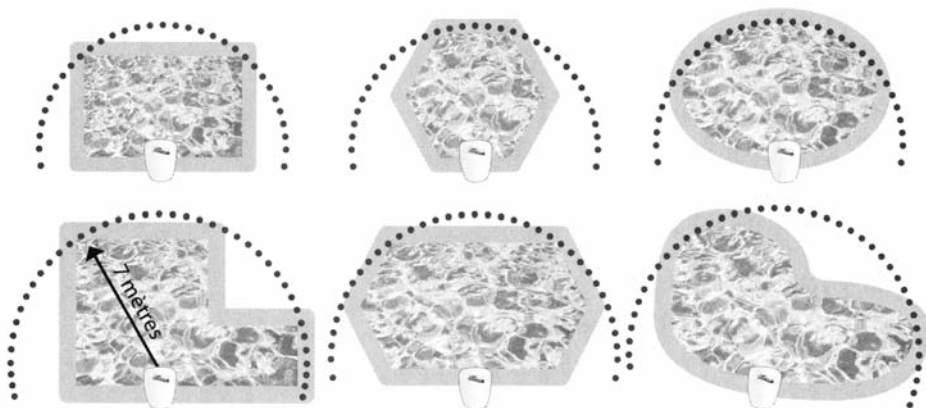
## Installation

In order to minimize the alarm's response time in the event of a fall, the IMMERSTAR device must be fastened at the middle of the longer edge of your pool and have the entire pool in direct line of sight.

The alarm is designed to be fastened to the border (the curvature of the cover matches the profile of classical borders; the spacers can be used to compensate for gaps).

Install permanent notices that the pool and its surroundings are under electronic surveillance.

Install your IMMERSTAR device more than one metre away from any recirculation ducts, skimmers, waterfalls or other equipment that generates noise in the pool.



## Installation to the Border

It is preferable to call in a professional to install and maintain the alarm system. In accordance with specifications of the standard NF P90-307/A1, your IMMERSTAR device must be fastened in such a way that it cannot be removed by bare hands alone so this must be firmly fastened to the border of your pool.

The IMMERSTAR alarm is equipped with pre-drilled holes and spacers for fastening it to your pool border (minimum width: 100 mm). Verify that the support (border, terrace) is stable, since the IMMERSTAR must not vibrate for it to work optimally.

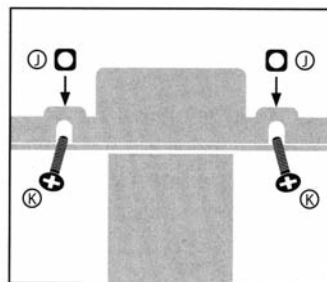
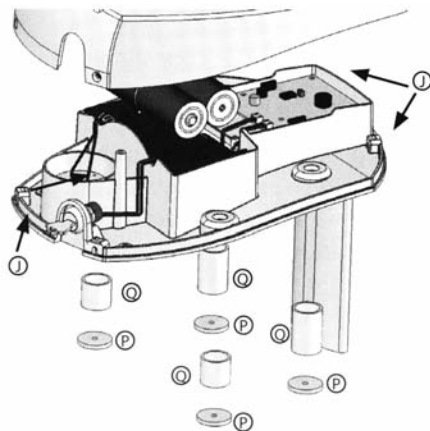
The alarm must be installed under no stress, with the cover removed. Position the alarm in such a way that the plunger tube is minimum 5 mm away from the edge of the border. The IMMERSTAR alarm is designed to be fastened to rigid borders at least 100 mm wide.

Of the 6 possible fixation points, you must use at least 4. You can choose to use the spacers (Q) in order to obtain the most sturdy fixation possible.

The tube of the sensor must be vertical. Drill holes and insert raw plugs (Cement borders only)

The foam rubber washers (P) go directly underneath the housing or underneath the spacers if the latter are used.

Screw the alarm onto the border using the 4 screws provided. Put the cover in place and screw it on with the four square nuts (J) and four 4 x 20 mm steel screws (K).



## Functional Test in the Pool

In order to perform this test, the following conditions must be satisfied;

- The alarm is fastened to the border
  - The water in the pool is still
  - It is a non-windy day
- 1 - Turn your pool's filtration system on.
  - 2 - Turn the key to switch the alarm on.
  - 3 - The red and green diodes blink alternately: IMMERSTAR is currently in its calibration phase.
  - 4 - After 3 seconds, the alarm emits a series of beeps: IMMERSTAR has just swapped automatically to swimming mode and the red diode blinks.
  - 5 - After less than 15 minutes, the IMMERSTAR emits a series of beeps swapping automatically to surveillance mode and the green diode blinks.
  - 8 - Throw a weight of about 8 kg into the pool.
  - 9 - The siren should go off. Turn it off by placing the magnet on its emplacement, or by switching the alarm off by the key.

Note: if your alarm does not succeed in detecting the fall in less than 12 seconds, it may be necessary to shorten the plunger tube.

If this turns out to be necessary, only cut the tube by 2 cm at a time and repeat the test after each cut.

In any case, the end of the plunger tube must still be more than 18 cm beneath the water.

It is also necessary to take into account the possibility of a low water level during periods of high evaporation.



<b>Test result</b>	<b>Valid</b>	<b>Action</b>
The fall is detected in less than 12 seconds	Yes	Stop the siren
It takes more than 12 sec. to detect the fall	No	Repeat the test
The fall is not detected	No	



At the end of the tests, the IMMERSTAR alarm, if left on, will automatically return to surveillance mode once the pool water has become still again, which can take up to 12 minutes.

As it swaps to surveillance mode, the alarm emits a series of beeps in quick succession and the red LED starts to blink.

## **Alkaline Batteries**

Despite all care taken in the choice of batteries, it can happen that unforeseeable storage may have weakened their performance. If the batteries are weak, three very quick “beeps” will sound every 40 seconds or so until the batteries have been changed. The batteries are guaranteed to last 3 years under normal utilization (that is, with no excessive triggering of the alarm).

When replacing them, always use batteries of the exact same characteristics and power. So as not to pollute the environment, return dead batteries to a proper reprocessing centre.

## **Operation**

In order to get the best satisfaction out of your alarm, familiarize yourself with the start/stop commands.

Under normal operation, it is imperative to remove the key.

The IMMERSTAR alarm must be in “swimming” mode for people to swim in the pool, with the red diode blinking.

If the green diode is blinking, you can switch the alarm to “swimming” mode by placing the magnet on its emplacement. A “beep” indicates this change.

After swimming, the IMMERSTAR alarm automatically returns to “surveillance” mode if the water remains still for at least 2 minutes.

This automatic return to surveillance mode is indicated by multiple series of “beeps”. All things considered, the automatic activation of surveillance mode can sometimes take up to 15 minutes. During this time, you must ensure heightened human vigilance.

It is possible to prompt a quicker return to “surveillance” mode by placing the magnet on its emplacement for a few seconds. If the pool water is still moving too much, the alarm could refuse to be forced to return to “surveillance” mode.

Some counter-current systems prevent the automatic reactivation of the immersion detection system. If the siren goes off, take immediate action. You can turn off the sound of the siren by placing the magnet on the magnetic zone or by switching the alarm off with the key.

By default, the siren will sound continuously for 2 minutes, then in intermittent rounds for another 3 minutes and then the alarm will return automatically to swimming mode.

## **Wintering and End of Use**

In order to maintain surveillance when the level of the pool has dropped over winter, equip your alarm with a wintering extension.

If you wish to stop your IMMERSTAR alarm despite the risk of interrupting the surveillance, turn the key to the OFF position and remove it from the keyhole.

If the alarm will be deactivated for an extended period, it is recommended to remove the batteries and store them in a cool, dry place.

### **Attention:**

In accordance with regulation 2003-9 on pool safety, we remind you that this device “must be installed and fastened permanently, all year round”. In the event of drowning while your IMMERSTAR is at a complete stop for whatever reason, neither your vendor nor the manufacturer can be held responsible for the accident.

### **Warnings:**

**FROST – Beware:** Your IMMERSTAR system will not function if there is water frost inside the sensor, or if the surface of the pool water is frozen. In case of doubt as to the solid or liquid state of the water inside the tube, carry out a functional alarm test.

**RIGHTS FOR INTERVENTION –** With regard to service and maintenance of this appliance, the only intervention that the user is authorized to perform, is changing the batteries.

**CHECKS –** Verify the proper function of your IMMERSTAR regularly by carrying out the triggering tests described in the directions.

## Monthly Tests

In order to ensure proper functioning of your IMMERSTAR alarm, it is imperative to test your device every month and to enter the results into the table below.

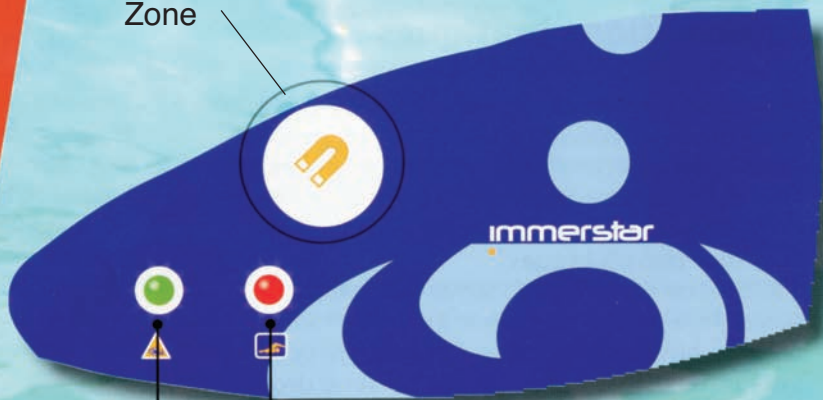
Should you ever want to return the device during the warranty period, you may be asked to present this table, duly filled out.

<u>N°</u>	<u>Date of Test</u>	<u>Success/Fail</u>	<u>Observations</u>
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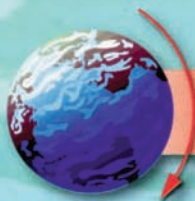
Control Panel

Magnet  
Zone



Green LED  
surveillance  
mode

Red LED  
Swimming  
mode



## ACIS

Aqua Consult Industrie Service

UK POOL STORE  
**ukps**