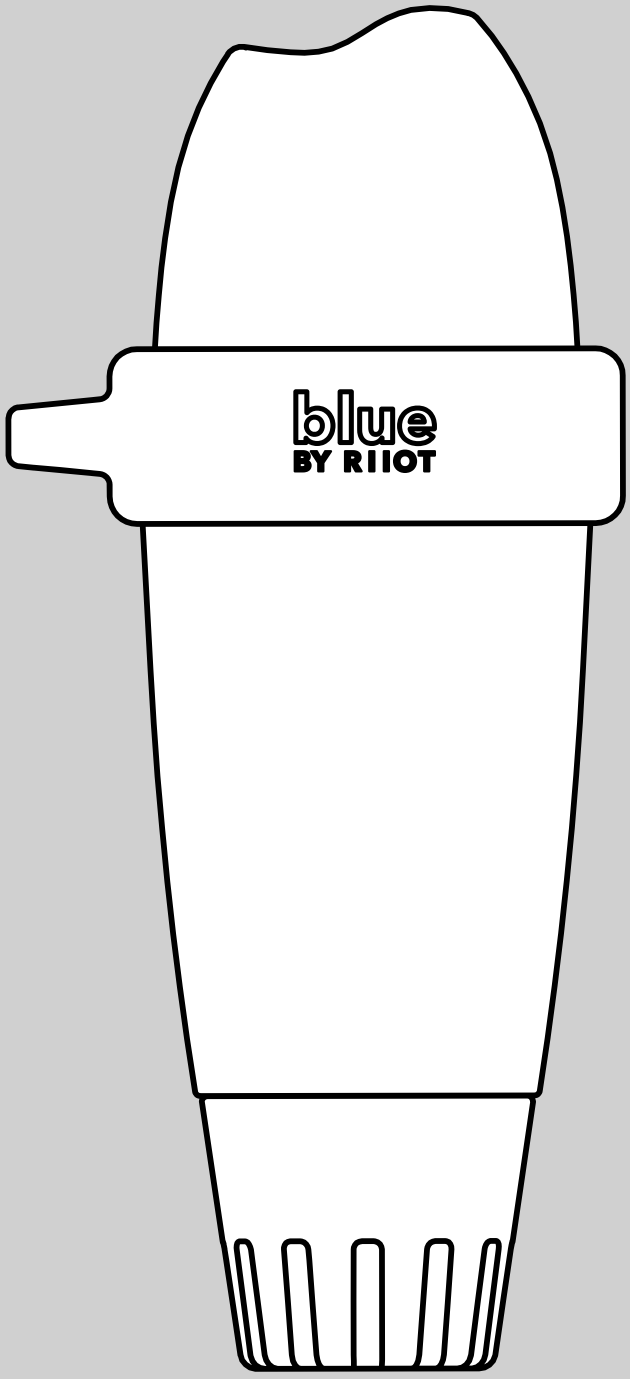
blue by Riiot

OPERATING INSTRUCTIONS



RIIOT
LABS

Introduction

Overview

blue constantly measures the main parameters of your swimming pool (temperature, pH, chlorine, salinity). **blue** also displays external temperature and local weather. Results of this analysis are ommunicated to you via notifications sent to the **blue by Riiot** application (available on smartphone and tablets compatible with Android™ and iOS). If **blue** detects an imbalance in one or more of your pool's parameters, an alert is sent via the app along with advice allowing you to easily correct and stabilise the parameter in question thus ensuring you maintain a clean and balanced water quality.

blue measures the following:

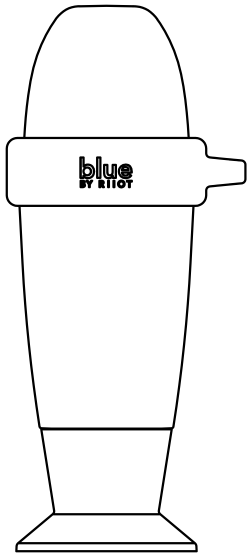
» Water Temperature (°C, °F): An elevated temperature reduces the efficiency of chlorine and promotes the development of microorganisms.
» pH (potential of Hydrogen): This important characteristic of any swimming pool is the balance between acidity and alkalinity. pH is crucial to the disinfectant level of your pool.
» ORP/REDOX (measure of active chlorine which is expressed in mV): The oxidation-reduction potential, or REDOX potential, measures the oxidisation strength or reduction potential of one substance to another. It signifies the disinfectant strength of the water.
» Salinity (g/L): Salinity is the measure of the quantity of salt dissolved in water.

Precautions for use

» Do not use **blue** for anything other than water analysis.
» **blue** is not a toy. Avoid sudden impacts at risk of damaging the device.
» Keep **blue** out of the reach of children when handling (e.g. calibration and putting on standby) due to the use of chemical products. Stock calibration products out of the reach of children.
» Do not leave the probe out the water for more than an hour without placing it in the storage cap suitably filled with KCl (saturated potassium chloride), pH4 solution, or as a last resort, in water from the swimming pool.
» Do not use demineralised water in the storage cap.
» Ensure that **blue** remains vertical and that the upper section is above the water to ensure that the device communicates correctly.
» Do not leave **blue** in water below 5°C or above 40°C.
» It is essential to keep **blue**'s serial number and code[1] (KEY).
» Do not open the top of **blue**.
» Store **blue** in a frost free environment.

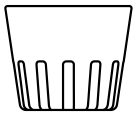
[1] On the back of the quick start guide or on **blue**'s base.

Description of equipement

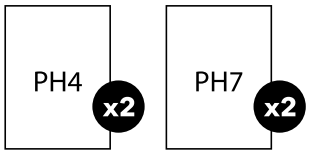


» **blue** analyser: it is delivered secured in the storage cap to protect the probe during transportation. The probe is stored in KCl (saturated potassium chloride), which assures its protection.

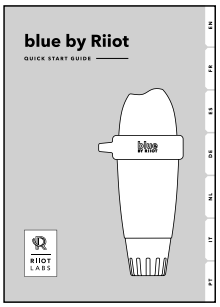
» The storage cap: it is used when the probe needs to be transported, kept out of water for more than an hour, or for prolonged storage (during winter for example).



» The usage cap: it must always be mounted before placing **blue** in water. It protects the sensors from any damage.



» Calibration products: there are hermetically sealed in an opaque container which contains the exact quantity of solution necessary for two calibrations.
  » 2 20 ml sachets of pH 4.
  » 2 20 ml sachets of pH 7.



» The quick start guide.

Installation of the app

1. Activate the Internet (Wi-Fi or 4G) and Bluetooth® on your smartphone or tablet.
NB: Remain in proximity to your **blue** throughout the activation process.

2. Go to **go.riiotlabs.com** or download the application **blue by Riiot**. The free app is available for free via the App Store® and Google Play™.

AVAILABLE ON THE App Store

GET IT ON Google Play

3. To benefit from alerts, ensure you authorise notifications from the app.

4. Connect to **blue by Riiot** :
» via Facebook®.
» via Twitter®.
» via your email.

5. Create your swimming pool: input your swimming pool's characteristics.
NB: You can at any time view or modify the characteristics of your swimming pool by visiting 'Pool settings' in the menu.
NB: To add a second swimming pool to the app, go to the menu, select the name of active swimming pool and select 'Add a pool'.

The application allows:

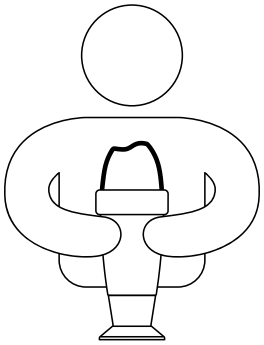
» to have access to the dashboard with comments and outstanding tasks;
» to display the four parameters' characteristics as well as their trends (displayed as trend arrows);
» to receive notifications and alerts;
» to display the external temperature;
» to add a swimming pool;
» to track the history and evolution of a pool's parameters;
» the user to change the parameters of the swimming pool;
» to calibrate **blue**;
» to take a Bluetooth® measure;
» to place **blue** in standby mode (winterisation);
» to conduct online diagnostics;
» to active **blue**;
» to connect and disconnect from **blue**.

Installation of blue

A. How to start up blue?

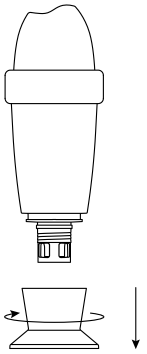
1. In the app menu, select '**blue** settings' and select 'Add a pool'. Insert the code (KEY), which can be found on the back of the quick start guide or on the base of the **blue**.

2. To start the blue it must first be activated. The top of the **blue** is shape like a wave. Place the trough of the wave towards yourself and shake vigorously. Two tones are sounded when the initial activation is successful.

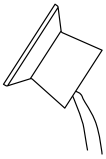


3. Press "ok" to finalize the activation process. **blue** is linked to your account and permanently linked to Sigfox[2] network.

4. Place **blue** upright on the storage cap and unscrew it.

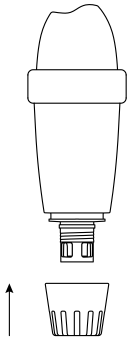


5. Empty the storage cap and rinse in clean water before returning it to the case.



[2] Sigfox® is a telecommunications network specialised in the Internet of Things. It is a low-speed, low energy cellular network that does not interfere with domestic Wi-Fi. You can check if your swimming pool is covered by the Sigfox® network by visiting www.sigfox.com/coverage. Blue uses Sigfox to transfer data to your smartphone.

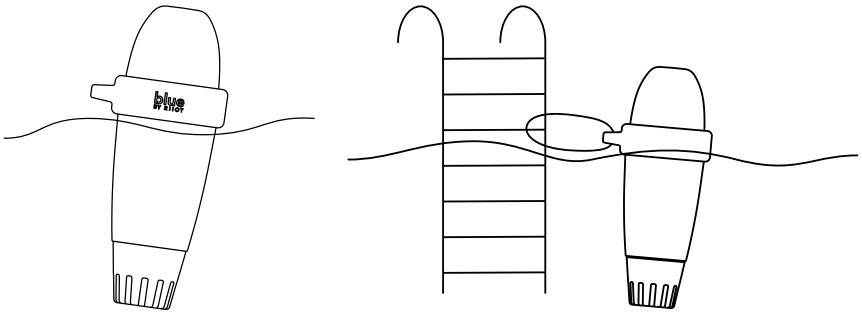
6. Rinse the probe in clean water and place the usage cap in the housing.



7. Place **blue** in the swimming pool:

» In the pool: Allow **blue** to float free in the pool. You can secure it to the side if necessary by connecting **blue** to a fixing point on the pool with a cord, which can be easily attached via the ring located on the body of the **blue**.

» In the cover storage area: If your pool is equipped with a retractable protective cover, we recommend you place the **blue** in the integral cover storage area.



NB: Ensure that the **blue** floats vertically and that the head is clear of the water to allow correct communications with the device.

B. Notes

» Do not leave **blue**'s sensors exposed to the air for more than an hour.

» If you forget to place **blue** back in the pool, you will be alerted via a notification that it needs to be put back in a wet environment.

» The Sigfox® network connects automatically and will send the first measurements after an hour. Subsequently it will continue to send Sigfox® measurements at regular intervals.

» **blue**'s sensor may take a few hours to stabilise its parameters after it is first placed in the swimming pool.

» If your region is not covered by Sigfox®, **blue** does work using Bluetooth®. In this case, you will need to take daily measurements using Bluetooth® so that **blue** can do its job as an analyser.

Ensure you watch the **blue** start up video available on **www.riiotlabs.com** (help).

Maintenance

A. Calibration

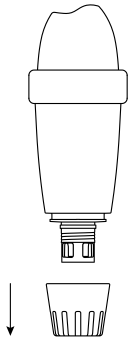
NB: **blue** does not need calibrating on first use.

1. Activate the Internet (Wi-Fi or 4G) and Bluetooth® on your smartphone.
NB: Remain in proximity to your blue throughout the calibration process.

2. On the dashboard, select '**blue** settings'. A message will appear at the top of the screen when the **blue** is detected.

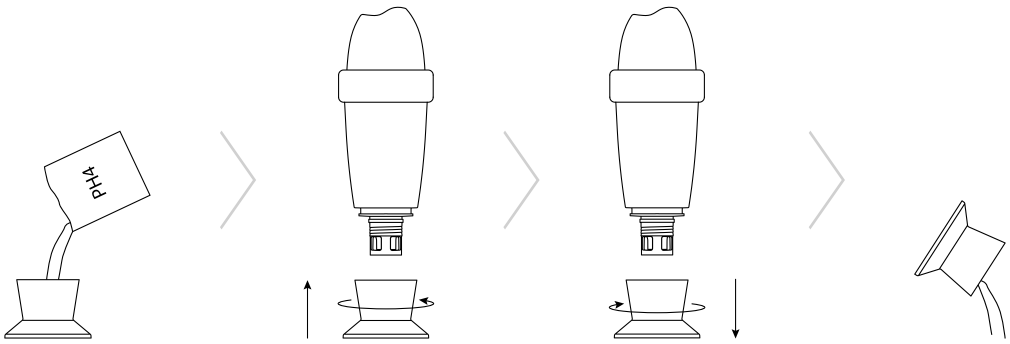
3. Select 'Calibrate **blue**'.

4. Remove **blue** from the water, pull out the usage cap and rinse the probe in clean water.



5. Rinse the storage cap with clean water and wipe it clean.

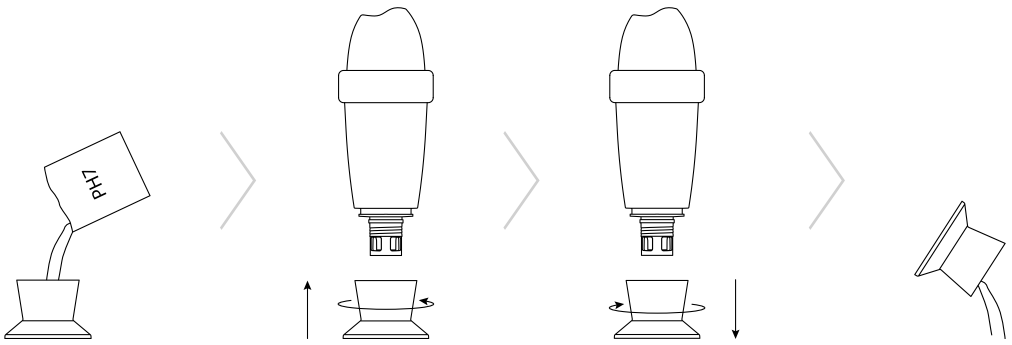
6. Place a pH4 solution in the storage cap and screw it to the **blue**. Now press 'Validate'. At the top the screen you will see the progression of the measurements. Once the pH4 measurement is complete, unscrew the storage cap from the **blue** and rinse the probe. Empty[3], rinse[4] and wipe clean the storage cap.



[3] Never reuse the calibration products. They are not designed for multiple use.

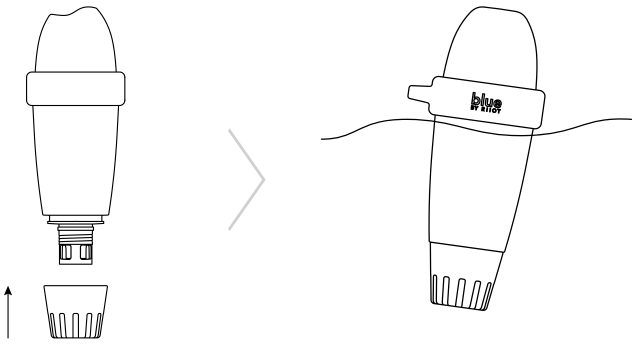
[4] Always clean the probe and storage cap with clean water after calibration to avoid cross contamination of calibration solutions.

7. Place a pH7 solution in the storage cap and screw it to the **blue**. Now press 'Validate'. At the top the screen you will see the progression of the measurements. Once the pH7 measurement is complete, unscrew the storage cap from the **blue** and rinse the probe. Empty, rinse and wipe clean the storage cap.



8. Validate the calibration.

9. Replace the usage cap and place **blue** back into the swimming pool.



NB: For best results during calibration use **Riiot Lab** products.

B. Replacing the blue body

The body of the **blue** (probe + battery) will need replacing as a maximum every two years[5]. For further details contact your supplier.

To ensure the maximum life of your **blue**:

» Put **blue** into standby mode during winter or when the swimming pool is not in use for protracted periods to conserve battery life (see C below).
» The probe should be kept in a wet environment when ever possible. If you have to remove **blue** from the pool for more than an hour, it is highly advised that **blue** is correctly secured in the storage cap in KCl (saturated potassium chloride), pH4 solution, or as a last resort, in water from the swimming pool.

[5] For standard use and correct storage, the life expectancy of the equipment may vary between 1 and 2 years.

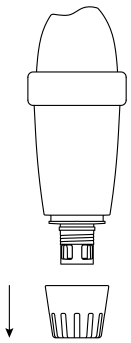
C. Putting blue into standby mode during winter or for storage

Winterisation:

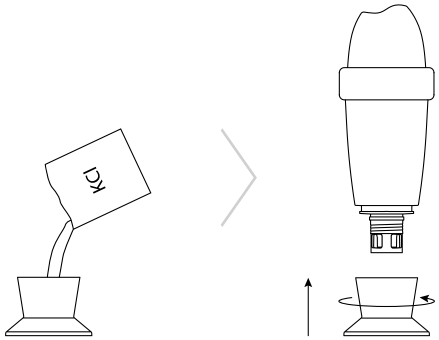
1. Activate the Internet (Wi-Fi or 4G) and Bluetooth® on your smartphone.
NB: Remain in proximity to your **blue** throughout the standby process

2. From the app menu select '**blue** settings' and press 'Put **blue** in standby mode'.

3. Remove **blue** from the water. Remove the usage cap.



4. Rinse the storage cap with clean water and wipe it clean. Place KCl[6] (saturated potassium chloride) or pH4 solution in the storage cap and screw it to the **blue**.



5. Validate the standby mode and store **blue** in a frost free environment.

Storage:

If you have to remove **blue** from the pool for more than an hour, correctly secure **blue** in the storage cap in KCl (saturated potassium chloride), pH4 solution, or as a last resort, in water from the swimming pool. The probe must not be left dry.

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[6] Residual KCl left in the storage tube can cause the formation of salt crystals where the storage cap joins the equipment. This does not risk damage to the **blue** and be clean simply by using clean water.

D. Activating blue after winterisation

1. On the dashboard, press "**blue** is in standby"

2. See "**Installation**" at point 2 above

Technical characteristics

» Weight: 704 g
» Protection Standard: IPX-8
» Sensors and measurements:
pH: - Range: 0 to 14
- Accuracy: ± 0.1
- Resolution: 0.1
Temperature (water): - Range: 5 to 40°C
- Accuracy: ± 0.2°C
- Resolution: 0.1° C
Redox/ORP (active chlorine): - Range: 0 to 999 mV
- Accuracy: ± 20mV
- Resolution: 1mV
Conductivity: - Range: 0 to 20.000 µS/cm
- Accuracy: ± 5 %
- Resolution: 1uS/cm
» Connectivity: Sigfox®, Bluetooth Low Energy® (BLE)
» Power Supply: 2 x Lithium batteries (Thionyl Chloride).
» Nominal Voltage: 7.2 V
» Operating System: iOS, Android™ (4.0 Bluetooth®, Android™ 4.3 and iOS 9.0)
» Languages: English, French, Spanish, Dutch, German, Italian, Portuguese.

General information

A. Guarantees

» Product Guarantee: 24 months.
» Consumables Guarantee (probe, battery): 12 months.

B. How to recycle this product

This symbol indicates that this product must be disposed of in accordance with applicable legal requirements and separated from domestic waste. At the end of the products life it must be taken to an appropriate recycling point. Recycling your product will help protect the stocks of raw materials and guarantee that all guidelines relative to health and safety, and environmental protection are respected.

C. Registered Trademark

Riiot Labs and **blue** as well as their respective logos are trademarks which have been filed or registered by **Riiot Labs S.A.**

The Bluetooth trademark and logo is registered and owned by Bluetooth SIG, Inc. and they are used under license by Riiot Labs.

AppStore is a service mark of Apple. Inc. registered in the United States and in other countries.

iOS is a registered trademark belonging to Cisco in the United States and in other countries, used under license.

Google Play and Android are trademarks of Google Inc.

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D. Declaration of conformity

CE

EC Declaration of Conformity

Document Number:

We, the undersigned,

Manufacturer or representative:	**Riiot Labs S.A.**
Address:	Rue du bois saint jean, 16 – 4102 Ougrée
Country:	Belgique
Phone number:	+32 4 332 33 23
E-mail:	info@riiotlabs.com

Designated product,

Description:	**blue by Riiot**
Brand name or trade mark:	Riiot Labs
Identification / Designation:	Smart pool analyser

Certify and declare under our sole responsibility that the designated product is in conformity with the essential requirements and provisions of the following European Directives:

☐ Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating **to electromagnetic compatibility (EMC)**.
The conformity of the designated product(s) with the provisions of this European Directive is given by the compliance with the following European Standard(s):

☒ Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of **radio equipment (RED)**.
The conformity of the designated product(s) with the provisions of this European Directive is given by the compliance with the following European Standard(s):

» ETSI EN 300 328 V1.9.1 (Essential requirements of article 3.2)
» ETSI EN 300 489-1 V1.9.2 / ETSI EN 301 489-17 V2.2.1 / (Essential requirements of article 3.1b))
» ETSI EN 300489-3 V1.6.1 / EN 61326-1 (2013)
» EN 62311 (2008) (Essential requirements of article 3.1a))
» EN 61010-1 (2010) (Essential requirements of article 3.1a))

☐ Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits **(Low voltage directive)**
The conformity of the designated product(s) with the provisions of this European Directive is given by the compliance with the following European Standard(s):

☐ Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products **(Ecodesign / ERP directive)**

☒ Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances **(ROHS)** in electrical and electronic equipment.

☒ Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)

Name and position of person binding the manufacturer or his authorised representative
Mr. Julien Delarbre
Address: Rue du bois saint jean – 4102 Ougrée - BELGIUM

Signature: