bluelab®
# pH pen

## Care and use guide




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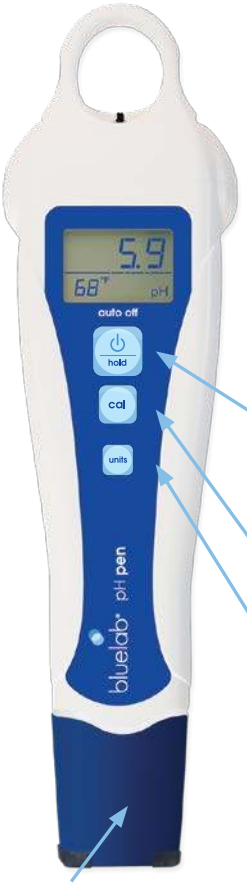

a handy solution made easy

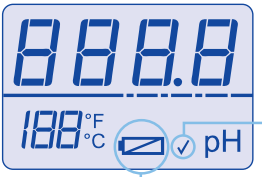
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## Features

| | |
|---|---|
| Backlit LCD display | Low battery indicator |
| Hold reading function | Fully waterproof |
| Fully guaranteed for 1 year | Auto off function |
| Double junction probe (not replaceable) | Automatic Temperature Compensation (ATC) |
| Successful calibration indicator | Selectable units for °C and °F |

# Quick guide




**Check mark/tick to indicate successful calibration**
Disappears 30 days after calibrating probe as a calibration due reminder.

**Low battery warning**
Appears when batteries are low.

**Power button / hold**
Short press to turn on.
Short press to hold reading.
Long press to turn off.

**Calibrate button**
See calibration section.

**Units button**
Hold until units flash then short press to change units.
Screen will change back when no buttons have been pressed for 3 seconds.




Storage cap can be placed onto loop while being used.

**Storage cap**
*The probe must not be allowed to dry out.* Always place storage cap back onto probe tip after each use. Add 3-5 drops of KCl storage solution to the round hole (wetting seal) in the cap each week to keep the probe wet. See section 3.0



**Keep your probe tip wet**
at all times to avoid permanent damage

## 1.0 Before use begins

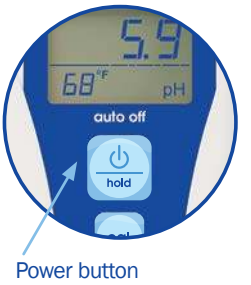
1. **Hydrate in KCl storage solution for 24 hours before you start using the pH pen.**
   See section 6.0
2. **Calibrate the pen before you start using the pen.**
   See section 7.0

## 2.0 To operate

1. **Turn pen on**
   Press power button.

   **To turn pen off**
   Press and hold the power button until OFF is displayed.

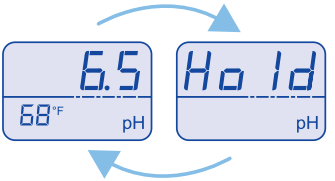
   **NOTE:** The pen will automatically turn off after 4 minutes to conserve battery power.



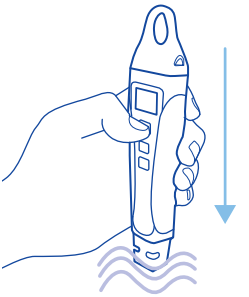
Power button

2. **Measure pH**
   Remove storage cap, place probe in solution and wait for reading to stabilize.

3. **To hold reading**
   If you want to “hold” the reading on the screen, short press the power button. To exit the hold function press the power button again.

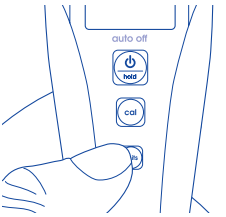


1 second alternating displays



4. **To change temperature units**
   Hold down the units button for 3 seconds until the temperature units start flashing. Short press the units button again to cycle between °F and °C. To exit this mode don’t press anything for 3 seconds.

   NOTE: You can change units while in hold mode by holding down the units button.




5. **Rinse and replace storage cap**
   To ensure accurate pH readings always rinse the probe in clean fresh water before replacing the cap. Add 3-5 drops of KCl storage solution in to the wetting seal of the cap each week. The cap is tight to ensure a good seal and should click when on correctly.



## 3.0 IMPORTANT - pH pen probe care

***pH probes do not last forever. They age through normal use and will eventually fail. The lifetime of a probe depends on the environment it is used in and the way it is treated. To ensure you receive a long life from your pen, please ensure you follow the guide below.***

### Storing the pH pen



***When storing the pH pen, the probe tip must be kept moist.***

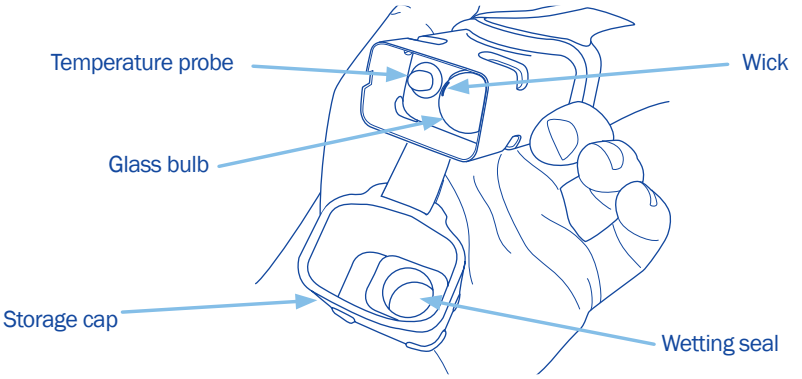
Add 3-5 drops of KCl storage solution into the wetting seal inside the storage cap once a week. Never use RO, Distilled or De-ionized water. Place the seal and cap over the probe tip.

### Long term storage

For long term storage, remove the cap and place the pen upright in a plastic container. Cover the probe tip with KCl storage solution to ensure constant hydration. Check the container regularly and top up the KCl storage solution as needed.

### If the probe has been accidentally allowed to dry out:

The probe must be 'hydrated' for 24 hours in KCl storage solution (never use RO, Distilled or Deionised water). Following this; carry out a calibration to check if the probe has already suffered permanent damage.




**DO NOT** let the probe tip dry. IF IT DRIES IT DIES!

**DO NOT** knock the pen; this will break its external glass bulb or internal glass tube.

**DO NOT** touch the glass bulb with your fingers as this will contaminate the glass.

**DO NOT** plunge a cold probe into a hot liquid (or visa versa) - sudden temperature changes can crack the glass and permanently damage the pen.

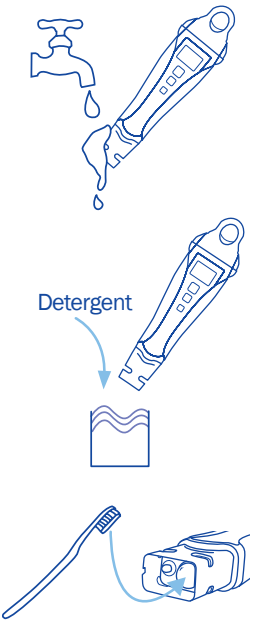
**DO NOT** soak or rinse the pH probe in RO (Reverse Osmosis), Distilled or De-ionized water. Pure water changes the chemistry in the reference, causing the probe to die.

**DO NOT** immerse in oils, proteins or suspended solids that will leave a coating on the glass bulb.

## 4.0 Cleaning

*To ensure accurate readings the probe needs to be rinsed in water before replacing the storage cap and cleaned regularly using the following instructions.*

1. **Rinse probe tip under fresh water.**
2. **Fill small container with clean water.**
   Add a small amount of Bluelab pH Probe Cleaner or mild detergent (dish washing liquid).
3. **Gently stir the probe tip in the mixture.**
   Ensure that you do not 'knock' the pen on the side of the container as this may cause damage to the glass probe. Rinse well under fresh running water to remove all traces of the detergent mixture.
4. **If the probe requires removal of heavy contamination:**
   Gently brush around the glassware with a few drops of Bluelab pH Probe Cleaner or mild detergent (dishwashing liquid) and a soft toothbrush.
5. **Rinse well under fresh running water to remove all traces of the detergent mixture.**
6. **Calibration of the probe is required after every clean.**
   See the pH calibration in section 7.0. Place storage cap back onto the probe.




## 5.0 Battery replacement

*The pH pen is powered with 1 x AAA alkaline battery. Do not use rechargeable batteries. A low battery warning is indicated by a battery symbol appearing on the screen. Only remove the battery cap when the batteries require changing. Battery life is expected to be 350 hours.*

1. **To remove old battery**
   Undo battery cap fasteners. Remove battery cap and tip out the old battery.
2. **Check for corrosion**
   Flat batteries may leak and cause corrosion. Check battery contacts and the battery for any sign of corrosion. Battery contacts should be cleaned first if corrosion is found before proceeding to step 3.
3. **Fit new battery**
   Insert the new batteries positive (+) end down into the body.
4. **Ensure waterproof battery cap seal is clean**
   Seal will fail if any dirt is present.
5. **Replace battery cap**
   ***Tighten fasteners on battery cap until there is no space left between the cap and body.***
   This ensures the unit remains 100% waterproof.

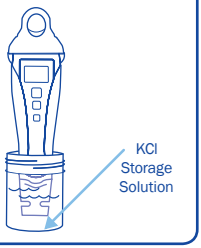


## 6.0 Hydration

***Hydrate the pH pen tip in Bluelab pH Probe KCl Storage Solution before first use and after cleaning to improve the reading response speed.***

***Never use RO, Deionized or Distilled water. Pure water changes the ions, causing the probe to die.***

1. **Remove the storage cap.**
   Place the pH pen upright in a small plastic container.
2. **Add enough Bluelab pH Probe KCl Storage Solution to submerge the probe tip.**
3. **Leave to soak for at least 24 hours.**
   After hydration, always rinse the probe tip in fresh water, then calibrate the pH pen to ensure accuracy. See section 7.0.



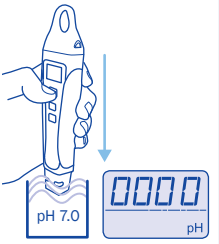

## 7.0 Calibration

***pH calibration is required before first use to ensure that the first reading is accurate. Calibration is also required when:***

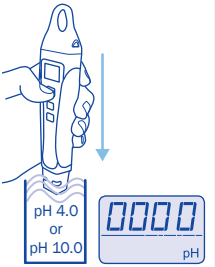
- The check mark/tick has disappeared from the LCD screen (30 days after last calibration)
- The reading is different from what you expected
- After cleaning and hydration
- After changing the batteries

***pH 7.0 and pH 4.0 solutions are required for calibration. You may also calibrate using pH 7.0 and pH 10.0 solutions if your readings will normally be higher than 7.0 pH.***

1. Excluding first use, clean pH Pen probe with Bluelab pH Probe Cleaner and rinse well (see section 4.0).
   Press “power/hold” button to turn on.
2. Place probe tip in fresh Bluelab pH 7.0 Calibration Solution. **Always 7 first!**
3. Long press “cal” button until “CAL” is displayed. Release button.
   ‘□’ starts to flash indicating the start of calibration. Leave the probe in the solution while the display is flashing. After ‘□□□□’ stops flashing, ‘CAL’ shows the calibration point is complete.




4. Rinse probe tip in clean tap water and then gently shake off any excess water.
   Place probe tip in fresh Bluelab pH 4.0 or pH 10 calibration solution.
5. Long press “cal” button until “CAL” is displayed. Release button.
   ‘□’ starts to flash indicating the start of calibration. Leave the probe in the solution while the display is flashing. After ‘□□□□’ stops flashing, ‘CAL’ shows the calibration point is complete.
6. A check mark will be displayed at the bottom of the screen to indicate a successful calibration. It will disappear after 30 days to indicate calibration is required.

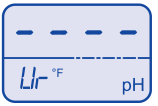



7. The Bluelab pH Pen should always be calibrated to 2 points! Always calibrate to pH 7 first, then pH 4 or 10.
   *NOTE: The pH Pen will not hold calibration if it is only calibrated to pH 7.0. Calibration to pH 7.0 and pH 4.0 is required.*

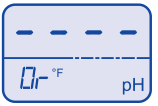


## 8.0 Error messages

*The following error messages appear for the following reasons.*



Temperature under range



Temperature over range



pH calibration failed



pH over range



pH under range



Hardware error

## 9.0 Troubleshooting guide

| Trouble | Reason | Correction |
|---|---|---|
| ***Drift - readings slowly varying*** | Glassware not clean | Clean glassware, hydrate and calibrate. |
| | Wick contaminated or blocked | Soak probe in KCl storage solution for 24 hours and retest. Do not measure proteins or oils with this unit. Replace unit. |
| | Glassware aged | Replace unit. |
| ***Displays similar pH reading in all buffers no matter what the buffer value is*** | Glassware broken | Replace unit. |
| ***Unsuccessful calibration*** | Buffers inaccurate | Replace buffers. |
| | Glassware not clean | Clean glassware. |
| | Glassware aged (glassware will not clean) | Replace unit. |
| | Probe not hydrated | Soak probe in KCl storage solution for 24 hours and retest. |
| ***Noisy - readings jumping*** | Contact zone not immersed | Lower pen into solution at least 2cm/1”. |
| ***Displays pH 7 for all buffers*** | Broken glassware | Replace unit. |
| ***Incorrect sample reading following successful calibration*** | Ground loop (often occurs in process systems) | Verify by removing the sample from its environment and measuring in a glass beaker. May require electrical circuitry to be checked in system. |
| | Wick blocked | Soak probe in KCl storage solution for 24 hours and retest. Do not measure proteins or oils with this unit. Replace unit. |

## 10.0 Technical specifications

| | |
|---|---|
| **Measurement range** | 0.0 - 14.0 pH |
| **Resolution** | 0.1 pH |
| **Accuracy (at 25°C / 77°F)** | ± 0.1 pH |
| **Temperature compensation** | Automatic |
| **Operating temperature** | 0 - 50 °C, 32 - 122 °F |
| **Calibration** | Manual calibration, 2 or 3 points |
| **Units** | pH, °F and °C |
| **Power source** | 1 x AAA alkaline battery |

# Bluelab Probe Care - pH

### The instrument is only as accurate as the probe is clean!




**Probe cleaning is one of the most important parts of owning and operating any Bluelab meter, monitor or controller.**

If the probe is contaminated (dirty) it affects the accuracy of the reading displayed.

### Bluelab Probe Care Kit - pH contains:

- Probe care instructions
- 3 x plastic cups
- 20ml single-use Bluelab Solution Sachets, 2 each of: pH 7.0 & pH 4.0, KCl
- Bluelab pH Probe Cleaner
- Toothbrush (pH probe cleaning instrument)

# Bluelab pH Probe KCl Storage Solution

### The perfect solution to store and hydrate your Bluelab pH products.




**Bluelab pH Probe KCl Storage Solution is designed to increase response time and maximize the life of Bluelab pH pens and pH probes.**

For best results, use the KCl solution to store the pH pen/probe after use and hydrate monthly.

*Instructions are on the label of the bottle.*

### Use Bluelab pH Probe KCl Storage Solution with:

- Bluelab pH Pen
- Bluelab Soil pH Pen
- Bluelab pH Probes
- Bluelab Soil pH Probes

# Bluelab® limited warranty

Bluelab® Corporation Limited (Bluelab) provides a warranty on its products (Bluelab® pH Pen) under the following terms and conditions:




**How Long Does Coverage Last?**

Bluelab® warrants the Bluelab® pH Pen (Product) for a period of 12-months from date of purchase by original purchaser or consumer. Proof of purchase, to Bluelab's sole satisfaction, is required for the warranty to be effective (store sales receipt for Product showing model number, payment and date of purchase). This warranty is non-transferable and terminates if the original purchaser/consumer sells or transfers the Product a third party.

**What is Covered?**

Bluelab® warrants the Product against defects in material and workmanship when used in a normal manner, in accordance with Bluelab® instruction manuals. If Bluelab® is provided with valid proof of purchase (as defined above) and determines the Product is defective, Bluelab® may, in its sole discretion either (a) repair the Product with new or refurbished parts, or (b) replace the Product with a new or refurbished Product.

Any part or Product that is replaced by Bluelab® shall become its property. Further, if a replacement part or Product is no longer available or is no longer being manufactured, Bluelab® may at its sole discretion replace it with a functionally-equivalent replacement part or product, as an accommodation in full satisfaction of the warranty.

**What is NOT covered?**

This warranty does not apply to equipment, component or part that was not manufactured or sold by Bluelab®, and shall be void if any such item is installed on a Product. Further, this warranty does not apply to replacement of items subject to normal use, wear and tear and expressly excludes:

- Cosmetic damage such as stains, scratches and dents
- Damage due to accident, improper use, negligence, neglect and careless operation or handling of Product not in accordance with Bluelab® instruction manuals, or failure to maintain or care for Product as recommended by Bluelab®
- Damage caused by use of parts not assembled/installed as per Bluelab® instructions
- Damage caused by use of parts or accessories not produced or recommended by Bluelab®
- Damage due to transportation or shipment of Product
- Product repaired or altered by parties other than Bluelab® or its authorised agents
- Product with defaced, missing or illegible serial numbers
- Products not purchased from Bluelab® or a Bluelab®-authorised distributor or reseller.

**How Do You Get Service?**

To begin a warranty claim you must return the Product to the point of purchase with valid proof of purchase (as defined above). In California, you can also return the Product to any Bluelab-authorised distributor or reseller, with valid proof of purchase.

**Limitation of Liability & Acknowledgments**

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SOME JURISDICTIONS (STATES OR COUNTRIES) DO NOT ALLOW EXCLUSION OR LIMITATION FOR INCIDENTIAL OR CONSEQUENTIAL DAMAGES, OR LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT BE APPLICABLE.

IF ANY PROVISION OF THIS WARRANTY IS JUDGED TO BE ILLEGAL, INVALID OR UNENFORCEABLE, THE REMAINING PROVISIONS OF THE WARRANTY SHALL REMAIN IN FULL FORCE AND EFFECT.

**Governing Law; Authority**

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bluelab®

success by simplicity

## guarantee.

The Bluelab® pH Pen comes with a 1 year limited written guarantee. Proof of purchase required.

## lets talk.

If you need assistance or advice - we're here to help you.

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Email: **support@bluelab.com**

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To watch instruction videos, visit our online video library:
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## post.

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