bluelab®

pH pen

Care and use guide

Contents

CE FC

a handy solution made easy

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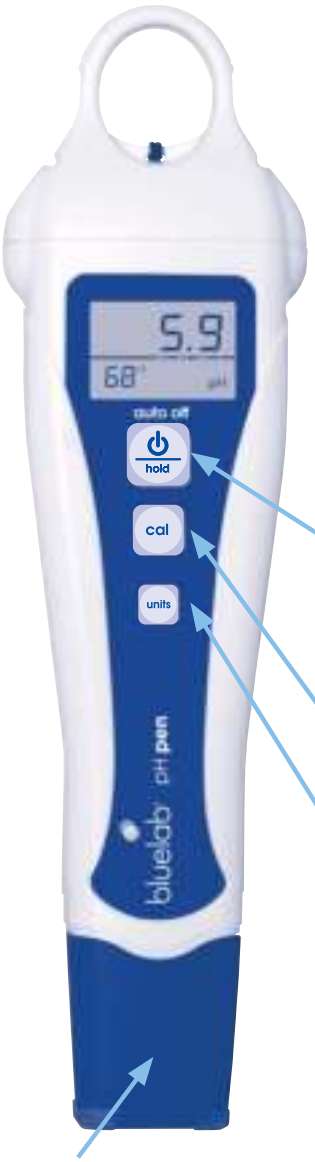
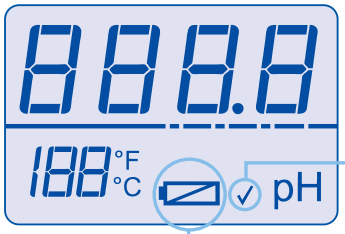
English

Features

Backlit LCD display	Low battery warning
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 and ensure it contains either water or pH 4.0 solution.

ATTENTION
If it dries, it dies!

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

1.0 Before use begins

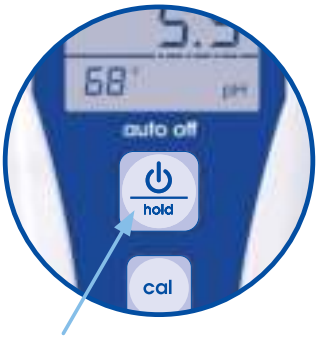
1. **Hydrate in water for 24 hours before you start using the pen.**
2. **Calibrate the pen before you start using the pen.**
   See section 6.0

2.0 To operate

1. **Turn pen on**
   Press power button. The last measurement is recalled for 3 seconds.

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

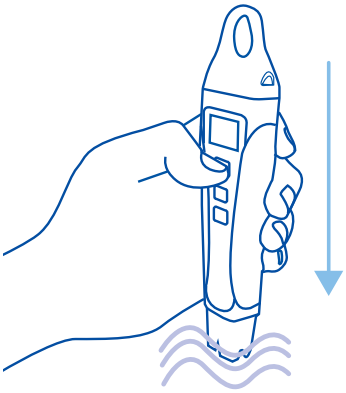
   NOTE: The pen will automatically turn off after 4 minutes to conserve battery power.

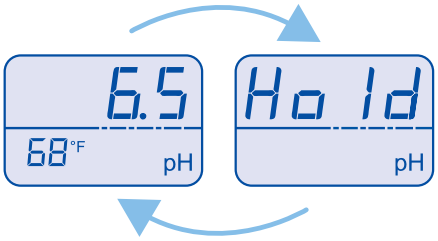


Power button

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.

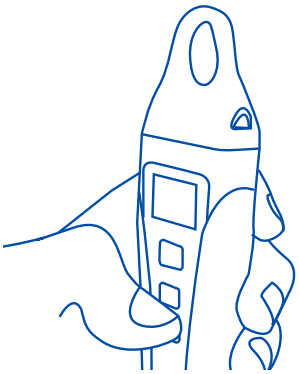




1 second alternating displays

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. 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.

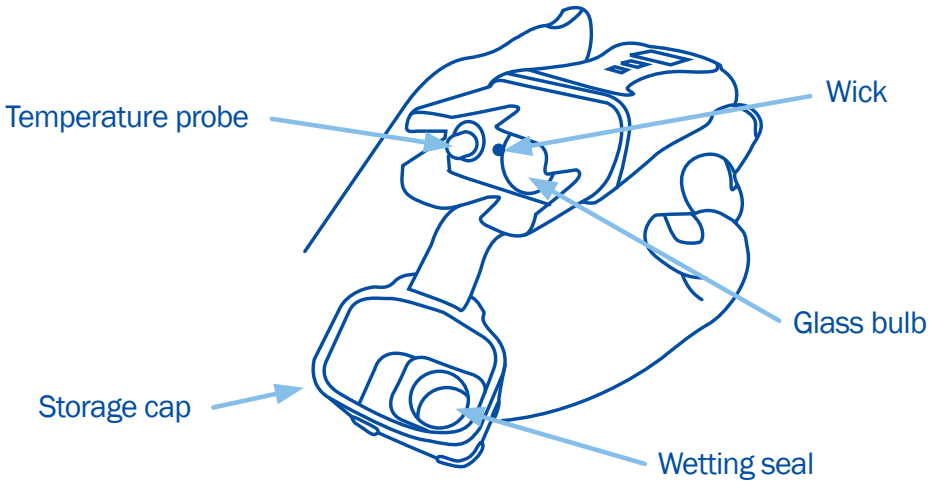
To prepare the probe for storage, place a small amount of clean water (never distilled or deionised water) or pH 4.0 solution into the wetting seal inside the storage cap. Then place the seal and cap over the probe tip.

Long term storage

For long term storage, place the pen upright in a glass of tap water with the storage cap off to ensure constant hydration.

If the probe has been accidentally allowed to dry out:

The probe must be 'hydrated' for 24 hours in fresh clean water (never 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.

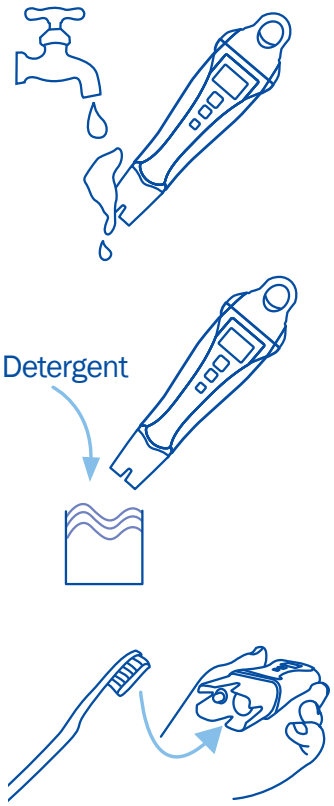
DO NOT immerse in oils, proteins or suspended solids that will leave a coating on the glass bulb.

English

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 6.0. 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 Calibration

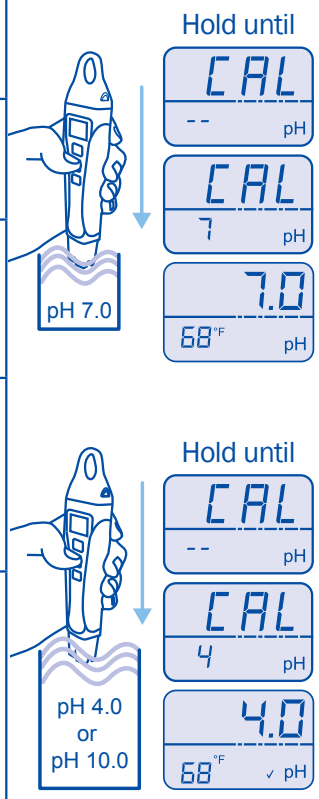
pH calibration is required before first use to ensure that the first reading is accurate. Calibration is also required when:

- 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
- 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.

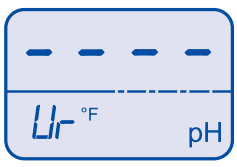
1. **Excluding first use, YOU MUST CLEAN the probe before calibrating.** See section 4.0.
2. **Rinse probe in fresh water and place in pH 7.0 solution.** Wait for reading to stabilize.
3. **Press the cal button until CAL is displayed.** Release button. When CAL 7 is displayed, 1 point calibration is complete.
4. **Rinse probe in fresh water and place it in either pH 4.0 or pH 10.0 solution (use pH 10.0 solution if you expect to measure above 7.0 pH).** Wait for reading to stabilize.
5. **Press the cal button until CAL 4 or CAL 10 is displayed.** CAL 4 or CAL 10 should be displayed (depending on what solution you are calibrating in). The check mark/tick is displayed when a 2 point (or 3) calibration is completed.

   NOTE: For a three point calibration repeat the steps using 4, 7 then 10 solution.



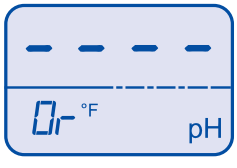
7.0 Error messages

The following error messages appear for the following reasons.

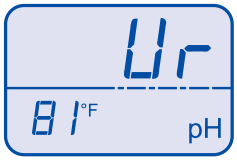


Temperature under range

pH over range



Temperature over range



pH under range

pH calibration failed

Hardware error

8.0 Troubleshooting guide

Trouble	Reason	Correction
Drift - readings slowly varying	Glassware not clean	Clean glassware and calibrate
	Wick contaminated or blocked	Soak probe in water 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 water 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 water for 24 hours and retest. Do not measure proteins or oils with this unit. Replace unit.

9.0 Technical specifications

Range	0.0 - 14.0 pH
Resolution	0.1 pH
Accuracy	± 0.1 pH @ 25 °C
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

Limitation of Liability

Under no circumstances shall Bluelab Corporation Limited be liable for any claims, losses, costs and damages of any nature whatsoever (including any consequential loss) that result from the use of, or the inability to use, these instructions.

English

Bluelab pH Pen product guarantee

Bluelab Corporation Limited guarantees this product for a period of ***1 year (12 months)*** from the date of sale to the original purchaser. The product will be repaired or replaced, should it be found faulty due to component failure, or faulty workmanship. The faulty product should be returned to the point of purchase.

The guarantee is null and void should any internal parts or fixed external parts be tampered with or altered in any way, or should the unit have been incorrectly operated, or in any way be maltreated. This guarantee does not cover reported faults which are shown to be caused by any or all of the following: contaminated measuring tip (see instruction manual for cleaning instructions), broken glassware or drying of the pH probe glassware, flat or damaged batteries or batteries that have been incorrectly inserted, or damaged battery contacts or connections caused by incorrect battery replacement or ingress of moisture from incorrect positioning of the battery cap and waterproof seal.

NO RESPONSIBILITY will be accepted by Bluelab or any of its agents or resellers should any damage or unfavourable conditions result from the use of this product, should it be faulty or incorrectly operated.

Register your guarantee online at: www.getbluelab.com

Or fill out the form below and post, email or fax to:

Bluelab Corporation Limited
8 Whiore Avenue, Tauriko Industrial Park, Tauranga 3110, New Zealand
Fax: +64 7 578 0847 **Email:** support@getbluelab.com

Product details	
Product name	
Serial number	
Date purchased	
Purchaser details	
Purchaser's name	
Address	
City	
Country	
Email (optional)	
Purchased from (Dealers details)	
Purchased from	
Address	
City	
Country	
Phone number (optional)	

English

Bluelab cleaning kits

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.

The probe surface is where the instrument takes the reading of the solution. The information is sent back from the probe to the electronic brain of the instrument.

A calculation is then done in the instrument's brain or micro computer and a reading is displayed. If the information sent back from the probe is inaccurate due to probe surface contamination then the reading will be inaccurate.

Cleaning the probes is a very easy task and will prolong the life of the probes.

Bluelab pH Probe Calibration and Cleaning Kit contents:

- Full colour instructions
- 500ml pH4 and pH7 Calibration solutions
- Decanter vessels
- Bluelab pH Probe Cleaner
- Toothbrush

If you need assistance or advice - we're here to help you.
Phone: **+64 7 578 0849** Fax: **+64 7 578 0847**
Email: **support@getbluelab.com**

Looking for specifications or technical advice?
Visit us online @ **www.getbluelab.com**

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