



Contents

page

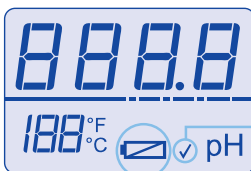
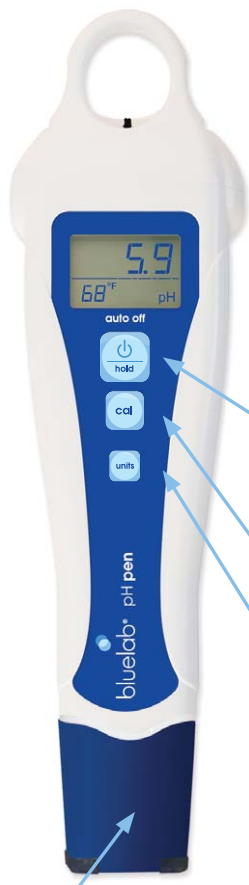
Features	2
Quick guide	2
Before use	3
To operate	3
Important - pH pen probe care	4
Cleaning	5
Battery replacement	5
Hydration	6
Calibration	6
Error messages	7
Troubleshooting guide	7
Technical specifications	8
Bluelab Probe Care Kit - pH	8
Bluelab pH Probe KCl Storage Solution	8
Product guarantee	9
Contact details	9



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

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 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.



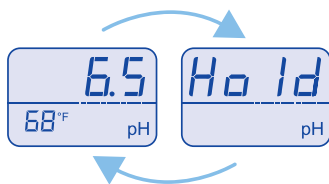
Power button

2 Measure pH

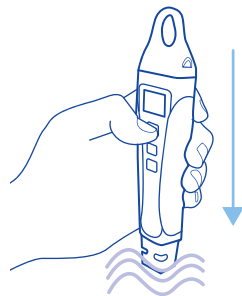
Remove storage cap, place probe in solution and wait for reading to stabilize.

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.



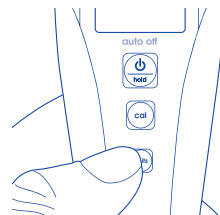
1 second alternating displays



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.

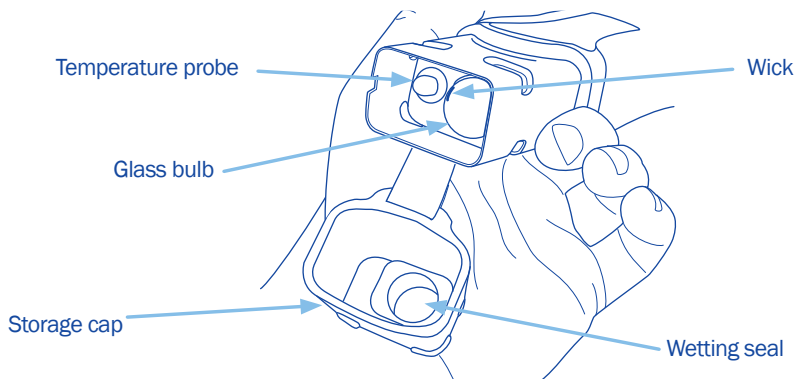


Long term storage

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.

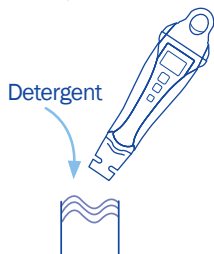
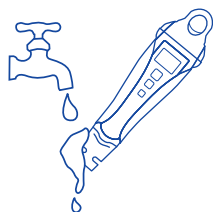
DO NOT immerse in oils, proteins or suspended solids that will leave a coating on the glass bulb.



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.



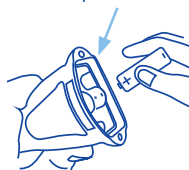
5.0 Battery replacement

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.



Waterproof seal





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.

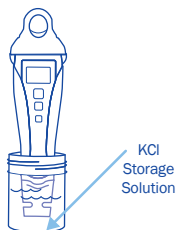
1 Remove the storage cap.

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 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, YOU MUST CLEAN the probe before calibrating. See section 4.0.

Hydrate the probe before first use and after cleaning, see section 6.0

2 After hydration, rinse probe in fresh water and place in pH 7.0 solution.

Wait for the reading to stabilize.

3 Press the cal button until CAL is displayed.

Release button. When CAL 7 is displayed, 1 point calibration is complete.

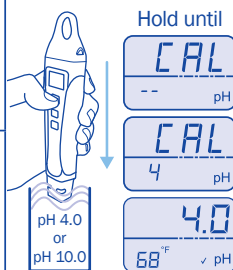
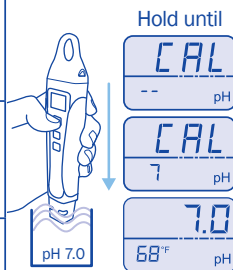
4 Rinse probe in fresh water and place it in either pH 4.0 or pH 10.0 solution (use pH 10.0 solution if you expect to measure above 7.0 pH).

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 pH 7.0, pH 4.0 then pH 10.0 solution.





8.0 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

9.0 Troubleshooting guide

Trouble	Reason	Correction
<i>Drift - readings slowly varying</i>	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.
<i>Displays similar pH reading in all buffers no matter what the buffer value is</i>	Glassware broken	Replace unit.
<i>Unsuccessful calibration</i>	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.
<i>Noisy - readings jumping</i>	Contact zone not immersed	Lower pen into solution at least 2cm/1".
<i>Displays pH 7 for all buffers</i>	Broken glassware	Replace unit.
<i>Incorrect sample reading following successful calibration</i>	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 contents:

- › Cleaning instructions inside box lid
- › 500ml pH4.0 and pH7.0 calibration solutions
- › Plastic cups
- › Bluelab pH Probe Cleaner
- › Toothbrush (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 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

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.



To watch instruction videos, visit our online video library:
vimeo.com/bluelab/videos



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 at www.getbluelab.com



Bluelab Corporation Limited
8 Whiore Avenue, Tauriko Industrial Park
Tauranga 3110, New Zealand



Instruction Manual English PENPH_V02_310513
© Copyright 2011, all rights reserved, Bluelab Corporation Limited