www.growland.net / www.growland-hydroponics.com
https://www.growland.fr / https://www.growland.co.uk
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bluelab®
truncheon®
nutrient meter

Care and use guide

Contents

www.getbluelab.com

English

Features

Blueglow light display	No calibration required
Provided with EC, CF and ppm scales	Fully waterproof
Fully guaranteed for 5 years (with proof of purchase)	Auto turn on/off function

1.0 To operate

Using the Bluelab Truncheon® Nutrient Meter to measure nutrient conductivity involves placing the probe sensor head in the solution, followed by measuring and reading conductivity values on the stem scale indicator light. Figure 1 shows the Bluelab Truncheon® Nutrient Meter (Truncheon Meter).

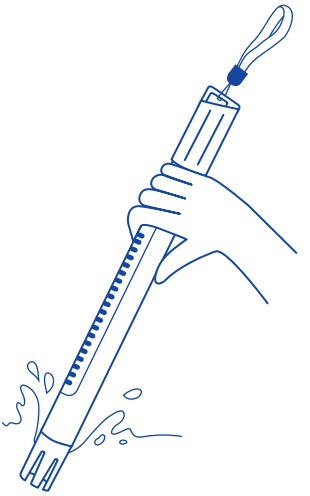
Figure 1. Bluelab Truncheon® Nutrient Meter

1 **Measure conductivity**

Place probe into nutrient solution and take reading as indicated by the flashing lights.

Note: If the lights are dancing between two values, the reading is between those two values eg. lights dancing between '6' and '8' indicates a reading of '7'.

Note: For very cold or very hot temperatures it will take 1-2 minutes for the probe to reach solution temperature. To help decrease time taken to reach the solution temperature, place the probe in an area where there is a strong movement of solution, or stir solution with the probe.

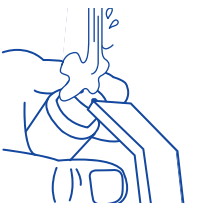


2 **Obtain another reading**

To take another reading, simply place back in solution.

3 **Clean probe**

We recommend the probe be cleaned once every two weeks according to the Cleaning and Maintenance instructions. This can vary depending on frequency of use.



2.0 Cleaning and maintenance

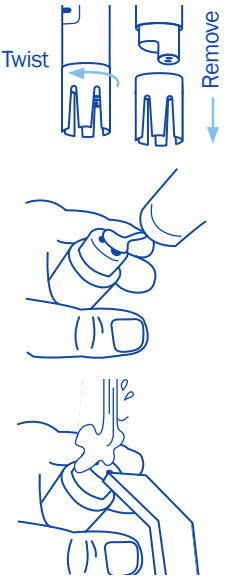
Cleaning the Truncheon Meter probe frequently ensures accurate readings. Clean the probe with a liquid scourer cream used in home bathrooms and kitchens such as 'Jif', 'Liquid Vim', 'Soft Scrub', 'Cif', or 'Viss'. Never use scented varieties of cleaner as they affect the probe functions.

1. **Remove shroud**
   Twist the shroud 90 degrees and then remove the shroud.

2. **Clean probe face**
   Place one or two drops of unscented liquid scourer, such as 'Jif', 'Liquid Vim', 'Soft Scrub', 'Cif, or 'Viss' on the probe face. Rub probe face with your finger or Bluelab Chamois firmly and vigorously to clean.

3. **Rinse probe**
   Rinse off all traces of cleaner under running water using the same finger or other side of Bluelab Chamois. Check that the water forms a film on the probe face with no 'beads' of water. If beading is present repeat the cleaning process.

4. **Replace shroud**



3.0 Battery replacement

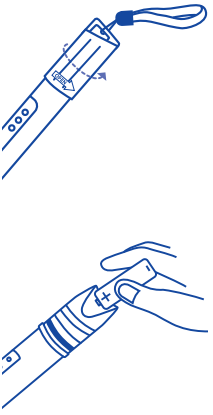
The Truncheon Meter is powered with 3 x AA type standard or alkaline batteries. Do not use rechargeable batteries. Do not mix brands of batteries. Do not mix old with new. Do not put upside down. Follow these steps to replace the batteries.

1. **Remove old batteries**
   Unfasten battery cap and tip out old batteries.

2. **Check for corrosion**
   Batteries that have been inside the unit for a long length of time may corrode. Check battery contacts and batteries for any sign of corrosion. Contacts should be cleaned first if corrosion is found before proceeding to step 3.

3. **Fit new batteries**
   Insert the new batteries positive (+) end down into the body.

4. **Replace battery cap**
   Refasten battery cap. There must be no space left between the cap and body to ensure the unit remains 100% waterproof.



4.0 Troubleshooting guide

Trouble	Correction
Truncheon Meter turns off before reading taken.	Take out of solution for 3-5 seconds. Dip in solution again and take reading.
Truncheon Meter not lighting when dipped in solution.	Clean the probe. If this is unsuccessful, replace batteries. Do not use rechargeable batteries.
Truncheon Meter gives low readings.	Clean the probe. Ensure unscented cleaner is used eg. plain 'Jif', 'Soft Scrub', 'Liquid Vim', 'Cif' or 'Viss'.

5.0 Technical specifications

Range	2 – 36 CF 0.2 – 3.6 EC	140 – 2520 ppm (EC x 700) 100 – 1800 ppm (EC x 500)
Resolution	1 CF, 0.1 EC, 70 ppm (700), 50 ppm (500)	
Accuracy	± 0.1 EC, ± 1 CF, ± 50 ppm (1385 ppm at 500 ppm), ± 70 ppm (1939 ppm at 700 ppm)	
Temperature compensation	Automatic	
Operating temperature	0 - 50 °C, 32 - 122 °F	
Calibration	Factory calibrated	

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.

Information about the scales available on the Bluelab Truncheon® Nutrient Meter

CF and EC

CF and EC are measures of electrically charged nutrient ions in a solution.

Pure water will not conduct electricity. Water usually conducts electricity because it is full of impurities, in our case, electrically charged nutrient ions. The two black dots on the end of a nutrient probe are called electrodes. When these are placed in a solution, an electrical current passes from one electrode, through the water to the other electrode and counts the number of electrically charged ions present. This represents the units measured - EC or CF.

ppm measures parts per million

There are many different scales used for different industries around the world and for many different reasons! Did you even know there are more than two scales? The most widely used scales in Hydroponics are the 500 scale, 650 scale and the 700 scale.

What's the difference?

The ppm 500 scale is based on measuring the KCl or potassium chloride content of a solution. The ppm 700 is based on measuring the NaCl or sodium chloride content of a solution. Individual nutrient ions have different electrical effects! The true ppm of a solution can only be determined by a chemical analysis. ppm cannot be accurately measured by a CF or EC meter.

They are present on Bluelab products as a conversion guide only.
The conversion is as follows;

2.4 EC x 500 = 1200 ppm (500 scale) or 1200 ppm / 500 = 2.4 EC
2.4 EC x 700 = 1680 ppm (700 scale) or 1680 ppm / 700 = 2.4 EC

If you are wanting to measure your solution in ppm, you will need to know the following:

- What ppm scale is your meter using?
- Which calibration standard should you use for your meter?
- What ppm scale is your nutrient referring to?

English

Bluelab Measurement Conversion Chart

mS/cm² Millisiemen per cm²	EC	CF	ppm 500 TDS	ppm 700
0.1	0.1	1	50	70
0.2	0.2	2	100	140
0.3	0.3	3	150	210
0.4	0.4	4	200	280
0.5	0.5	5	250	350
0.6	0.6	6	300	420
0.7	0.7	7	350	490
0.8	0.8	8	400	560
0.9	0.9	9	450	630
1.0	1.0	10	500	700
1.1	1.1	11	550	770
1.2	1.2	12	600	840
1.3	1.3	13	650	910
1.4	1.4	14	700	980
1.5	1.5	15	750	1050
1.6	1.6	16	800	1120
1.7	1.7	17	850	1190
1.8	1.8	18	900	1260
1.9	1.9	19	950	1330
2.0	2.0	20	1000	1400
2.1	2.1	21	1050	1470
2.2	2.2	22	1100	1540
2.3	2.3	23	1150	1610
2.4	2.4	24	1200	1680
2.5	2.5	25	1250	1750
2.6	2.6	26	1300	1820
2.7	2.7	27	1350	1890
2.8	2.8	28	1400	1960
2.9	2.9	29	1450	2030
3.0	3.0	30	1500	2100
3.1	3.1	31	1550	2170
3.2	3.2	32	1600	2240
3.3	3.3	33	1650	2310
3.4	3.4	34	1700	2380
3.5	3.5	35	1750	2450
3.6	3.6	36	1800	2520

Bluelab Truncheon® Nutrient Meter product guarantee

Bluelab Corporation Limited guarantees this product for a period of ***5 years (60 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 Probe Care 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 Probe Care Kit - pH contents:

- Cleaning instructions inside box lid
- 500ml pH4 and pH7 Calibration solutions
- Decanter vessels
- Bluelab pH Probe Cleaner
- Toothbrush (probe cleaning instrument)

Bluelab Probe Care Kit - Conductivity contents:

- Cleaning instructions inside box lid
- 500ml 2.77EC conductivity standard solution
- Decanter vessel
- Bluelab Conductivity Probe Cleaner
- Bluelab Chamois (probe cleaning instrument)

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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