bluelab®
truncheon®
nutrient meter

Care and use guide



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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

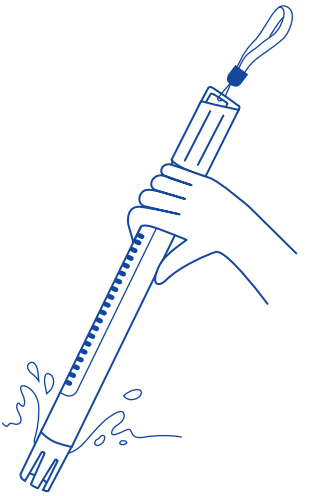


1 **Measure conductivity**

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.

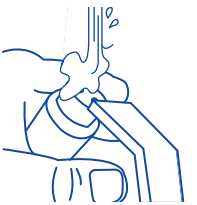


2 **Obtain another reading**

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

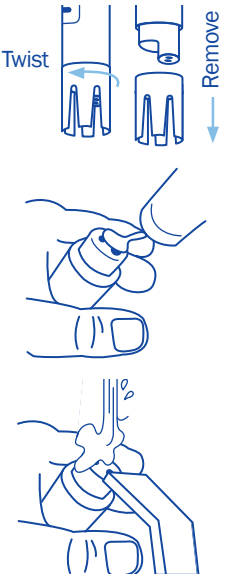
Cleaning the Truncheon Meter probe frequently ensures accurate readings. Clean the probe with a liquid scourer cream used in home bathrooms and kitchens such as 'Jif', 'Liquid Vim', 'Soft Scrub', 'Cif', or 'Viss'. Never use scented varieties of cleaner as they affect the probe functions.

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

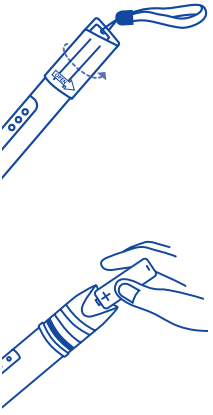
The Truncheon Meter is powered with 3 x AA type standard or alkaline batteries. Do not use rechargeable batteries. Do not mix brands of batteries. Do not mix old with new. Do not put upside down. Follow these steps to replace the batteries.

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?

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® limited warranty



Bluelab® Corporation Limited (Bluelab) provides a warranty on its products (Bluelab® Truncheon® Nutrient Meter™) under the following terms and conditions:

How Long Does Coverage Last?

Bluelab® warrants the Bluelab® Truncheon® Nutrient Meter™ (Product) for a period of 60-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.

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lets talk.

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