Bluelab Nutrient Monitor™

Instruction Manual

bluelab™ monitors

simple solutions

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1.0 Introduction to Bluelab Nutrient Monitor

The Nutrient Monitor continuously measures conductivity of a nutrient solution. The instrument also measures nutrient temperature.

As an additional feature, the monitor can act as an alarm for upper and lower limits of nutrient EC levels.

The battery operated monitor consists of a case and a nutrient probe attached with a cable. The case has a liquid crystal display (LCD) reading display and a temp/alarm set button.

The monitor is kept out of direct sunlight as this causes irreparable damage to the liquid crystal display.

For reliable operation keep the monitor and probe cable at least one metre or 3 feet away from mains power cables and mains powered devices.

1.1 Basic Operation

1. The probe is placed in solution where nutrient is to be measured. The probe and probe cable can be fully submersed in liquid.

   The monitor is mounted in a dry, clean location out of direct sunlight using screws taped to the inside of the back cover for that purpose.

Figure 1. Nutrient Monitor

1.2 Storage of Monitor

1. If the monitor is stored, it must be kept out of direct sunlight to prevent irreparable damage to the LCD screen; this includes storing in a cool, dry and clean place when not in use.

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2.0 Setting up Monitor

Setting up the monitor involves inserting batteries and mounting the monitor.

2.1 Insert Batteries

Only 'AA' sized standard or alkaline batteries are used in the monitor. Rechargeable batteries are not used as they will cause problems. Follow these steps to insert the monitor batteries.

1 Open Battery Compartment Cover

Lift off using a small coin or screwdriver. Figure 2. shows the battery cover.

2 Fit Batteries

Insert 3 x AA batteries following the directions on the battery case.

CAUTION: Do not use rechargeable batteries.

Remove the two supplied screws taped to the cover.

2 Replace Cover

Place cover back on and snap closed.

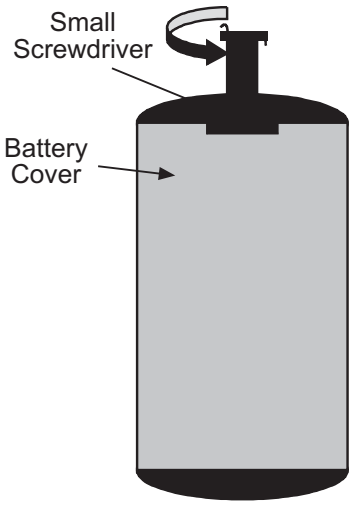

Figure 2. Battery Cover

2.2 Mount Monitor

The monitor is mounted on a flat surface using screws taped inside the back cover. The monitor is to be at a height that enables the probe to easily sit in nutrient solution.

1 Select Location

A surface that is flat, constantly dry and clean and always out of direct sunlight. Choose a height for easy reading and to enable the probe to sit in nutrient solution being measured.

2 Fix Monitor in Position

Insert screws through top and bottom mounting holes and fix in position.

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3.0 Operating Nutrient Monitor

Operating the nutrient monitor involves placing the probe into a nutrient solution and setting the alarm.

3.1 To Obtain a Nutrient Reading

Place probe into nutrient solution where there is strong movement of the solution. The display shows the nutrient level.

3.2 To Set Nutrient Alarm

When your nutrient solution reads above or below the desired level by 0.5 EC, 5 CF or 500 ppm, the red LED will flash to indicate alarm state.

For example, with a desired level set for 2.8 EC the alarm activates when the nutrient level reaches 3.3 EC or 2.3 EC. Follow these steps to set the nutrient monitor as an alarm.

1. **Ensure the solution is at the desired level of concentration**
   Adjust if required.

2. **Set Alarm to the Actual Reading**
   Press and hold TEMP/ALARM SET button until alarm LED flashes after two seconds and then release button.

   NOTE: If the button is not held for long enough, the LCD display shows probe head temperature. The alarm is not set if this occurs.

Figure 3. Alarm set to nutrient value

3.3 To Turn Off the Alarm

1. **Deactivate the Alarm**
   Press and hold TEMP/ALARM SET button until alarm LED begins to flash after two seconds. Release button and then quickly press and release it within the next two seconds.

3.4 To Obtain a Temperature Reading

1. **Display Temperature**
   Press TEMP/ALARM SET button once and the current nutrient temperature appears in the display. The display remains for about five seconds and then automatically returns to display the current nutrient level.

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4.0 Cleaning and Maintenance

Cleaning the nutrient monitor probe face often ensures accurate readings. Cleaning includes using 'Jif', a trade name for a liquid scourer cream; similar products are called 'Liquid Vim' and 'Soft Scrub'. Scented varieties are never used as they affect the probe functions. Maintenance also involves the batteries.

4.1 Clean Probe

Follow these steps to clean the nutrient monitor probe

1 Remove Shroud

Hold probe body firmly, grasp and pull away the shroud. Figure 4 shows the shroud removed from the probe.

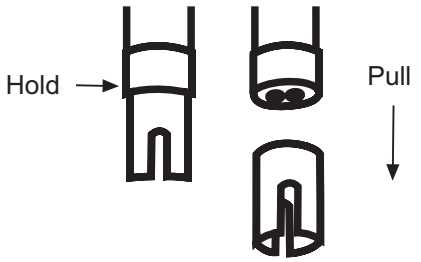

Figure 4. Shroud

2 Clean Probe Face

Using unscented liquid scourer such as 'Jif' or 'Soft Scrub', place one or two drops onto the probe face. Using a finger of Bluelab Chamois, rub the drops firmly and vigorously completely over the face.

3 Rinse Probe

Place probe under running water. Using the same finger or other side of Bluelab Chamois, completely remove all traces of cleaner.

4 Check Probe Cleanliness

Check that water forms a film on the probe face without beads of water. If beading is present, repeat the cleaning process until the face retains a water film without beading.

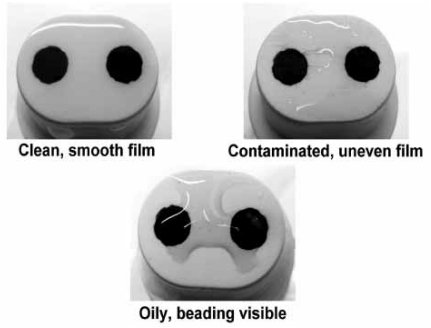

Figure 4. Probe Head

5 Replace Shroud

Refit the shroud firmly onto the probe face, return probe to system.

4.2 Battery Replacement

1 If any dimming of the LCD or LED alarm light occurs, the batteries are replaced following the steps in Section 2.1 of this document. Battery life for standard AA batteries is between one to two years. When alkaline batteries are used, their life can be about three years. Rechargeable batteries are not to be used.

Batteries are removed when the monitor is to be stored for one or more weeks.

NOTE: Batteries are checked at least once every six months for signs of deterioration, rusting or swelling. If signs of deterioration are found, battery holder contacts are cleaned and batteries replaced.

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5.0 Troubleshooting Guide

The following table describes problems that can occur with the Nutrient Monitor, the possible reasons and explains possible solutions.

Problem	Possible Reason	Possible Solution
No Display Reading	Batteries dead.	Replace batteries by following the steps in Section 2.1 of this document. Rechargeable batteries are never used.
	Batteries inserted incorrectly.	Check battery direction.
	Screen damaged.	Return for repair or replace unit.
Nutrient Readings Inaccurate	Probe contaminated.	To clean the probe follow the steps in Section 4.1 of this document.
		If using oily additives, the probe will need to be cleaned more frequently and thoroughly.

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6.0 Technical Specifications

The Nutrient Monitor technical specifications are described in the following table.

	Bluelab Nutrient Monitor
Range	0 - 9.9 EC 0 - 99 CF 0 - 4900 ppm 0 - 60°C 32 - 140°F
Resolution	0.1 EC 1 CF 100 ppm 1°C 2°F
Accuracy	± 4% of scale reading
Temperature Compensation	Automatic temperature compensation
Operating Temperature	0 - 50°C 32 - 122°F
Power Source	3 x AA Batteries
Calibration	Factory Calibrated

Contact Details

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