

Bante Instruments Bante820

Bante 820 Portable Dissolved Oxygen Meter User Manual

Model: Bante820

1. INTRODUCTION

The Bante 820 Portable Dissolved Oxygen Meter is designed for accurate measurement of dissolved oxygen concentration (mg/L) and percentage saturation in various water samples. This device features automatic temperature compensation, adjustable salinity and barometric pressure compensation, and data storage capabilities, making it suitable for field and laboratory applications.

Key Features:

- High-accuracy dissolved oxygen measurement.
- 1 or 2 points calibration using air-saturated water or zero oxygen solution.
- Adjustable salinity and barometric pressure compensation.
- Automatic temperature compensation.
- Auto-lock measurement endpoint.
- 100 sets of data storage.
- USB communication interface for data transfer and power.



Image 1.1: The Bante 820 Portable Dissolved Oxygen Meter with its probe connected. This image displays the meter's main unit, the connected dissolved oxygen probe, and the digital display showing a reading of 8.20 mg/L and 25.0 °C.

2. SETUP

2.1 Unpacking and Inspection

Carefully unpack the Bante 820 meter and all accessories. Verify that all components listed below are present and undamaged:

- Bante 820 Meter
- Dissolved Oxygen Probe
- Electrolyte Solution (30 mL)
- Membrane Cap
- Carrying Case

Bante 820

CARRYING CASE



Image 2.1: Contents of the Bante 820 carrying case. The image shows the meter, electrolyte solution, polarographic electrode, and membrane cap neatly organized within a protective carrying case.

2.2 Battery Installation

The meter operates on 3 x 1.5V AA batteries. To install:

1. Locate the battery compartment cover on the back of the meter.
2. Slide the cover open.
3. Insert three AA batteries, ensuring correct polarity (+/-).
4. Close the battery compartment cover securely.

Bante 820

BATTERY COMPARTMENT



3 × AA batteries

Image 2.2: The battery compartment of the Bante 820 meter. The image shows the back of the meter with the battery cover open, revealing slots for three AA batteries.

2.3 Probe Connection

Connect the dissolved oxygen probe to the meter:

1. Locate the DIN socket on the top of the meter.
2. Align the probe connector with the DIN socket.
3. Gently push and twist the connector clockwise until it is securely fastened.

Bante 820

CONNECTORS



DIN socket

for dissolved oxygen electrode connection



USB communication interface

for data transfer or power connection



Image 2.3: Top and bottom connectors of the Bante 820 meter. The top view shows the DIN socket for the dissolved oxygen electrode connection, and the bottom view shows the USB communication interface for data transfer or power connection.

2.4 Preparing the Dissolved Oxygen Probe

Before first use or after prolonged storage, the dissolved oxygen probe requires preparation:

1. Unscrew the existing membrane cap from the probe.
2. Fill the new membrane cap with the provided electrolyte solution, ensuring no air bubbles are trapped.
3. Carefully screw the membrane cap onto the probe, ensuring the membrane is taut and free of wrinkles.
4. Allow the probe to stabilize for at least 15-30 minutes before calibration or measurement.

Bante 820

DISSOLVED OXYGEN ELECTRODE



- Replacement membrane cap



- Electrolyte solution (30 ml)



Image 2.4: Components of the Bante 820 Dissolved Oxygen Electrode. The image displays the dissolved oxygen probe, a replacement membrane cap, and a bottle of electrolyte solution.

3. OPERATING INSTRUCTIONS

3.1 Powering On/Off

- To power on, press the **ON/OFF** button.
- To power off, press and hold the **ON/OFF** button until the display turns off. The meter also features an auto-power off function, which can be configured in the setup menu.

3.2 Calibration

Calibration is crucial for accurate measurements. The Bante 820 supports 1 or 2 points calibration.

1. Air-Saturated Water Calibration (1-point):

- Immerse the probe in air-saturated water (e.g., tap water stirred vigorously for several minutes).

- Press the **CAL** button. The meter will display 'CAL1' and begin calibration.
- Wait for the reading to stabilize. The meter will automatically confirm calibration.

2. Zero Oxygen Solution Calibration (2-point, optional):

- After air-saturated water calibration, immerse the probe in a zero oxygen solution.
- Press the **CAL** button again. The meter will display 'CAL2' and begin the second point calibration.
- Wait for the reading to stabilize. The meter will automatically confirm calibration.

3.3 Measurement

1. Ensure the probe is properly calibrated.
2. Immerse the dissolved oxygen probe into the sample solution. Ensure the membrane is fully submerged and free of air bubbles.
3. Gently stir the probe to ensure a representative sample and stable reading.
4. The meter will display the dissolved oxygen concentration (mg/L) and temperature (°C). Press the **MODE** button to switch between mg/L and % saturation.
5. The auto-lock measurement endpoint feature will stabilize the reading and hold it on the display.

3.4 Data Storage and USB Communication

- To store a measurement, press the **SAVE** button. The meter can store up to 100 sets of data.
- To retrieve stored data, navigate through the menu using the arrow buttons.
- Connect the meter to a computer using a USB cable via the USB communication interface (refer to Image 2.3) for data transfer or to power the device.

4. MAINTENANCE

4.1 Probe Cleaning

Regular cleaning of the dissolved oxygen probe is essential for accurate readings:

- Rinse the probe with distilled water after each use.
- If the membrane is fouled, gently clean it with a soft cloth or cotton swab. Avoid abrasive materials.
- If severe fouling occurs, replace the membrane cap and electrolyte solution.

4.2 Membrane Cap and Electrolyte Solution Replacement

The membrane cap and electrolyte solution should be replaced periodically (e.g., every 1-3 months, or if readings become unstable/inaccurate). Follow the steps in Section 2.4 for replacement.

4.3 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 2.2.

4.4 Storage

When not in use, store the probe with its protective cap on, filled with electrolyte solution, or in a damp environment to prevent the membrane from drying out. Store the meter and probe in the provided carrying case in a cool, dry place.

5. TROUBLESHOOTING

This section addresses common issues you might encounter with your Bante 820 meter.

Problem	Possible Cause	Solution
Meter does not power on	Dead or incorrectly installed batteries	Check battery polarity; replace batteries.
Unstable or inaccurate readings	• Probe not calibrated • Fouled membrane • Air bubbles in membrane cap • Old electrolyte solution • Damaged probe	• Perform calibration (Section 3.2) • Clean membrane (Section 4.1) • Replace membrane cap and electrolyte solution (Section 2.4, 4.2) • Contact support if probe is damaged
Calibration fails	• Incorrect calibration solution • Probe not stable • Damaged probe	• Ensure correct calibration solution (air-saturated water or zero oxygen solution) • Allow probe to stabilize in solution • Replace membrane cap and electrolyte solution
Data transfer via USB not working	• Incorrect cable connection • Driver issues on computer	• Ensure USB cable is securely connected • Check computer's device manager for driver issues; install necessary drivers if prompted

6. SPECIFICATIONS

Detailed technical specifications for the Bante 820 Portable Dissolved Oxygen Meter:

Bante 820

SPECIFICATIONS



Range (Concentration)	0.00 to 20.00 mg/L
Resolution	0.01
Accuracy	± 0.5 mg/L
Range (% saturation)	0.0 to 200.0 %
Resolution	0.1
Accuracy	± 2.0 %
Calibration	1 or 2 points
Temperature Compensation	0 to 50°C / 32 to 122°F, automatic
Barometric Pressure Correction	60.0 to 113.3 kPa / 450 to 850 mmHg
Salinity Correction	0.0 to 50.0 ppt
Data Storage	100 sets



Image 6.1: Detailed specifications table for the Bante 820 meter. This table outlines ranges, resolutions, accuracies, and other operational parameters.

Parameter	Specification
Dissolved Oxygen (Concentration)	
Range	0.00 to 20.00 mg/L
Resolution	0.01 mg/L
Accuracy	±0.5 mg/L
Dissolved Oxygen (% Saturation)	
Range	0.0 to 200.0 %
Resolution	0.1 %

Parameter	Specification
Accuracy	±2.0 %
Calibration Points	1 or 2 points
Temperature Compensation	0 to 50°C / 32 to 122°F, automatic
Barometric Pressure Correction	60.0 to 113.3 kPa / 450 to 850 mmHg
Salinity Correction	0.0 to 50.0 ppt
Data Storage	100 sets
Auto-Power Off	30 minutes after last key pressed
Power Supply	3 × 1.5V AA batteries or 5V DC power adapter
Dimensions	170 × 85 × 30 mm / 6.7 × 3.4 × 1.2 in.
Weight	300 g / 10.5 oz.

7. WARRANTY

Bante Instruments warrants this product to be free from defects in material and workmanship for a period of one year from the date of purchase. This warranty does not cover damage caused by misuse, neglect, accident, alteration, or improper installation. For warranty service, please retain your proof of purchase and contact customer support.

8. SUPPORT

For technical assistance, troubleshooting, or to inquire about replacement parts, please contact Bante Instruments customer support. Refer to the official Bante Instruments website for the most current contact information.

Online Resources:

- Visit the [Bante Instruments Store on Amazon](#) for product information and accessories.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question