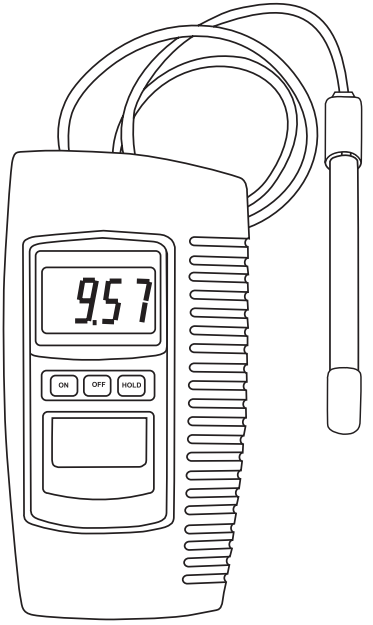
Levibond

SensoDirect pH110

pH - Instruction Manual



GB

CONTENTS

1. GENERAL DESCRIPTION
2. SPECIFICATION
3. FUNCTIONAL DESCRIPTION
4. CALIBRATION
   4-1 Overview
   4-2 Equipment required
   4-3 Two Point Calibration
   4-4 Single Point Calibration
5. TAKING MEASUREMENTS
6. CHANGING THE BATTERY
7. ACCESSORIES

1. GENERAL DESCRIPTION

* General purpose pH meter with broad application including AQUARIA & FISH HATCHERIES, FOOD & BEVERAGE PROCESSING, PHOTOGRAPHY, LABORATORY, QUALITY CONTROL, EDUCATION, SWIMMING POOLS & WATER CONDITIONING
* High quality, compact unit that is designed for easy operation
* Water resistant front panel with easy to read LCD display and rubberised function keys

Unpacking

Please check that the shipment includes the following items:

- Lovibond® SensoDirect pH110
- Lovibond® SensoDirect pH sensor plastic/gel-type with BNC plug
- 9V Battery
- Protective cover
- 7 Screws
- Screwdriver
- Plastic Cover Calibration Screws
- Instruction Manual

Battery installation

Prior to first use take the instrument out of the protective cover open the battery compartment and insert the 9V battery.

Ensure polarity is correct.

Protective Cover

The instrument is equipped as standard with the protective cover.

Prior to the first measurement please fix the cover by using the enclosed srews. The protective armouring ensures reliable operation even in harsh environments.

When the instrument is used without the protective cover please use the enclosed plastic cover to protect the calibration screws against dust and humidity.

2. SPECIFICATION

Display	LCD, 21.5 mm (0.7“) digit height
Measurement Range	0 - 14 pH
Resolution	0.01 pH
Accuracy	± 0.07 pH (pH 5 - pH 9) ± 0.1 pH (pH 4 - pH 10) ± 0.2 pH (pH 1 - pH 3.9, pH 10.1 - pH 13) Main instrument only 23 ± 5°C, after calibration
Input Impedance	10^{12} Ohms
Temperature Compensation	No adjustment
Sample Time	Approx. 0.4 seconds
Operating Temperature	0 - 50°C (32 - 122°F)
Operating Humidity	Maximum 80% relative humidity
Calibration	External, pH 4.0 (slope adjustment) & pH 7.0 (Cal. adjustment)
Power Supply	006P DC 9V battery
Power Consumption	Approx. 2.0 mA
Dimension	208 x 110 x 34 mm (L x W x H)
Weight	Approx. 380 g
pH electrode	pH plastic type, gel electrolyte with BNC connector

3. FUNCTIONAL DESCRIPTION

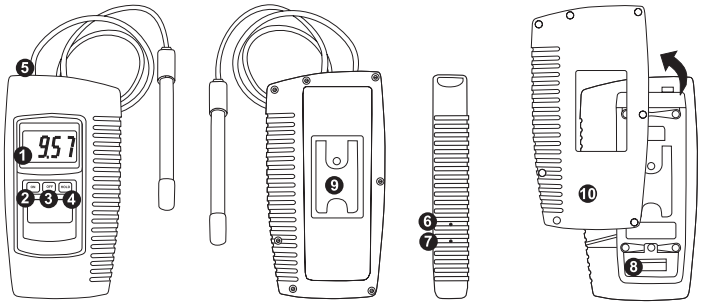
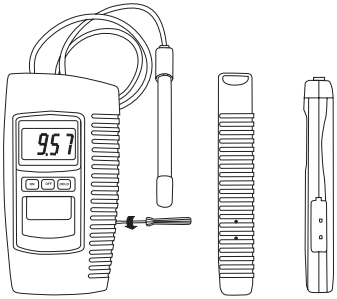


Figure 1

1 Display
2 Power ON Button
3 Power OFF Button
4 Data Hold Button
5 BNC socket for pH electrode
6 Calibration pH 7 Adjust
7 Slope pH 4 pH10 Adjust
8 Battery compartment/cover
9 Stand
10 Protective cover

4. CALIBRATION



4-1 Overview

The meter is supplied with calibration by mV signal that simulates an ideal pH electrode mV output (0 mV at pH 7, based on 25°C working temperature). However, because most pH electrodes do not exactly replicate the ideal electrode and because the working temperature may differ from 25°C, it is necessary to calibrate the instrument to ensure measurement accuracy of the combined pH electrode.

4-2 Equipment Required

i) Combination pH electrode
ii) pH 4.0 & pH 7.0 buffer solutions

4-3 Two Point Calibration

i) Connect the pH electrode to the BNC socket (Figure 1, 5) and immerse in pH 7.0 buffer solution.
ii) Switch the instrument on by pressing the Power ON Button (Figure 1, 2).
iii) Adjust „pH 7 Adjust „ (Figure 1, 6) until the display reads exactly pH 7.0.
iv) Rinse the electrode in distilled water.

v) Place the electrode into buffer pH 4.0 solution.
vi) Adjust „pH 4 Adjust „ (Figure 1, 7) until the display reads exactly pH 4.0.
vii) Rinse the electrode in distilled water.
viii) Repeat steps iii) to vii) at least twice.

4-4 Single Point Calibration

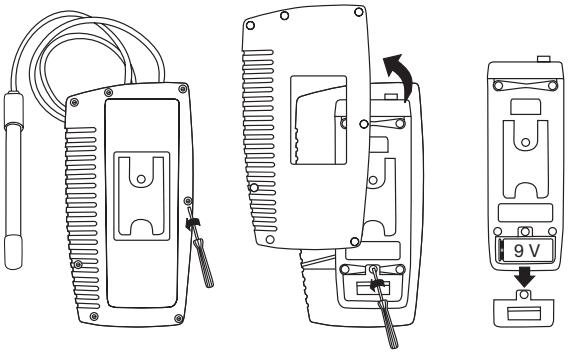
i) Connect the pH electrode to the BNC socket and immerse in a standard buffer solution (eg pH 7.0 or higher if available).
ii) Switch the instrument on by pressing the Power ON Button (Figure 1, 2).
iii) Adjust the "pH 7 Adjust „ (Figure 1, 7) until the display reads the same value as the standard buffer solution used.

5. TAKING MEASUREMENTS

After calibration, the unit is ready for taking measurements.

i) Connect the pH electrode to the BNC socket.
ii) Switch the instrument on by pressing the Power ON Button.
iii) Immerse the electrode in the solution being measured; the instrument will display the pH value.
iv) During measurement, pressing the Data Hold Button (Figure 1, 4) will freeze the display. At the same time the display will show a Data Hold indicator. To release the display freeze function, press the Data Hold Button again; the Data Hold indicator will disappear from the display.
v) After taking a measurement, rinse the electrode in distilled water.

6. CHANGING THE BATTERY



i) „ ⊞ “ in the left corner of the display indicates that it is necessary to replace the battery. However, accurate measurements may still be made for several hours after the “Low Battery” indicator first appears.

ii) Remove the protective cover before replacing the battery. To replace the battery, remove the Battery Compartment Cover (Figure 1, 9) on the rear of the meter.

iii) Remove the battery, install a replacement one (006P DC 9V) and replace the battery compartment cover.

7. ACCESSORIES

721330 pH Electrode, plastic type, gel electrolyte with BNC connector

721247 pH Buffer Solution pH 4 (25°C) red, 90 mL, traceable to N.I.S.T.

721248 pH Buffer Solution pH 7 (25°C) red, 90 mL, traceable to N.I.S.T.

721249 pH Buffer Solution pH 10 (25°C) red, 90 mL, traceable to N.I.S.T.

Notes

Notes

Notes

Tintometer GmbH
Lovibond® Water Testing
Schleefstraße 8-12
44287 Dortmund
Tel.: +49 (0)231/94510-0
Fax: +49 (0)231/94510-20
sales@tintometer.de
www.tintometer.de

Germany

The Tintometer Limited
Lovibond House / Solar Way
Solstice Park / Amesbury, SP4 7SZ
Tel.: +44 (0)8452 264654
Fax: +44 (0)1980 625412
water.sales@tintometer.com
www.tintometer.com

UK

Tintometer AG
Hauptstraße 2
5212 Hausen AG
Tel.: +41 (0)56/4422829
Fax: +41 (0)56/4424121
info@tintometer.ch
www.tintometer.ch

Switzerland

Tintometer South East Asia
Unit C-11-3A, 3 Two Square,
No. 2, Jalan 19/1, Petaling Jaya,
46300, Selangor D.E
Tel.: +60 (0) 3 7955 4013
Fax: +60 (0) 3 7955 4014
lovibond.asia@tintometer.com
www.tintometer.com
Malaysia

Technical changes without notice
Printed in Germany 08/06
No.: 00 38 61 41
Lovibond® and Tintometer®
are Trademarks of the
Tintometer Group of Companies