SafeDip™

Digital Chemistry Reader

Operating Instructions

Important:
Please refer to **www.safedip.com** for a more detailed operator instruction. The detailed instruction includes digital images in full color as well as an online calculator which tells you exactly what to add to your water based on the data retrieved from the Safedip digital reader.

Introduction & Safety Information

Meter for Swimming Pools and Spas:
· Free Chlorine
· pH
· Salinity
· TDS
· ORP
· Temperature

WARNING!
This package contains pH calibration chemicals that may be harmful if misused. Please read instructions carefully. Not to be used by children except under adult supervision.

INTRODUCTION
SAFE-DIP™ is a swimming pool water tester of Cl/pH/Salt/TDS/ORP (Free Chlorine/pH/Salinity/TDS/ ORP). The SAFE-DIP™ is an easy to use, accurate, and economical measurement device that offers free chlorine level indication and direct reading of pH, salinity, TDS and ORP with one device. It is a device that covers almost all of the most important pool water chemistry in order to maintain the water at its optimal condition for bathers' safety and comfort as well.

Specifications / Features

- Operating range: 5~50°C, 0~12pH, 0 ~ 999mV (ORP), 1~80mS (Conductivity)
- Replaceable pH sensor. Resolution: 0.1 pH
- 1 point pH calibration using 7.00pH standard buffer
- Automatic temperature compensation for pH and conductivity
- Temperature sensor. Resolution: 1°C; Accuracy: ±5% (~±1°C), Selectable °C/°F system
- ORP sensor. Resolution: 1mV; Accuracy: ±20mV (500~800mV)
- TDS and SALT. Resolution: 100ppm; Accuracy: ±20% (200~5000ppm)

SAFE-DIP™ Meter Includes:
pH 7.0 Buffer Packet (for calibration)

PARTS & ACCESSORIES
pH Replacement Electrode
pH 7.0 Buffer Packet

Meter Description

1. Battery compartment cap
2. LCD Display
3. ON/OFF button
4. START button – start a new measurement
5. CAL button – calibration of pH probe
6. °C/°F button – toggle between Celsius and Fahrenheit
7. Sample Cup and Electrode Compartment (inside)
8. Probe Electrode
9. Sleeve holding area (when meter is in use)
10. Probe Sleeve
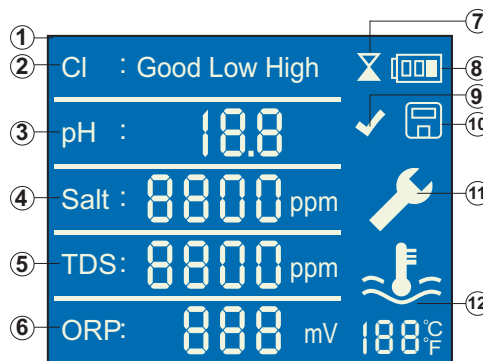
SAFE-DIP™ Display
1. Main display
2. Cl (free chlorine) indication Display Row
3. pH measurement Display Row
4. Salt (salinity) measurement Display Row
5. TDS measurement Display Row
6. ORP measurement Display Row
7. Hourglass: measurement in progress indicator
8. Battery indicator
9. Check mark: measurement done indicator
10. Disk icon: readings from memory
11. Tools icon: error warning
12. Temperature display

Getting Started

Setting up the meter
1. Place batteries (included) into the device. Refer to Battery Replacement section of this manual.
2. Remove the sample cup in order to access the probes.
3. Remove the sleeve which protects the probes.
4. Calibrate the probe prior to first use and every month by referring to the Calibration section of this manual.

Measurement
1. Fill the bottom 1/3 of the sample cup with the water sample. Make sure to collect the water at least 1.5" from the surface. The other option is to submerse the probes directly into the water sample.
2. Press the ⏻ button.
The most recent measurement will always appear along with the 🖫 icon.
3. Remove the sleeve and attach it to holding area. Immerse the Safedip probe in the water sample. Make sure the probes are completely submersed.
4. Press the START button to begin a new measurement.
5. During the new measurement, the ⏳ will blink before all stabilized parameters are achieved.
6. When measurement is finished, a beep will be heard and newest data will be displayed. The data will be saved in the memory until the next measurement. Only the latest measurement is stored and all prior measurements are discarded.
7. In order to view the latest readings at anytime, press ⏻.
8. If a new measurement is desired, repeat steps 3-6.
9. When finished using the meter, press the ⏻ once to turn the device off. If you forget to do so, the meter will turn off automatically after 1 minute.
10. Always rinse the probes with fresh tap water after use. Replace the sleeve in order to keep the probes wet. Failure to keep probes wet will void the warranty.

Basic Operation

1) Power ON/OFF:
The SAFE-DIP™ uses two AAA batteries. If the batteries are weak, the icon indicator will appear on the display. Press the ON/OFF button to turn the SAFE-DIP™ on or off. **The auto power off feature will turn off the SAFE-DIP™ automatically after 1 minute of non-use if no buttons are pressed.**

2) Toggle °C/°F:
To change the displayed temperature units between °C or °F:
With the SAFE-DIP™ ON, press °C/°F button .

3) New Measurement:
When the meter is powered on, the LCD display will display the readings from the very last measurement. The 🖫 icon will also be displayed. Press START button to start a new measurement. During the new measurement, the ⏳ icon will blink before all stabilized data are achieved. (Please see detailed explanation in the Measurement Procedure section.)

Calibration should be performed once a month. In order to calibrate, a buffer solution is used. This solution is easily made using the buffer packets provided with the original purchase. The buffer solution insures the accuracy of the Safedip digital reader.

To create a buffer solution, follow these steps:
1. Empty entire contents of 1 buffer packet into a cup with 8 oz tap water.
2. Stir the solution using a spoon for 20 seconds or until powder is completely dissolved.

To calibrate, follow these steps:
1. Turn ON the Safedip.
2. Immerse the probes completely into the cup with buffer solution.
3. Gently swirl the probes to remove possible gas bubbles on the probe tip.
4. With the probe in the solution, press and hold the CAL button for more than 3 seconds and the 7.0 value will be displayed. Release the button and the 7.0 value will blink. Press CAL button again and the ⧖ will then be displayed until calibration is finished.
5. After the calibration is completed, the ✔ will be displayed along with the calibration value of 7.0. While the 7.0 value is blinking, press ⏻ at anytime to abort.

Maintenance

Probe Care and Storage
1. Rinse the probe in distilled or tap water.
2. Store the Safedip with the probe sleeve over the electrode. Always keep the sponge in the cap soaked with tap water or pH 7 buffer solution.
3. Always rinse the probes in distilled or tap water between measurements to avoid cross contamination. Double rinsing is recommended when high accuracy is required.
4. Do not touch the probes. Touching the surface of the probes may damage and reduce the life of the probes.

pH Probe Replacement
1. Unscrew and remove the pH probe collar. Twist collar counter-clockwise.
2. Gently pull the probe away from the meter until it disconnects from the probe socket.
3. To attach a new probe, align the slots and carefully twist the probe clockwise into the meter socket.
4. Firmly tighten the probe collar to create a seal with the rubber gasket between the probe and the meter.

Probe Cleaning Recommendations
Do not soak the probe in any cleaning solution. To do so may cause a reference potential shift which will cause degradation in performance. When cleaning the probe, use tap water and be careful not to scratch or damage the glass sensing surface.

Battery Replacement
1. Use a coin to twist off the battery compartment cap.
2. Replace the two AAA batteries. Observe polarity.
3. Replace the battery compartment cap and make sure it is tightly secured to avoid water intrusion.

Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Meter will not calibrate in pH	Clogged or contaminated reference junction / Damaged or worn sensing membrane / Contaminated pH buffers	Clean junction / Replace probe / Use fresh buffers
Meter will not turn on	Batteries low or dead / Wrong battery polarity	Replace batteries / Replace batteries with correct polarity

Icon	Description	Range	Actions
🔧	pH offset out of range	-20 ~ 20mV	Recalibrate or use new buffer to calibrate or replace pH probe
🔧	Temperature out of range	5 ~ 50°C	Bring solution to the temperature within range
🔧	pH out of range	0 ~ 12pH	Use other solution or replace pH probe
🔧	ORP out of range	0 ~ 999mV	Use other solution
🔧	TDS or SALT out of range	200 ~ 8000ppm	Use other solution
🔋	Low Battery	N/A	Replace batteries

WARRANTY

This instrument is guaranteed to be free from defects in material and workmanship for a period of one year from the date of original purchase. The probes are guaranteed to be free from defects in material and workmanship for a period of six months from the date of original purchase. Damages brought on by abuse, operator negligence, accident, misapplication, mishandling, or acts of God will void this warranty. This warranty is limited to the repair or replacement of the product at the discretion of the manufacturer and will not include transportation costs. This warranty does not cover batteries.

This product cannot be returned without a return authorization number from Solaxx. For warranty support or a Return Authorization number, log onto **www.solaxx.com** and click on support or email:

service@solaxx.com

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