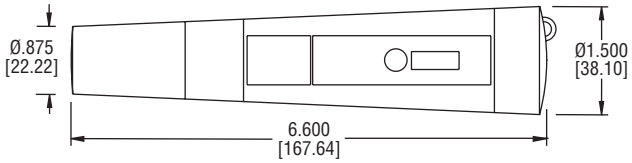
Model WPH1 Waterproof pH Tester

Specifications - Operating Instructions



Before You Begin
Remove the cap from the bottom of the tester to expose the electrode bulb and reference junction. DO NOT BE ALARMED if white crystals are present on the cap or electrode assembly. This is normal and will dissolve during the conditioning presoak. For the conditioning presoak, pour a small amount (about 1" deep) of electrode storage solution, pH 4 buffer or tap water into a small cup and soak the electrode for at least 30 minutes. If the electrode dries out between uses, re-condition by using this soaking procedure.

Calibration
Calibration is necessary and should be done regularly, typically every day that the tester is used. Some applications will need less frequent calibrations but this can only be determined by trial and error.

Calibration Instructions
1. Turn the tester on by pressing the ON/OFF button.
2. Dip 1/2 to 1" of the electrode into a pH 7.0 buffer for general purpose use, into pH 4.0 if your tests will be in acidic solutions, or into a pH 10 buffer if your tests will be in alkaline (or basic) solutions. If the tests will be in solutions closer to pH 7.0 than pH 4.0 or 10.0, even though acidic or basic, use pH7 buffer for calibration.
3. Press the CAL button to enter the Calibrate (CA) mode. A 'CA' will flash on the display and then a pH value close to the pH buffer value will flash repeatedly.
4. After at least 30 seconds (about 30 flashes) press the HOLD/CON button to confirm the calibration. The display will show 'CON' and switch back to a pH reading of the buffer. Rinse the electrode with de-ionized water or tap water.

Error Messages
ER1 means the batteries are low and should be replaced.
ER2 means the wrong buffer value has been selected for calibration or the electrode is contaminated.
OR means the signal is out of range, possibly from a voltage applied to the solutions.

Possible Problems with Calibrations
The most common problem is failing to press the HOLD/CON button to confirm the calibration. Pressing the CAL button instead will stop the flashing and resume measuring mode but will not enter the calibration; the meter will not show the buffer value or measure accurately.

Another problem is failing to allow the tester to sample the pH buffer for at least 30 seconds prior to pressing the HOLD/CON button confirming the calibration. If the tester does not get a long enough exposure to the buffer, a stable calibration point will not be reached and small errors can occur.

The last common problem is failure to rehydrate the electrode after it has dried out and before attempting a calibration. A dry electrode will give fluctuating readings while it rehydrates in a buffer, causing errors.

SPECIFICATION
Range: -1.0 to 15.00 pH.
Resolution: 0.1 pH.
Accuracy: ±0.2 pH.
Calibration: Single-point @ 4.0, 7.0, or 10.0 pH.
Refrence Type: AG/AgCi.
Operating Temperatre: 32 to 122°F (0-50°C)
Power: Three 1.5V alkaline batteries (included)".
Battery Life: 24 hrs continuous use.
Housing: Poly Butlylene Terephthalate (PBT).
Display: 2 1/2-digital, 5/16" High LCD.
Weight: 3.25 oz (90 g).

pH Testing
1. Remove cap from the electrode assembly and press the ON/OFF button to turn the tester on.
2. Dip the electrode a 1/2" to 1" into the test solution. Stir once and let the reading stabilize.
3. Note the pH or press HOLD/CON button to freeze the reading. Press HOLD/CON again to release the reading.
4. Press ON/OFF to turn off the tester. If you do not press a button for 8.5 minutes the tester will automatically shut off to conserve batteries.

Maintenance
Rinse the electrode with tap water after each measurement to extend its useful life. In aggressive chemicals, dirty or viscous solutions, and solutions with heavy metals or proteins, take readings quickly and rinse electrode in de-ionized water immediately afterward. Periodic soaks in warm pH 4 buffer or 4M KCl will help remove any contaminants that may ruin electrode. If possible keep a small piece of paper or sponge in the electrode cap-moistened with clean water or electrode storage solution 4M KCl (NOT DE-IONIZED WATER)-and close the cap over the electrode.

The useful life of a tester is entirely dependent on the care of the electrode and meter get. But it must be expected that in applications where the electrode is exposed to material that contaminate the electrode reference junction, electrode life will be shortened. This is not a defect in the electrode but a NORMAL EVENT. When you are ready for a new electrode, see "Electrode Replacement".

DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, INDIANA 46361, U.S.A.
Phone: 219/879-8000
Fax: 219/872-9057
www.dwyer-inst.com
e-mail: info@dwyer-inst.com

Electrode Replacement

One of the benefits of selecting the Waterproof pH tester is that you can now replace the electrode module when needed and keep the meter portion of the tester. When the tester fails to calibrate, gives fluctuating readings in buffers, or shows error messages “E2” or “OR” in a buffer, and the procedures in the Maintenance section do not help, you need to change the electrode.

1. WITH DRY HANDS firmly grip the ribbed collar of the tester with the electrode facing you and slowly twist counter clockwise. Slow, steady twisting, along with a firm grip, will loosen the collar.
2. Unscrew the ribbed electrode module collar completely and SAVE IT! Save the O-ring in the collar also. Pull the electrode module straight out from the bottom of the tester.
3. Align the four tabs on the new module so they match the four slots on the tester.

NOTE: Older testers may have only two slots. In this case, break off the two small tabs using needle-nose pliers.

4. Gently push the module onto the bottom end to fully seat it in position. Put the smaller O-ring all the way into the ribbed collar. Then push the collar on over the module and thread it into place by firmly twisting it clockwise until the larger O-ring that is close to the face plate disappears under the ribbed electrode module collar.

Changing the Batteries

Under the cap with the lanyard loop is the battery compartment. WITH DRY HANDS firmly grip the cap and the tester body. Twist the cap counter clockwise. The cap must be on tight to ensure water tightness and will require effort to loosen, but this can be done routinely if twisted slowly while maintaining a firm grip. Remove the batteries and replace with new ones noting the polarity. Replace the cap and tighten until all the black O-ring is under the cap and the lanyard loop is lined up with the face plate.

Printed in U.S.A. 8/07

FR# R6-443105-00 Rev. 1

DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, INDIANA 46361, U.S.A.
Phone: 219/879-8000
Fax: 219/872-9057
www.dwyer-inst.com
e-mail: info@dwyer-inst.com