

MicroDirect pH30



- Large Screen
- Waterproof pH / Temperature Tester
- Double Junction

GB Instruction manual

Before you begin:

Condition your MicroDirect pH30 electrodes by immersing it in electrode storage solution or tap water or at least 30 minutes before use. DO NOT use de-ionized water.

pH Buffer Set Selection

Your tester features USA (pH 4.01, pH 7.00 and pH 10.01) or NIST (pH 4.01, pH 6.86, and pH 9.18) standards. Select either one to suit your requirements.

1. While pressing the HOLD/ENT button, switch on the tester by pressing the ON/OFF button.
2. Release the HOLD/ENT button. The display will flash either USA or nSt.
3. Press CAL button to toggle between the two buffer set standards.
4. Press the HOLD/ENT button to confirm the selection of the buffer set.

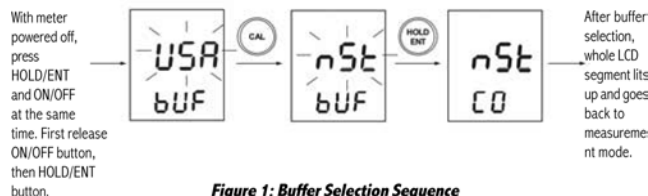


Figure 1: Buffer Selection Sequence

pH Calibration

Calibration should be done regularly, preferably once a week. You can calibrate up to three points using either the USA or the nSt buffer set standards.

1. Press ON/OFF button to switch unit on.
2. Dip electrode about 2 to 3 cm into the pH standard buffer solution.
3. Press the CAL button to enter calibration mode. The 'CAL' indicator will be shown. The upper display will show the measured reading based on the last calibration while the lower display will indicate the pH standard buffer solution.

Note: All testers have dual display during calibration mode

Note: To abort calibration, press the 'CAL' button.

4. Allow about 2 minutes for the tester reading to stabilize before pressing the HOLD/ENT button to confirm the first calibration point. The upper display will be calibrated to the pH standard buffer solution and the lower display will then be toggling in between readings of the next pH standard buffer solution.

5. Repeat with other buffers if necessary. Rinse electrode in tap water before dipping into next buffer.

Note: The calibration mode allows you to perform up to three calibration points before returning to the measurement mode automatically. However, if you opted to have only one or two calibration points, simply skip the remaining calibration points by exiting to the measurement mode by pressing the CAL button.

pH Measurement

1. Press the ON/OFF button to switch the tester on.
2. Dip the electrode about 2 to 3 cm into the test solution. Stir and let the reading stabilize.
3. Note the pH value or press HOLD/ENT button to freeze the reading. To release the reading, press HOLD/ENT again.
4. Press ON/OFF to turn off tester. If you do not press a button for 8.5 minutes, the tester will automatically shut off to conserve batteries.

HOLD Function

This feature lets you freeze the display for a delayed observation

1. Press HOLD/ENT button to freeze the measurement. A 'HOLD' indicator will be displayed and the measurement will be frozen.
2. Press HOLD/ENT again to release the measurement. The 'HOLD' indicator will not be displayed anymore indicating the held measurement is released.

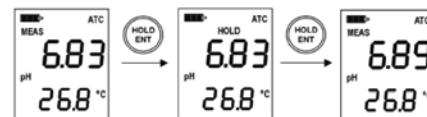


Figure 4: Example of HOLD Function

User Reset

You can reset the pH calibration to the factory default by using the user reset function.

Buffer set selection and temperature user calibration (pHTester30) are not affected by the user reset function.

1. Switch off the tester.
2. While pressing the 'CAL' button, press and release the ON/OFF button to enter the 'User Reset' selection menu. The screen will display 'rSt' on the bottom display with a flashing 'nO' selection.
3. Use the 'CAL' button to toggle between 'nO' and 'YES' selection.
 - nO deactivates reset selection
 - YES activates the reset selection
4. Press the HOLD/ENT button to confirm the selection made.
5. If you have selected 'YES', the unit will show 'CO' momentarily and proceed to the measurement mode with the calibration reset back to factory default value.
6. If 'nO' is selected, the unit will proceed to the measurement mode without any calibration reset performed.



Figure 5: User Reset Sequence

Automatic Temperature Compensation (ATC)

Through its inbuilt temperature sensor, the measurement error due to the changes in electrode sensitivity due to changes in temperature is compensated to give the actual pH reading of the sample measured.

Temperature Calibration

From the measurement mode,

1. Press the HOLD/ENT button to bring the tester to the 'HOLD' mode.
2. Press the CAL button for 3 seconds to switch to the °C or °F mode setting selection screen. Pressing the CAL button continuously for 3 seconds allows you to toggle in between the °C and °F mode setting selection screen.
3. Release the CAL button to confirm your mode selection and the display will go to the temperature calibration mode with the upper display flashing. The upper display shows the current measured temperature reading based on the last set offset and the lower display shows the current measured temperature reading based on factory default calibration.
4. Dip the tester into a solution of known temperature and allow time for the in built temperature sensor to stabilize.
5. Press the HOLD/ENT button to set the upper display to the temperature value of the solution.
6. Once the new temperature setting is reached, the new value is automatically confirmed and returns to the measurement mode if no button is pressed after 5 seconds.

Notes: To exit this program without confirming the calibration, press the CAL button before the automatic confirmation takes place.

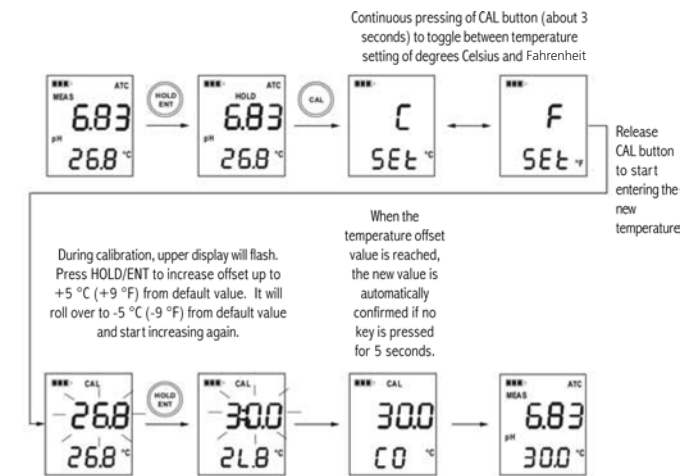


Figure 6: Temperature Calibration Sequence (Only for pHTester 30DJ)



Electrode Maintenance

1. Rinse the electrode with tap water or electrode storage solution after each measurement. Care has to be taken not to damage the sensor's glass electrode especially while rinsing the pHSpear penetrating tip electrode.
2. In aggressive chemicals, dirty or viscous solutions, and solutions with heavy metals or proteins, take readings quickly and rinse electrode immediately afterward.
3. If possible, keep a small piece of paper or sponge in the electrode cap – moistened with clean water or electrode storage solution (NOT de-ionized water) – and close the cap over the electrode.

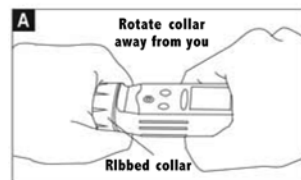


Figure 7: Removal of collar from tester

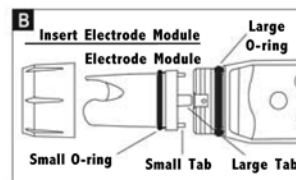






Figure 8: Example of electrode module fitting alignment

Changing Batteries

1. Open battery compartment lid (with attached lanyard loop).
2. Remove old batteries; replace with fresh ones. Note polarity

Self-Diagnostic Messages

Low battery indicator		3 Bars indicates Battery is full (100%)
		2 Bars indicates 50% of the battery life is left
		1 Bar indicates 25% of the battery life is left
		Blinking battery casing indicates the need to replace batteries with fresh ones as specified by manufacturer
Over range / Under range signal	Or / Ur (Still)	Electrode is not in contact with solution or electrode is failing.
		Replacement sensor is not connected properly to the tester during sensor replacement
		Measured pH value or temperature value (pHTestr30) exceeds its specified maximum or minimum value
Error Message	Er.0	Temperature calibration error of attempting to calibrate tester to a value which is out of range or under range
	Er.1	pH calibration error of attempting to confirm a calibration value which is not within the specified calibration window

Electrode Replacement

You can replace the electrode module at the fraction of the cost of a new tester.

When the tester fails to calibrate or gives fluctuating readings in calibration standards, you need to change the electrode.

1. With dry hands, grip the ribbed tester collar with electrode facing you. Twist the collar counter clockwise (see picture A). Save the ribbed tester collar and O-ring for later use.
2. Pull the old electrode module away from the tester.
3. Align the four tabs on the new module so that they match the four slots on the tester (see picture B).
4. Gently push the module onto the slots to sit it in position. Push the smaller O-ring fully onto the new electrode module. Push the collar over the module and thread it into place by firmly twisting clockwise.

Note: It is necessary that you recalibrate your tester prior to measurement after an electrode replacement.

Applications

Water quality testing • pools • spas • aquariums • aquaculture • hydroponics • ecology studies • water and wastewater treatment • boilers • steam generators • car washes • sanitation plants • labs • food sectors and more!

Warranty

The waterproof MicroDirect WP 30 are warranted to be free from manufacturing defects for 2 years and electrode module for 6 months. If repair, adjustment or replacement is necessary and has not been the result of abuse or misuse within the time period, please return the tester – freight prepaid – and correction will be made without charge. Out of warranty products will be repaired on a charge basis.

Return of Items

Authorization must be obtained from your distributor before returning items for any reason. When applying for authorization, please include information regarding the reason the item(s) are to be returned.

Note: We reserve the right to make improvements in design, construction and appearance of products without notice. Prices are subject to change without notice.

Accessories:

19 46 36 Replacement sensor MicroDirect pH30

Technical Specifications

	pH30
Range	-1.0015.00 pH
Resolution	0.01 pH
Accuracy	0.01 pH
Calibration Points	1-, 2-, 3-point
Buffer Solutions	USA 4.01/7.00/10.01 NIST 4.01/6.86/9.18
Calibration Window (USA Buffer Set Standard)	+/-1.00 pH (pH 4.01 & pH 10.01), +/-1.50 pH (pH 7.00)
Calibration Window (NIST Buffer Set Standard)	+/-1.00 pH (pH 4.01 & pH 9.18) +/-1.25 pH (pH 6.86)
Temperature Range	0-50.0°C or 32.0-122.0°F
Automatic Temperature Compensation (ATC)	Yes
Temperature Resolution	0.1 °C / °F
Temperature Accuracy	0.5 °C / 0.9 °F
Temperature Calibration Window	+/- (5°C /9 °F) from default window
Auto Off	8.5 minutes
Batteries	4 x 1.5V "A 76 " Micro Alkalie Batteries
Battery Life	> 500 hours
Operation Temperature	0 – 50 °C
Dimensions (Tester)	165 x 38 mm
Weight	0,090 kg