JENCO®

VisionPlus

Operation Manual

MODEL pH 619

Microcomputer Based

pH&Temperature

Pocket Meter

pH619

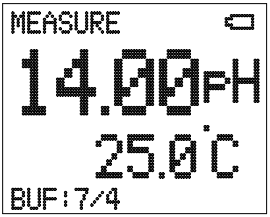
CONTENTS

INITIAL INSPECTION AND ASSEMBLY

Carefully unpack the instrument and accessories. Inspect for damages made in shipment. If any damage is found, notify your Jenco representative immediately. All packing materials should be saved until satisfactory operation is confirmed.

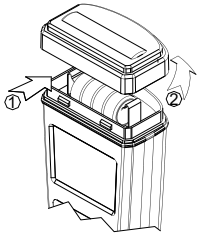
BEFORE YOUR FIRST USE

A. Replace the Batteries



Replace the battery when the blinking low battery indicator "▭" appears on the upper right corner of the LCD screen. The instrument can operate within specifications for approximately 2~3 hours after low battery appears.

1. Shown in the right figure.
2. Take off the battery cover.
3. Remove all of the old batteries and insert a new set of batteries ensuring the polarities are correct.



B. Soak the Electrode

1. Remove the electrode cap covering the VisionPlus pH meter.

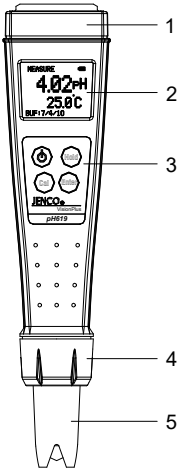
2. Soak the electrode in a pH 4 solution for 10 minutes before first use or after storage.

C. Setup and Calibrate the Electrode and Meter

VisionPlus pH 619 must be setup and calibrated before your first use. Please follow the instructions detailed in section **USING VISIONPLUS pH 619**.

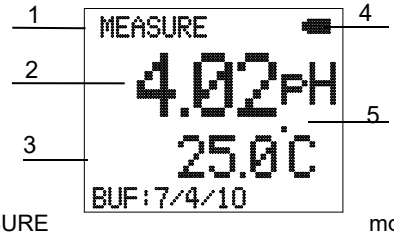
VISIONPLUS pH 618N OVERVIEW

A. Meter Description



1. Battery cap
2. LCD screen
3. Keypad
4. Electrode collar
5. Electrode & ATC assembly
(Electrode cap is not shown.)

B. VisionPlus Graphical Display



1. MEASURE mode indicator
2. pH reading
3. CALIBRATION buffer(s)
4. BATTERY display
5. TEMPERATURE reading

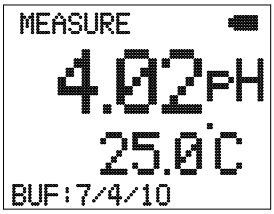
Note: ℃ or °F is factory pre-set.

OPERATION MODES AND KEYPAD OPERATIONS

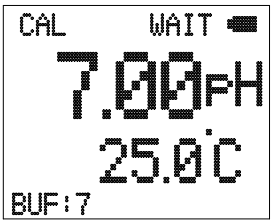
A. Operation Modes

VisionPlus pH meter has 5 operation modes:

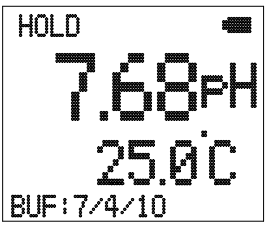
1. Measure Mode.
   Measure Mode is used to make all pH and temperature measurements.



2. Calibration Mode.
   Calibration Mode is used to perform 1, 2 or 3 point calibration.

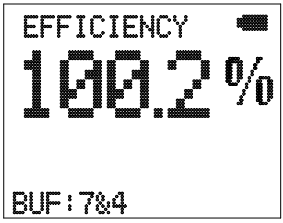


3. Hold Mode.
   Hold Mode is used to display held measured values for increased ease of use.



4. Buffer Select Mode.
   Buffer Select Mode is used to select the buffer set, which can either be 7.00(7.00/4.01/10.01) or 6.86(6.86/4.00/9.18).

5. Electrode Efficiency Mode. In MEASURE mode, press the “Enter” key for about 5 seconds to display the electrode’s efficiencies.



B. Keypad Operations

Key	Operation Mode	Duration	Function
On/Off	All	0 seconds	Turns meter on/off.
Cal	Measure	0 seconds	Enters Calibration Mode.
	Measure	5 seconds	Enters Buffer Select Mode.
	Calibration	0 seconds	Recalibrates the buffer.
Hold	Measure	0 seconds	Holds measured values. Press again to resume measuring.
	Calibration	0 second	Exits pH calibration.
Enter	Measure	5 seconds	Displays the electrode’s efficiencies.
	Calibration	0 seconds	Saves the calibration data.

USING VISIONPLUS pH 619

A. Power ON/OFF

Press the “On/Off ” key to turn the unit on. If the unit is running then you can press the ”On/Off “ key to turn the unit off. The will automatically turn off after 30 minutes of no key activity.

B. Select Buffer

1. Make sure unit is in MEASURE mode.
2. Press the “CAL” key for 5 Seconds. The unit will display 7.00 to indicate you successfully changed from “6.86/4.00/9.18” set to “7.00/4.01/10.01” set.

3. Press the “CAL” key for 5 Seconds again, the unit will display 6.86 to indicate you successfully changed from “7.00/4.01/10.01” set to “6.86/4.00/9.18” set.

Note: There is no need to repeat this procedure every time unless one decides to change the buffer settings.

C. Calibrate pH

The user can select one, two or three point pH calibration.

1. Rinse the pH & ATC sensor in distilled water and immerse them in the first buffer solution. The temperature displayed is the buffer temperature.
2. Press “Cal” key to initiate calibration, the buffer icon will be on, the “WAIT” icon will flash until the unit detects a stable reading. When a stable reading is reached, the “WAIT” icon will hold still. Press the “Enter” key, the “SAVE” icon will be on. Wait a second, the first point has been calibrated and the unit is ready to be sloped at the second buffer.

   [**Note:** At this moment, press the “Hold” key, the unit will exit the calibration mode, **Single point** calibration is complete.]
3. Remove the pH & ATC sensor from the first buffer. Rinse them in distilled water and immerse them in the second buffer solution. The unit will display the temperature of the second buffer.
4. The first and second buffer icons will be on, the “WAIT” icon will flash until the unit detects a stable reading. When a stable reading is reached, the “WAIT” icon will hold still. Press the “Enter” key, the “SAVE” icon will be on. Wait a second, the second point has been calibrated and the unit is ready to be sloped at the third buffer.

   [**Note:** At this moment, press the “Hold” key, the unit will exit the calibration mode, **Dual points** calibration is complete.]

5. Remove the pH & ATC sensor from the second buffer. Rinse them in distilled water and immerse them in the third buffer solution. The unit will display the temperature of the third buffer.

   The first, second and third buffer icons will be on, the "WAIT" icon will flash until the unit detects a stable reading. When a stable reading is reached, the "WAIT" icon will hold still. Press the "Enter" key, the "SAVE" icon will be on. Wait a second, the third point has been calibrated and the unit will automatically exit the calibration mode. **Three points** calibration is complete.

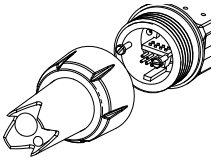
Note: For accurate measurements, it is recommended that pH calibration is preformed once a week and after replacing the electrode.

D. Measure

Dip the meter into the test solution in the "Measure Mode".

REPLACE ELECTRODE

1. Unscrew the electrode collar to remove the electrode & ATC assembly as shown in the right figure.
2. Remove the old electrode from the electrode collar.
3. Insert a new electrode, make sure the electrode fit back into the meter correctly.
4. Screw back the electrode collar.
5. Soak the electrode in a pH 4 buffer solution for 10 minutes and recalibrate the pH 619 following the instructions detailed in section **USINIG VISIONPLUS pH619**.



ERROR DISPLAYS AND TROUBLESHOOTING

pH LCD	ATC Display	DISPLAY Mode	Possible cause(s) [Action(s)]
"OVER"	"OVER"	pH	Temperature > 100.0°C. [Bring solution to a lower temperature.]
"UNDR"	"UNDR"	pH	Temperature < -10.0°C. [Bring solution to a higher temperature.]
"OVER"	-10.0~ 100.0°C	pH	pH >14.00pH . [Over Range or Recalibrate.]
"OVER"	0.0 ~ 60.0°C	pH CAL a.pH-OFFSET b.pH-SLOPE	a. Offset @ 7.00pH: mV>100mV Offset@6.86pH: mV>108.3mV b. New slope>ideal slope by 30% [Use a new buffer solution.] [Replace electrode.]
"UNDR"	0.0 ~ 60.0°C	pH CAL a.pH-STAND b.pH-SLOPE	a. Offset @ 7.00pH: mV<-100mV Offset @ 6.86pH: mV< -91.7 mV b. New Slope<ideal slope by 30% [Use a new buffer solution.] [Replace electrode.]
"UNDR"	-10.0 ~ 100.0°C	pH	pH<0.00pH. [Under Range or Recalibrate.]

SPECIFICATIONS

pH

Range	Resolution	Accuracy
0.00 to 14.00 pH	0.01 pH	±0.02 pH ± 1 LSD

Temperature

Range	Resolution	Accuracy
-10.0 to 100.0 °C 14.0 to 212.0 °F	0.1 °C 0.2 °F	±0.3 °C ±0.6 °F

pH

pH buffer recognition pH 7.00, 4.01, 10.01 or pH 6.86, 4.00, 9.18

pH Temperature compensation AUTO -10.0 °C(14.0°F) to 100.0 °C(212.0 °F)

pH Buffer Temperature range 0.0°C (32°F) to 60.0°C(140.0 °F)

pH Electrode Offset recognition ±100 mV at pH 7.00 +108.3 mV / -91.7 mV at pH 6.86

pH Electrode Slope recognition ±30% at pH 4.00, 4.01, 9.18 and 10.01

Input impedance $>10^{12}\ \Omega$

Temperature

Temperature sensor Thermistor, 10 k Ω at 25°C

Temperature unit Factory pre-set

General

Power LR44 x 4

Battery life 200 Hours

Automatically turn off After 30 minutes of no key activity

Ambient temperature range 0.0 to 50.0 °C

Display 98x64 graphic LCD

Case IP67 water-tight case

Weight 105 g

WARRANTY

Jenco Instruments, Ltd. warrants this product to be free from significant deviations in material and workmanship for a period of 1 years for the meter and 6 months for the electrode from date of purchase. If repair or adjustment is necessary and has

not been the result of abuse or misuse, within the warranty period, please return-freight-prepaid and the correction of the defect will be made free of charge. If you purchased the item from our Jenco distributors and it is under warranty, please contact them to notify us of the situation. Jenco Service Department alone will determine if the product problem is due to deviations or customer misuse.

Out-of-warranty products will be repaired on a charge basis.

RETURN OF ITEMS

Authorization must be obtained from one of our representatives before returning items for any reason. When applying for authorization, have the model and serial number handy, including data regarding the reason for return. For your protection, items must be carefully packed to prevent damage
in shipment and insured against possible damage or loss. Jenco will not be responsible for damage resulting from careless or insufficient packing. A fee will be charged on all authorized returns.

NOTE: Jenco reserves the right to make improvements in design, construction and appearance of our products without notice.

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