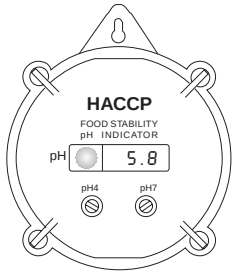
Instruction Manual

HI 981400

pH Indicator with Alarm Signal for HACCP Control



HANNA instruments

Manufacturers since 1978

CE
This Instrument is in Compliance with the CE Directives

WARRANTY

HACCP Food Stability pH Indicator is warranted for one years against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. This warranty is limited to repair or replacement free of charge.

Damages due to accident, misuse, tampering or lack of prescribed maintenance are not covered.

If service is required, contact the dealer from whom you purchased the instrument. If under warranty, report the model number, date of purchase, serial number and the nature of the failure. If the repair is not covered by the warranty, you will be notified of the charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization Number from the Customer Service department and then send it with shipment costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

To validate your warranty, fill out and return the enclosed warranty card within 14 days from the date of purchase.

Hanna Instruments reserves the right to modify the design, construction and appearance of its products without advance notice.

Dear Customer,

Thank you for choosing a Hanna product. This manual will provide you with the necessary information for a correct operation. Please read it carefully before using the meter. If you need additional technical information, do not hesitate to e-mail us at techserv@hannacan.com.

These instruments are in compliance with the CE directives EN 50081-1 and EN 50082-1.

PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it carefully. If any damage has occurred during shipment, immediately notify your Dealer or the nearest Hanna Customer Service Center.

The meter is supplied with:

- Calibration screwdriver;
- pH 4.01 and 7.01 buffer solutions (20 mL each);
- 12 VDC power adapter.

Note: Conserve all packing material until the instrument has been observed to function correctly. Any defective item must be returned in its original packing.

GENERAL DESCRIPTION

HACCP Food Stability pH Indicator is an indicator specially designed to check pH in foodstuff.

The pH value ranks as one of the most important indicators of food quality and safety. pH of raw ingredients such as milk and meat is measured to ensure that quality standards have been properly met. pH is also monitored at different stages of food preparation and transformation to guarantee safety, improve production and enhance quality.

HI 981400 measures and displays the pH value on a liquid cristal display. In addition, a flashing LED will indicate if the measured pH exceeds the selected limit.

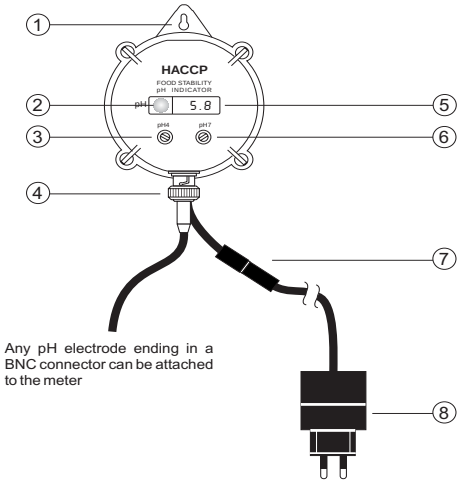
The HANNA range of electrodes includes some models specially made for the food sector, such as **FC 200B** with an open junction and **FC 230B** with a cutting blade recommended for meat measurement.

With a built-in hook, you can simply hang the meter right above the sample to be tested for repetitive measurements.

The meter can be calibrated at one or two points.

You no longer need to worry about battery changes either: the unit runs without interruption on 12 VDC power supply.

FUNCTIONAL DESCRIPTION



Any pH electrode ending in a BNC connector can be attached to the meter

1. Molded eye
2. Alarm LED
3. pH 4.0 calibration trimmer
4. BNC connector for pH electrode
5. Liquid Crystal Display
6. pH 7.0 calibration trimmer
7. Power supply connector
8. 12 VDC power supply (included)

SPECIFICATIONS

Range	0.0 to 14.0 pH
Resolution	0.1 pH
Accuracy (@ 25°C/77°F)	±0.2 pH
Typical EMC Deviation	±0.2 pH
Setpoint	4.0 to 7.5 pH
Alarm	LED blinks when measurement is higher than setpoint
Calibration	Manual with two trimmers for offset (pH 7.0) and slope (pH 4.0)
Power supply	External 12 VDC (included)
Dimensions	86 x 94 x 33 mm (3.4 x 3.7 x 1.3") meter only
Weight	150 g (5.3 oz.) meter only

OPERATIONAL GUIDE

pH ELECTRODE MAINTENANCE

- Any combination pH electrode ending in a BNC connector can be attached to the controller. Choose from the vast range of HANNA electrodes by consulting our general catalog.
- Do not be alarmed if white crystals appear around the electrode protective cap. This is normal with pH electrodes and they dissolve when rinsed with water.
- When not in use, rinse the electrode with water to minimize contamination and store it with a few drops of storage (**HI 70300**) or pH 7 (**HI 7007**) solution in the protective cap. Always replace the protective cap after use.

  DO NOT USE DISTILLED OR DEIONIZED WATER FOR STORAGE PURPOSES.
- If the electrode has been left dry, soak the tip in a storage (**HI 70300**) or pH 7 (**HI 7007**) solution for at least one hour to reactivate it.
- To minimize clogging and provide longer life for the pH electrode, it is recommended to clean it at least once o month. Immerse the tip of the electrode in **HI 7061** for half an hour and then rinse it with tap water.

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PRINTED IN PORTUGAL ISTR981400R1 04/2000

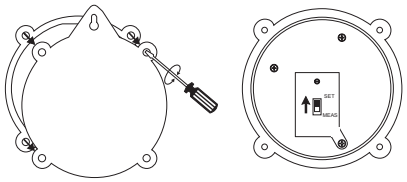
TAKING pH MEASUREMENTS

- Turn the meter on by connecting the 12 VDC power adapter to the meter and the mains.
- Connect a pH electrode to the HACCP Indicator.
- Remove the protective cap from the pH electrode and immerse the tip (4 cm/1½") in the sample.
- Allow the reading to stabilize.

ADJUSTING THE SETPOINT

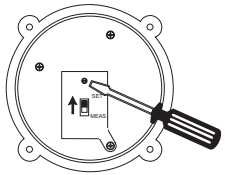
You can select a Setpoint between 4.0 and 7.5 pH. A visual LED indication alerts you when the sample pH is more than the desired value.

- Unscrew and remove the rear panel and gasket seal to access the MEASURE/SET switch and the Setpoint adjustment trimmer.

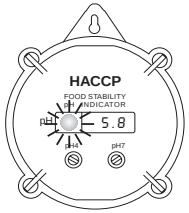


- Move the switch up to visualize the Setpoint.

- With a small screwdriver adjust the Setpoint trimmer to display the desired value. The Setpoint is factory set at 5.5 pH.



- Move the switch down to return to measurement mode.
- Replace the rear panel and the gasket, ensuring the unit is properly closed.
- Whenever the pH reading exceeds Setpoint, the alarm LED blinks to warn the user.



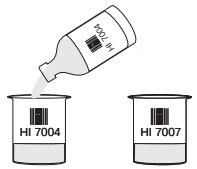
CALIBRATION

For better accuracy, frequent calibration of the instrument is recommended. In addition, the instrument must be recalibrated whenever:

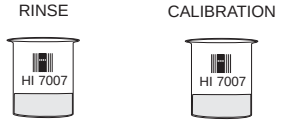
a) The pH electrode is replaced.
b) After testing aggressive samples.
c) Where higher accuracy is required.
d) At least once a month.
e) When the electrode has been used for a long time.

PREPARATION

Pour small quantities of pH 7.0 (**HI 7007**) and pH 4.0 (**HI 7004**) solution into two clean beakers.



For accurate calibration use two beakers for each buffer solution, the first one for rinsing the tip of the electrode and the second one for calibration. This way, contamination of the buffers is minimized.

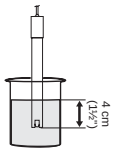


A range of HANNA buffer solutions in single-use sachets is also available for a more hygienic calibration.

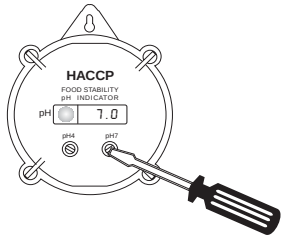
CALIBRATION PROCEDURE

- Turn the meter on and make sure that the MEASURE/SET switch is on the MEASURE mode.
- Remove the protective cap from the electrode, rinse and immerse it in a pH 7.0 buffer. Stir gently and then wait a couple of minutes for the reading to stabilize.

Note: The electrode should be submerged approximately 4 cm (1½") in the solution.

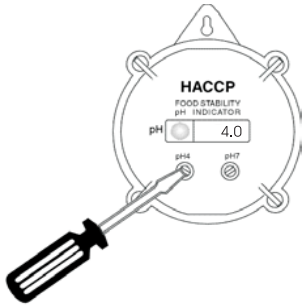


- Adjust the right hand trimmer with the calibration screwdriver until the LCD shows pH 7.0.



- Rinse and immerse the pH 4.0 solution (second gently.

- Wait a couple of minutes and then adjust the left hand trimmer until the LCD shows the value of the second buffer (4.0 in this case).



The pH calibration is now complete.

Recommendations for Users

Before using this product, make sure that it is entirely suitable for the environment in which it is used. Operation of this instrument in residential areas could cause unacceptable interference to radio and TV equipment.
The glass bulb at the end of the electrode is sensitive to electrostatic discharge. Avoid touching this glass bulb at all times. During operation, ESD wrist straps should be worn to avoid possible damage to the electrode by electrostatic discharge.
Any variation introduced by the user to the supplied equipment may degrade the instrument's EMC performance.
To avoid electrical shock, do not use this instrument when voltage at the measurement surface exceeds 24 VAC or 60 VDC.
To avoid damage or burns, do not perform any measurement in microwave ovens.

ACCESSORIES

FC 200B	Conic open junction pH electrode
FC 230B	pH electrode with optional blade
FC 098	Stainless steel blade, 20mm (0.8")
FC 099	Stainless steel blade, 35mm (1.4")
HI 70004P	pH 4.01 solution, 20 mL sachet (25 pcs)
HI 70007P	pH 7.01 solution, 20 mL sachet (25 pcs)
HI 710005	12 VDC power adapter, US plug
HI 710006	12 VDC power adapter, European plug
HI 710012	12 VDC power adapter, Australian plug
HI 710013	12 VDC power adapter, Southern Africa plug
HI 710014	12 VDC power adapter, UK plug
HI 77400P	pH 4 & 7 solutions, 20 mL sachet (5 each)
HI 7004M	pH 4.01 solution, 230 mL
HI 7007M	pH 7.01 solution 230 mL
HI 70300M	Storage solution, 230 mL
HI 7061M	Cleaning solution, 230 mL

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