



# Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for HANNA INSTRUMENTS HI 96727. You'll find the answers to all your questions on the HANNA INSTRUMENTS HI 96727 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

## User manual HANNA INSTRUMENTS HI 96727 User guide HANNA INSTRUMENTS HI 96727 Operating instructions HANNA INSTRUMENTS HI 96727 Instructions for use HANNA INSTRUMENTS HI 96727 Instruction manual HANNA INSTRUMENTS HI 96727

### INSTRUCTION MANUAL

## HI 96727

### Color of Water ISM

#### Dear Customer,

Thank you for choosing a Hanna product. This manual will provide you with the necessary information for the correct use of the instrument. Please read it carefully before using the meter. If you need additional technical information, do not hesitate to e-mail us at [tech@hannainst.com](mailto:tech@hannainst.com).

#### Preliminary examination:

Please examine this product carefully. Make sure that the instrument is not damaged. If any damage occurred during shipment, please notify your dealer.

Each HI 96727 Ion Selective Meter is supplied complete with:

- Two Sample Cuvettes and Caps
- VV Battery
- Instruction Manual

**Note:** Save all packing material until you are sure that the instrument works correctly. Any defective items must be returned in its original packing.

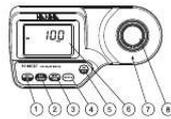
For more details about spare parts and accessories see "Accessories".

#### Technical specifications:

Range	0 to 500 PCU (Platinum Cobalt Units)
Resolution	10 PCU
Accuracy	±10 PCU ±5% of reading @ 25°C
Typical EMC Dev.	±10 PCU
Light Source	Lamp and filter @ 420 nm
Light Detector	Silicon Photocell
Method	Adaptation of the Standard Methods for the Examination of Water and Wastewater 18A edition, Colorimetric Platinum Cobalt method.
Environment	0 to 50°C (32 to 122°F), non-55% RH non-condensing
Battery Type	1 x 9 volt
Auto-Shut off	After 10' of non-use in measurement mode; after 1 hour of non-use in calibration mode with last reading reminder.
Dimensions	192 x 104 x 49 mm (7.4 x 4.1 x 2.7")
Weight	340 g (12.7 oz.)



#### Functional description:



1. **ON/OFF** key: press to enter **ON/OFF** mode. In calibration mode press to edit the date and time.
2. **CAL CHECK** key: press to perform the validation of the meter, or press and hold for three seconds to enter calibration mode.
3. **ZERO/CFM** key: press to zero the meter prior to measurement, to confirm added values or to confirm factory calibration status.
4. **READ** key: in measurement mode press to make a measurement, or press and hold for three seconds to start a pre-programmed countdown prior to measurement. In **ON/OFF** mode press to view the next screen.
5. **ON/OFF** key: to turn the meter on and off.
6. Liquid Crystal Display (LCD)
7. Cuvette alignment indicator
8. Cuvette holder

#### DISPLAY ELEMENTS DESCRIPTION:



1. The measuring scheme (lamp, cuvette, detector), appears during different phases of zero or reading measurement
2. Error messages and warnings
3. The battery icon indicates the charge state of the battery
4. The hourglass appears when an internal check is in progress
5. Status messages
6. The chronometer appears when the reaction timer is running
7. The month, day and date icons appear when a date is displayed
8. Four digit main display
9. Measuring units
10. Four digit secondary display

#### Errors and warnings:

##### ON ZERO READING:



**Light High:** There is too much light to perform a measurement. Please check the preparation of the zero cuvette.



**Light Low:** There is not enough light to perform a measurement. Please check the preparation of the zero cuvette.



**No Light:** The instrument cannot adjust the light level. Please check that the sample does not contain any debris.

##### ON SAMPLE READING:



**Inverted cuvettes:** The sample and the zero cuvette are inverted.



**Zero:** A zero reading was not taken. Follow the instructions of the measurement procedure for zeroing the meter.



**Under range:** A blinking "0" indicates that the sample absorbs less light than the zero reference. Check the procedure and make sure you use the same cuvette for reference (zero) and measurement.



**Over Range:** A flashing value of the maximum concentration indicates an over range condition. The concentration of the sample is beyond the programmed range. Dilute the sample and re-use the test.

##### DURING CALIBRATION PROCEDURE:



**Standard Low:** The standard reading is less than expected.



**Standard High:** The standard reading is higher than expected.

##### OTHER ERRORS AND WARNINGS:



**Cap error:** Appears when external light enters in the analysis cell. Assume that the cuvette cap is present.



**Cooling lamp:** The instrument waits for the lamp to cool down.



**Battery low:** The battery must be replaced soon.



**Dead battery:** This indicates that the battery is dead and must be replaced. Once this indication is displayed, normal operation of the instrument will be interrupted. Charge the battery and restart the meter.

#### Measurement procedure:

##### Measurement



1 • Turn the meter on by pressing **ON/OFF**.



2 • When the beeper sounds, briefly use the LCD display. The meter is ready. The blinking "ZERO" indicates that the instrument needs to be zeroed first.



3 • Fill one cuvette up to the 10 mL mark with deionized water and replace the cap. This is the blank.



4 • Fill another cuvette up to the 10 mL mark with unfiltered sample and replace the cap. This is the sample color.



5 • Filter 50 mL of sample through a filter with 0.45 µm membrane in a beaker.



6 • Fill the third cuvette up to the 10 mL mark with the filtered sample and replace the cap. This is the true color.



7 • Place the blank into the cuvette holder and ensure that the notch on the cap is positioned securely into the groove.



8 • Press **ZERO/CFM** and the lamp, cuvette and detector icons will appear on the display, depending on the measurement phase.



9 • After a few seconds the display will show "0.0". The meter is now zeroed and ready for measurement. Remove the cuvette.



10 • Insert the apparent color cuvette into the instrument and ensure that the notch on the cap is positioned securely into the groove.



11 • Press **READ** and the lamp, cuvette and detector icons will appear on the display, depending on the measurement phase.



12 • The meter directly displays the value of apparent color.



13 • Remove the cuvette, insert the true color cuvette into the instrument and ensure that the notch on the cap is positioned



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### Manual abstract:

This manual will provide you with the necessary information for the correct use of the instrument. Please read it carefully before using the meter. If you need additional technical information, do not hesitate to e-mail us at [tech@hannainst.com](mailto:tech@hannainst.com). Functional description: Errors and warnings: ON ZERO READING:

Light High: There is too much light to perform a measurement. Please check the preparation of the zero cuvette. Light Low: There is not enough light to perform a measurement. Please check the preparation of the zero cuvette. No Light: The instrument cannot adjust the light level. Please check that the sample does not contain any debris.

ON SAMPLE READING: Inverted cuvettes: The sample and the zero cuvette are inverted. 3-4 Zero: A zero reading was not taken. Follow the instructions of the measurement procedure for zeroing the meter. Under range: A blinking "0" indicates that the sample absorbs less light than the zero reference. Check the procedure and make sure you use the same cuvette for reference (zero) and measurement.

Over Range: A flashing value of the maximum concentration indicates an over range condition. The concentration of the sample is beyond the programmed range: dilute the sample and re-run the test. DURING CALIBRATION PROCEDURE: Standard Low: The standard reading is less than expected.

@@@ Make sure that the instrument is not damaged. If any damage occurred during shipment, please notify your Dealer.

@@ Any defective item must be returned in its original packing. @@ Once this indication is displayed, normal operation of the instrument will be interrupted.

Change the battery and restart the meter. Measurement procedure: Measurement Technical specifications: Range Resolution Accuracy Typical EMC Dev. Light Source Light Detector Method 0 to 500 PCU (Platinum Cobalt Units) 10 PCU  $\pm$ 10 PCU  $\pm$ 5% of reading @ 25°C  $\pm$ 10 PCU Lamp and filter @ 420 nm Silicon Photocell Adaptation of the Standard Methods for the Examination of Water and Wastewater 18Th edition, Colorimetric Platinum Cobalt method. 0 to 50°C (32 to 122°F); max 95% RH non-condensing 1 x 9 volt After 10' of non-use in measurement mode; after 1 hour of non-use in calibration mode; with last reading reminder. 192 x 104 x 69 mm (7.6 x 4.1 x 2.7") 360 g (12.

7 oz.). 1. GLP/ key: press to enter GLP mode. In calibration mode press to edit the date and time. 2. CAL CHECK key: press to perform the validation of the meter, or press and hold for three seconds to enter calibration mode. 3. ZERO/CFM key: press to zero the meter prior to measurement, to confirm edited values or to confirm factory calibration restore. 4.

READ/ key: In measurement mode, press to make a measurement, or press and hold for three seconds to start a pre-programmed countdown prior to measurement. In GLP mode press to view the next screen. 5. ON/OFF key: to turn the meter on and off. 6.

Liquid Crystal Display (LCD) 7. Cuvette alignment indicator 8. Cuvette holder 2 6 7 10 mL DISPLAY ELEMENTS DESCRIPTION: 8 9 10 Environment Battery Type Auto-Shut off Dimensions Weight [www.hannainst.com](http://www.hannainst.com) 1.

The measuring scheme (lamp, cuvette, detector), appears during different phases of zero or reading measurement 2. Error messages and warnings 3. The battery icon indicates the charge state of the battery 4. The hourglass appears when an internal check is in progress 5. Status messages 6. The chronometer appears when the reaction timer is running 7. The month, day and date icons appear when a date is displayed 8. Four digit main display 9. Measuring units 10. Four digit secondary display Standard High: The standard reading is higher than expected.

11 12 OTHER ERRORS AND WARNINGS: Cap error: Appears when external light enters in the analysis cell. Assure that the cuvette cap is present. 13 1. Turn the meter on by pressing ON/OFF. @@ The blinking "ZERO" indicates that the instrument needs to be zeroed first. 3. Fill one cuvette up to the 10 mL mark with deionized water and replace the cap. This is the blank. 4. Fill another cuvette up to the 10 mL mark with unfiltered sample and replace the cap. This is the apparent color. 5. Filter 50 mL of sample through a filter with a 0.45  $\mu$ m membrane in a beaker.

6. Fill the third cuvette up to the 10 mL mark with the filtered sample and replace the cap. This is the true color. 7. Place the blank into the cuvette holder and ensure that the notch on the cap is positioned securely into the groove. 8. Press ZERO/CFM and the lamp, cuvette and detector icons will appear on the display, depending on the measurement phase. 9. After a few seconds the display will show "-0.

0-". The meter is now zeroed and ready for measurement. Remove the cuvette. @@@@ 12. The meter directly displays the value of apparent color.

@@@@@ 1. Turn the meter on by pressing ON/OFF.

@@@@ The display will show "CAL" during calibration procedure. @@@@ Now the display will show the day blinking. 16. Press GLP/ to edit the desired day (01-31). @@@@ This warranty is limited to repair or replacement free of charge. @@ If service is required, contact your dealer. @@ 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. 3 Validation and Calibration procedures Warning: do not validate or calibrate the instrument with standard solutions other than the Hanna CAL CHECKTM Standards, otherwise erroneous results will be obtained.

For accurate validation and calibration results, please perform tests at room temperature (18 to 25°C; 64.5 to 77.0°F). Use the Hanna CAL CHECKTM cuvettes (see "Accessories") to validate or calibrate instruments. Validation 4 4. Place the CAL CHECKTM Standard HI 96727-11 Cuvette A into the cuvette holder and ensure that the notch on the cap is positioned securely into the groove. 5-6 5. Press ZERO/CFM and the lamp, cuvette and detector icons will appear on the display, depending on the measurement phase. 6. After a few seconds the display will show "-0.0-". The meter is now zeroed and ready for calibration. The blinking "READ" asks for reading calibration standard.

7. Remove the cuvette. 8. Place the CAL CHECKTM Standard HI 96727-11 Cuvette B into the holder and ensure that the notch on the cap is positioned securely into the groove. 9. Press READ/ and the lamp, cuvette and detector icons will appear on the display, depending on the measurement phase. 10. The instrument will show for three seconds the CAL CHECKTM standard value.



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*Note: If the display shows "STD HIGH", the standard value was too high.*

*If the display shows "STD LOW", the standard value was too low. Verify that both CAL CHECKTM Standard HI 96727-11 Cuvettes, A and B are free from fingerprints 11-13 or dirt and that they are inserted correctly. 11-Then the date of last calibration (e.g.: "01.*

*08.2009") appears on the display, or "01.01.2009" if the factory calibration was selected before. In both cases the year number is blinking, ready for date input. 12-Press GLP/ to edit the desired year (2008-2099). If the key is kept pressed, the year number is automatically increased. 13-When the correct year has been set, press ZERO/CFM or READ/ to confirm. Now the display will show the month blinking. @@17-Press ZERO/CFM to save the calibration date.*

*@@@@@Any variation introduced by the user to the supplied equipment may degrade the instrument's EMC performance. To avoid damages or burns, do not put the instrument in microwave oven. For yours and the instrument safety do not use or store the instrument in hazardous environments. VALIDATION 1-Turn the meter on by pressing ON/OFF. 3 @@3- Place the CAL CHECKTM Standard HI 96727-11 Cuvette A into the holder 4-5 and ensure that the notch on the cap is positioned securely into the groove. 4- Press ZERO/CFM and the lamp, cuvette and detec.*



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