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You can read the recommendations in the user guide, the technical guide or the installation guide for HANNA INSTRUMENTS HI 9811-5. You'll find the answers to all your questions on the HANNA INSTRUMENTS HI 9811-5 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 9811-5
User guide HANNA INSTRUMENTS HI 9811-5
Operating instructions HANNA INSTRUMENTS HI 9811-5
Instructions for use HANNA INSTRUMENTS HI 9811-5
Instruction manual HANNA INSTRUMENTS HI 9811-5



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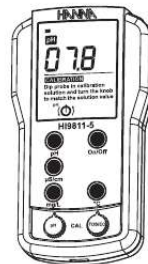


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HAN9811 07/10

Instruction Manual

HI 9811-5
Portable
pH/EC/TDS/°C Meters



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Manual abstract:

Highland Industrial Park 584 Park East Drive Woonsocket, RI 02895 USA Technical Support for Customers Tel. (800) 426 6287 Fax (401) 765 7575 E-mail tech@hannainst.com www.hannainst.com HI 9811-5 Portable pH/EC/TDS/°C Meters Local Sales and Customer Service Office Printed in EUROPE (ROMANIA) w w w . h a n n a i n s t . c o m MAN9811 07/10 16 1 Dear Customer, Thank you for choosing a Hanna product. Please read this instruction manual carefully before using the meter. This manual will provide you with the necessary information for correct use of the instrument, as well as a precise idea of its versatility. If you need additional technical information, do not hesitate to e-mail us at tech@hannainst.com.

RECOMMENDATIONS FOR USERS Before using these products, make sure they are entirely suitable for the environment in which they are used. Operation of these instruments in residential areas could cause unacceptable interferences to radio and TV equipment requiring the operator to follow all necessary steps to correct interferences. The glass bulb at the end of the electrode is sensitive to electrostatic discharges. 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 discharges. Any variation introduced by the user to the supplied equipment may degrade the instrument's EMC performance. To avoid electrical shock, do not use these instruments when voltages at the measurement surface exceed 24 VAC or 60 VDC. @@Electrodes and probes are guaranteed for six months. This warranty is limited to repair or replacement free of charge.

@@@@@@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 Technical Service department and then send it with shipping costs prepaid. When shipping any instrument, make sure it is properly packed for complete protection. TABLE OF CONTENTS WARRANTY

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.....
.....
.....

.....
.....
.....
.....

.....
.....

2 PRELIMINARY EXAMINATION

.....
.....
.....
.....

.....

. 3 GENERAL DESCRIPTION

.....
.....
.....
.....

.....
.....

3 FUNCTIONAL DESCRIPTION

.....
.....
.....
.....

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... 4 SPECIFICATIONS..

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.....

..... @@@@If noticeable damage is found, notify your Dealer. @@@@The temperature coefficient is fixed at 2%/°C.
@@@@@Connector must be perfectly clean and dry.

If any scratches or cracks are present, replace the electrode. Rinse off any salt deposits with water. @@@@@μS/cm ±2% f.s. mg/L
±0.5 °C ±0.1 pH ±2% f.s. μS/cm ±2% f.s.

@@150 hours of continuous use 0 to 50 °C (32 to 122 °F) 100% RH 145 x 80 x 36 mm (5.7 x 3.1 x 1.4") 230 g (8.1 oz.)

) When the low battery indication appears, only a few hours of working time remains. It is recommended to replace the battery immediately. When the battery level is so low that it may cause unreliable measurements, the meter turns off. Battery replacement must only take place in a nonhazardous area using a 9V alkaline battery. Unscrew the three screws on the rear of the meter, remove the battery compartment cover and replace the 9V battery with a new one while observing its polarity.

Resolution Accuracy (@ 20 °C/68 °F) Typical EMC Deviation Conversion Factor or pH Calibration EC/TDS Calibration EC/TDS Temperature Compensation Probe (included) Make sure the battery contacts are tight and secure before replacing the cover. Battery Type Battery Life Environment Dimensions Weight 12.5 OPERATIONAL GUIDE INITIAL PREPARATION Each meter is supplied complete with a 9V battery. Remove the battery compartment cover on the back of the meter and install the battery while observing its polarity. Connect the probe to the DIN socket on the top of the meter by aligning the pins with the socket and pushing in the plug. Always remove the electrode protective cap before taking any measurements and make sure the meter has been calibrated before taking any measurements. Turn the meter on by pressing the On/Off key. TAKING pH MEASUREMENTS If the probe has been left dry, soak the tip in HI 70300 storage solution for 30 minutes to reactivate it. To take a pH measurement simply submerge the tip (4cm/1½") of the probe into the sample to be tested. Select the pH mode. Stir briefly and wait a couple of minutes for the reading to adjust and stabilize.

The display shows the pH value. If measurements are taken in different samples successively, it is recommended to rinse (clean) the probe thoroughly to eliminate cross-contamination. After cleaning, it is recommended to rinse the probe with some of the next sample to be measured. @@@@Note: The conversion between EC and TDS is made by a built-in circuit, hence it is requested to calibrate the meter only in EC or TDS range. The other range is thus automatically calibrated. PROCEDURE Pour approximately 4 cm (1½") of a conductivity calibration solution (e.g. HI 70031) into a beaker. If possible, use plastic beaker to minimize any EMC interference. Immerse the probe in the solution.

Wait for a couple of minutes for thermal equilibrium to be reached. Tap the probe on the bottom, then shake it lightly while rotating to make sure no air bubbles remain trapped inside the probe. Press the μS/cm (or mg/L) key. Turn the EC/TDS calibration knob until the display shows the EC or TDS reading at 25°C. EC/TDS CONVERSION FACTOR The TDS value in aqueous solutions is directly proportional to the conductivity.

The ratio between the two parameters depends on the solution. HI 9811-5 model has a fixed conversion factor set to 0.5. This means that 1 μS/cm is equal to 0.5 mg/L of TDS.

11 pH VALUES AT VARIOUS TEMPERATURES For temperature compensation during calibration, please refer to the following chart. TEMP °C 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 °F 32 41 50 59 68 77 86 95 104 113 122 pH VALUES 4.01 6.86 4.01 4.00 4.00 4.00 4.00 4.01 4.

02	4.03	4.04	4.05	4.06	6.98	6.95	6.92	6.90	6.88	6.	
	86	6.85	6.84	6.84	6.83	6.					
	83	6.84	6.84	6.84	6.85	7.					
01	9.18	7.13	7.10	7.07	7.05	7.03	7.01	7.00	6.99	6.	
	98	6.98	6.98	6.98	6.98	6.99	6.99	9.46	9.39	9.33	9.
	27	9.22	9.18	9.14	9.11	9.					
	07	9.04	9.01	8.99	8.97	8.					
	95	8.93	10.01	10.32	10.24	10.18	10.1.				



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