Instruction Manual

HI 983319-0
HI 983319-1

Panel-Mounted TDS Indicators & Controllers

Manufacturers since 1978

These Instruments are in Compliance with the CE Directives

WARRANTY

These meters are warranted for two years against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. The probe is warranted for a period of six months. 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.

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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 the correct operation of the meter. 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.

These instruments are in compliance with the CE directives.

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:

- Instruction manual;
- Mounting brackets.

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

HI 983319-0 and HI 983319-1 are conductivity indicators and controllers with a relay output designed for simplicity of use in a wide range of applications.

The models are panel mounted with membrane keypads on the front panel and an easy-to-read LCD display.

All the meters automatically compensate for temperature variations. The probe is easy to clean and requires little maintenance.

Measurements are highly accurate and the meters can be calibrated at one point.

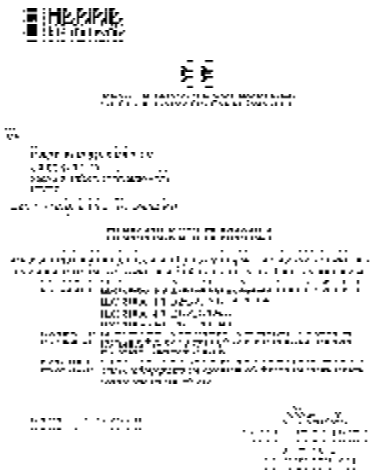
Power supply, wiring and selection are made via the plug-in terminal blocks on the rear panel.

LED indicators on the front panel identify whether the controller is in set or measurement mode, and if alarm is active.

SPECIFICATIONS

	HI 983319
Range	0 to 1999 ppm
Resolution	1 ppm
Accuracy (@ 20°C)	±2% f.s.
Setpoint	Adjustable through multiturn trimmer
Alarm Condition	LED ON and alarm contact closed when TDS value is lower than Setpoint
Alarm Output	2-contact relay, no fuse protected. 5A, 240 VAC, 30 VDC
Probe	HI 7634-00 EC/TDS probe
Temp. Compensation	Automatic from 5 to 50°C (41 to 122°F) with ß=2%
TDS Conversion Factor	0.65
Calibration	Manual, at one point through trimmer
Cal. Solution	HI7031 (1413 µS/cm)
Power supply:	External
HI983319-0	12 VDC
HI983319-1	115/230VAC;50/60Hz
Dimensions	79 x 49 x 95 mm (3.1 x 1.9 x 3.7")
Weight:	
HI983319-0	140g(4.96oz)
HI983319-1	250g(8.85oz)

CE DECLARATION OF CONFORMITY



Recommendations for Users

Before using these products, make sure that 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. The metal band at the end of the probe is sensitive to electrostatic discharges. Avoid touching this metal band at all times. During operation, ESD wrist straps should be worn to avoid possible damage to the probe 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 voltage at the measurement surface exceeds 24 VAC or 60 VDC. Use plastic beakers to minimize any EMC interferences.

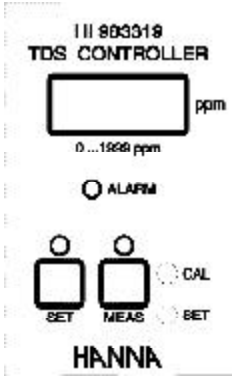
To avoid damage or burns, do not perform any measurement in microwave ovens.

ISTR98331 9R5 12/2001

http://www.hannainst.com

FUNCTIONAL DESCRIPTION

FRONT PANEL



Keypad

SET To display setpoint

MEAS To display measurement

Trimmers

CAL For calibration

SET To adjust setpoint

LEDs

SET ON when LCD displays the set value

MEAS ON when LCD displays the measured value

ALARM ON when alarm contact is activated

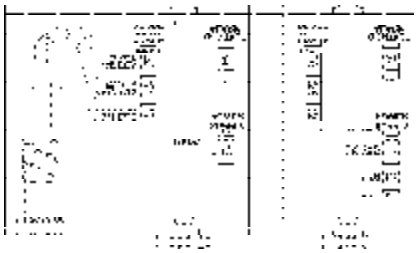
REAR PANEL

1. Power Supply:

HI 983319-0	HI 983319-1
12 VDC	115/230 VAC

L1:	Positive	230 VAC
L2:	Negative	115 VAC
L3:	-------	Neutral
L4:	-------	Protection Earth

Note: the power input is internally protected by a 400 mA fuse



2. Alarm Contact: A1, A2.
This contact acts as a switch for the power. The contact has to be protected outside by the user.

3. Probe Connection: follow the above diagram and connect the colored wires of probe cable as indicated. It is recommended to connect the shield (P5) to avoid any interference.

OPERATIONAL GUIDE

POWER CONNECTION

HI 983319-0

Connect a 2-wire power cable to the terminal strip while paying attention to the correct positive and negative polarities (12 VDC).

HI 983319-1

Connect a 3-wire power cable to the terminal strip while paying attention to the correct earth, neutral and line contacts (115/230 VAC).

Notes:

- All external cables connected to the rear panel should end with wire lugs.
- It is recommended to cover the unused terminals with insulating tape.
- At start up the meter needs a few seconds to stabilize. Wait until a stable reading is displayed.

ALARM CONTACT

Use this contact (maximum 5A, 240VAC, 30VDC) for connection to an alarm or dosing system. The unit acts as a switch to control an external device.

OPERATING THE METER

All operations can be controlled via front panel keys and trimmers. "SET" and "MEAS" LEDs light up to indicate which is the operating function.

Make sure that the meter is calibrated and the Setpoint is properly selected before performing any measurement.

Attach the probe to the meter. Install the probe in the fittings or immerse it in the solution to be monitored, while making sure that metal pins are completely submerged.

Press the "MEAS" key.

The LCD will show the TDS value of the solution in ppm unit. Any initial variation on readings may be due to temperature compensation.

The "ALARM" LED will light up when the alarm contact is closed, to indicate a TDS value lower than selected setpoint.

CALIBRATION

Make sure the meter is in the measurement mode (the "MEAS" LED lights on).

Immerse the probe in HI 7031 (1413 µS/cm) calibration solution.

Shake briefly and wait for reading to stabilize.

Using a small screwdriver adjust the calibration trimmer until the meter displays "919" ppm.

SETPOINT

Press the "SET" key. The display will show the default or previously adjusted value for the setpoint.

Using a small screwdriver, adjust the "SET" trimmer until the required limit value is displayed.

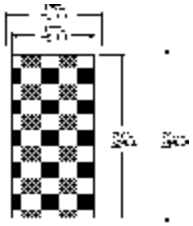
PROBE MAINTENANCE

To improve probe performance and prolong its life, it is recommended to clean it regularly.

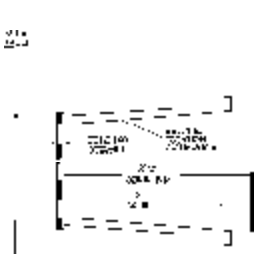
- Immerse the tip of the probe in HI 7061 Cleaning Solution at least for one hour.
- If a more thorough cleaning is required, brush the metal pins with very fine sandpaper.
- After cleaning, rinse the probe with tap water and recalibrate the meter.
- When not in use, clean the probe before storing it.

HI 983319 LAYOUT

Front view of the panel-mounted unit

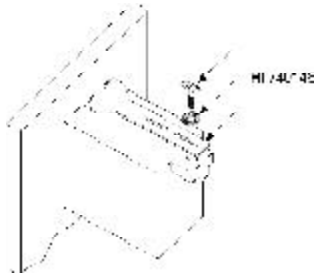


Side view of the panel-mounted unit



Supplied adjustable location brackets allow the controller to slide into the cutout and will hold the unit securely in place. 95 mm (3.74") is the minimum amount of space required to install the controller.

Panel-mounted unit assembling view



ACCESSORIES

HI 7634-00 EC/TDS probe
HI 70031P 1413 µS/cm cal. solution, 20 mL sachet (25 pcs)
HI 70031M 1413 µS/cm cal. solution, 230 mL bottle
HI 7061M Electrode cleaning solution, 230 mL bottle
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 731326 Calibration Screwdriver (20 pcs)
HI 740146 Mounting brackets