

HI 2300

## Autoranging EC, TDS, NaCl, Temperature Meter

- **Autoranging**  
The EC and TDS scales are autoranging. The meter automatically sets the scale with the highest possible resolution.
- **Manual range selection and range lock**
- **Four ring potentiometric conductivity probe with internal temperature sensor**
- **Automatic (ATC), manual (MTC) or no temperature compensation (NoTC)**
- **GLP features**
- **Log-on-demand up to 500 records**
- **PC compatible via USB**



HI 2300 measures EC, TDS, NaCl and temperature. In conductivity and TDS ranges (up to 500 mS/cm and 400 g/L respectively) the instrument automatically chooses the best scale to maintain the highest accuracy.

EC calibration is a one-point procedure. Selectable calibration points are 0.00  $\mu\text{S}$ , 84.0  $\mu\text{S}$ , 1413  $\mu\text{S}$ , 5.00 mS, 12.88 mS, 80.0 mS, and 111.8 mS selected according with the expected measurement range. NaCl calibration is a one-point procedure at 100.0% NaCl. Use HI 7037L calibration solution as a 100% NaCl standard solution.

This instrument utilizes a four ring potentiometric probe with platinum sensors to offer versatility over typical amperometric designs. By utilizing the four ring method, it is possible to measure very low or high conductivity levels without changing probes.

Three options of compensating for temperature are available for this instrument:

**Automatic (ATC):** The EC probe has a built-in temperature sensor which is used to automatically compensate the EC/TDS reading (from -9.9°C to 120.0°C), using the selected reference temperature (20 or 25°C) and temperature compensation coefficient from (0.0 to 6.0%)/°C

**Manual (MTC):** The temperature value, shown on the secondary LCD, can be manually set with the ARROW keys. The compensation is referenced at the selected temperature. All the other parameters of temperature compensation are settable similar to ATC.

**No Compensation (NoTC):** For actual conductivity or TDS measurement, the temperature value shown on the secondary LCD is not taken into account.

Cell constant is selectable between 0.5 and 1.700. TDS factor is selectable between 0.40 and 0.80.

The HI 2300 also provides users with GLP capabilities. Good Laboratory Practice (GLP) is a set of functions that allows storage and retrieval of data regarding the status of the system. After a successful calibration, the meter automatically stores the date and time of calibration, the calibration solution used and the resulting cell constant value. All this information can be later recalled by the user. Other features include a lock range function and stability indicator.

For PC communication, use the optional HI 92000 software and HI 920013 USB cable. The software is provided with an exclusive online guide of all the commands available and allows data printing, plotting and exporting.

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## SPECIFICATIONS

## HI 2300

|                          |  |
|--------------------------|--|
| EC                       | 0.00 to 29.99 $\mu\text{S}/\text{cm}$ ;<br>30.0 to 299.9 $\mu\text{S}/\text{cm}$ ;<br>300 to 2999 $\mu\text{S}/\text{cm}$ ;<br>3.00 to 29.99 $\text{mS}/\text{cm}$ ;<br>30.0 to 200.0 $\text{mS}/\text{cm}$ ;<br>up to 500.0 $\text{mS}/\text{cm}$ (actual EC)*  |
| Range                    | 0.00 to 14.99 $\text{mg}/\text{L}$ (ppm);<br>15.0 to 149.9 $\text{mg}/\text{L}$ (ppm);<br>150 to 1499 $\text{mg}/\text{L}$ (ppm);<br>1.50 to 14.99 $\text{g}/\text{L}$ (ppt);<br>15.0 to 100.0 $\text{g}/\text{L}$ (ppt);<br>up to 400.0 $\text{g}/\text{L}$ (actual TDS)*,<br>with 0.80 conversion factor                     |
| NaCl                     | 0.0 to 400.0%  |
| Temperature              | -20.0 to 120.0°C   |
| Resolution               | EC 0.01 $\mu\text{S}/\text{cm}$ ; 0.1 $\mu\text{S}/\text{cm}$ ; 1 $\mu\text{S}/\text{cm}$ ; 0.01 $\text{mS}/\text{cm}$ ; 0.1 $\text{mS}/\text{cm}$<br>TDS 0.01 $\text{mg}/\text{L}$ ; 0.1 $\text{mg}/\text{L}$ ; 1 $\text{mg}/\text{L}$ ; 0.01 $\text{g}/\text{L}$ ; 0.1 $\text{g}/\text{L}$<br>NaCl 0.1%<br>Temperature 0.1°C |
| Accuracy                 | EC $\pm 1\%$ of reading $\pm (0.05 \mu\text{S}/\text{cm}$ or 1 digit)<br>TDS $\pm 1\%$ of reading $\pm (0.03 \text{mg}/\text{L}$ or 1 digit)<br>NaCl $\pm 1\%$ of reading<br>Temperature $\pm 0.4^\circ\text{C}$   |
| Calibration              | EC automatic, one point with six memorized values (84, 1413, 5000, 12880, 80000, 111800 $\mu\text{S}/\text{cm}$ )<br>NaCl one point, with HI 7037 calibration solution<br>Temperature two point, at 0 and 50°C   |
| Temperature Compensation | automatic or manual from -20.0 to 120.0°C  |
| Temperature Coefficient  | selectable from 0.00 to 6.00%/°C (EC and TDS only)   |
| TDS Conversion Factor    | selectable from 0.40 to 0.80 (default value: 0.50)   |
| Probe                    | HI 76310 platinum, four ring conductivity/TDS probe with internal temperature sensor and 1 m (3.3') cable (included)   |
| PC Connectivity          | opto-isolated USB  |
| Logging                  | log on demand, 500 samples   |
| Auto-off                 | after five minutes of non-use (can be disabled)  |
| Power Supply             | 12 VDC adapter (included)  |
| Environment              | 0 to 50°C (32 to 122°F); RH max 95%  |
| Dimensions               | 235 x 218 x 108 mm (9.2 x 8.5 x 4.2")  |
| Weight                   | 1.3 kg (2.9 lbs.)  |

\* with temperature compensation function disabled

## Last calibration date

24.03 dAt

## Last calibration year

2011 dAt

## Last calibration time

15.32 HOV

## Cell constant value (K)

1.025 CEL

## Offset value

 $\mu\text{S}$  0.23 OFF

## ORDERING INFORMATION

HI 2300-01 (115V) and HI 2300-02 (230V) is supplied with HI 76310 conductivity probe, 12 VDC adapter and instructions.

## PROBES

HI 76310 Platinum, four ring conductivity/TDS probe with internal temperature sensor and 1 m (3.3') cable

## SOLUTIONS

HI 7030L 12880  $\mu\text{S}/\text{cm}$  calibration solution, 500 mL  
 HI 7031L 1413  $\mu\text{S}/\text{cm}$  calibration solution, 500 mL  
 HI 7033L 84  $\mu\text{S}/\text{cm}$  calibration solution, 500 mL  
 HI 7034L 80000  $\mu\text{S}/\text{cm}$  calibration solution, 500 mL  
 HI 7035L 111800  $\mu\text{S}/\text{cm}$  calibration solution, 500 mL  
 HI 7039L 5000  $\mu\text{S}/\text{cm}$  calibration solution, 500 mL  
 HI 7037L Salinity solution, 500 mL  
 HI 7061L Electrode cleaning solution, 500 mL

## ACCESSORIES

HI 92000 Windows® compatible software  
 HI 920013 USB cable for PC connection  
 HI 76404N Electrode holder

For a complete list of Solutions, see the end of this section.