

HI 98188

## Graphic Display EC/Resistivity/TDS/NaCl Meter with USP <645>

- Autorange from 0.001  $\mu\text{S}/\text{cm}$  to 1,000  $\text{mS}/\text{cm}$  (actual EC)
- Ready to perform all three stages of USP <645> method required for EC measurement of pure and ultra pure water
- Linear, natural water, or no temperature compensation
- Memorize up to ten user profiles
- Log on demand and autolog  
All logged data can be transferred to PC through USB port.
- GLP features
- Backlit, graphic display

### Rechargeable batteries

These models have up to 100 hours of extended battery life to guarantee long operation in the field. When the batteries are low, you don't have to worry about carrying a spare set with you—the batteries can be recharged with HANNA's inductive recharger. Simply leave the meter on the recharger for a few hours and you're ready to go. The recharger can be plugged into a standard 115V or 230V socket using the appropriate HANNA adapter.



HI 98188 is a waterproof, portable conductivity meter that has an expanded conductivity range from 0.001  $\mu\text{S}/\text{cm}$  to 400  $\text{mS}/\text{cm}$ , as well as TDS, resistivity and three salinity scales. This meter automatically recognizes the probe type (two or four ring) and allows the user to adjust the nominal cell constant. HI 98188 is also ready to perform all three stages of USP <645> method required for EC measurement of pure and ultrapure water.

Choose from seven memorized standards and obtain up to a five point conductivity calibration. For salinity (% range), HI 7037 standard allows users to make a one point calibration.

EC and TDS measurements are fully customizable and include: cell constant selection between 0.0 and 10.000, selection of linear or natural water (non-linear) or no (for actual conductivity reading) temperature compensation, configurable temperature compensation coefficient range from 0.00 to 10.00%/°C, choice of reference temperatures of 15°C, 20°C and 25°C and a selectable TDS factor between 0.40 and 1.00.

Ten sets of customized measurement parameters can be stored as a user profile and recalled for later use.

Data may be captured by either the log on demand option (400 samples) or by interval logging (from 5 sec to 1 minute). Data can be transferred to a PC using HI 92000 software and HI 920013 USB cable.

A combination of dedicated and soft keys allows quick, intuitive operation in a choice of languages. Comprehensive GLP data is directly accessible by pressing the GLP key. At the touch of a button users can access the contextual help menu to obtain on-screen information and assistance about each feature.

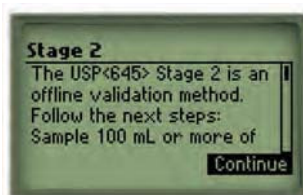
Designed for field use, this instrument can be easily operated with one hand and includes a rugged carrying case. With an extended battery life of up to 100 hours, users are assured long operation. The inductive charger can either be plugged into a standard 115V socket with the adapter included or a 12 Vdc source, such as a car's 12 volt accessory outlet.



**3 Stage conformity**  
This meter can perform all 3 stages of USP <645> water quality testing requirements.



**Progress bar**  
Meter displays progress towards meeting stage 2 stability requirements.



**On-screen guide**  
Users are provided with on-screen instructions for each USP stage.



**User profiles**  
10 sets of measurement parameters can be stored in user profiles for later retrieval.



**Measurement**  
Large backlit graphic display shows multiple messages along with the current measurement readings.



**Help**  
Users can consult the on-screen help from any mode by pressing the HELP key. The instrument will then explain the function and options currently available.

SPECIFICATIONS		HI 98188
EC	Range	0.001 µS/cm to 400 mS/cm (actual conductivity 1000 mS/cm) 0.001 to 9.999 µS/cm*; 10.00 to 99.99 µS/cm; 100.0 to 999.9 µS/cm; 1.000 to 9.999 mS/cm; 10.00 to 99.99 mS/cm; 100.0 to 1000.0 mS/cm (actual EC) (autoranging)
	Resolution	0.001 µS/cm*; 0.01 µS/cm; 0.1 µS/cm; 0.001 mS/cm; 0.01 mS/cm; 0.1 mS/cm
	Accuracy	±1% of reading (±0.01 µS/cm or 1 digit, whichever is greater)
Resistivity	Range	1.0 to 99.9 Ohms; 100 to 999 Ohms; 1.00 to 9.99 KOhms; 10.0 to 99.9 KOhms; 100 to 999 KOhms; 1.00 to 9.99 MOhms; 10.0 to 100.0 MOhms (autoranging)
	Resolution	0.1 Ohm; 1 Ohm; 0.01 KOhms; 0.1 KOhms; 1 KOhms; 0.01 MOhms; 0.1 MOhms
	Accuracy	±1% of reading (±10 Ohms or 1 digit, whichever is greater)
TDS	Range	0.00 to 99.99 mg/L (ppm); 100.0 to 999.9 mg/L (ppm); 1.000 to 9.999 g/L (ppt); 10.00 to 99.99 g/L (ppt); 100.0 to 400.0 g/L (ppt) (autoranging)
	Resolution	0.01 mg/L (ppm); 0.1 mg/L (ppm); 0.001 g/L (ppt); 0.01 g/L (ppt); 0.1 g/L (ppt)
	Accuracy	±1% of reading (±0.05 mg/L (ppm) or 1 digit, whichever is greater)
NaCl	Range	%: 0.0 to 400.0%; seawater scale: 0.00 to 80.00 (ppt); practical salinity: 0.01 to 42.00 (PSU)
	Resolution	0.1%; 0.01
	Accuracy	±1% of reading
Temperature	Range	-20.0 to 120.0°C
	Resolution	0.1°C
	Accuracy	±0.2°C (excluding probe error)
Calibration	EC	automatic up to five points with seven memorized standards (0.00 µS/cm, 84.0 µS/cm, 1.413 mS/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm)
	NaCl	one point only in % range (with HI 7037 standard); use conductivity calibration for all other ranges
	Temperature	one or two points
Temperature Compensation		-20.0 to 120.0°C
Reference Temperature		15°C, 20°C and 25°C
Temperature Coefficient		0.00 to 10.00 %/°C
TDS Factor		0.40 to 1.00
Probe		HI 76313 platinum, four ring conductivity/TDS probe with internal temperature sensor, DIN connector and 4 m (13.1') cable (included)
Logging	Log On Demand	400 samples
	Lot Logging	5, 10, 30 sec, 1, 2, 5, 10, 15, 30, 60, 120, 180 min (max 1000 samples)
Memorized Profiles		up to 10
Measurement Modes		autorange, autoend, LOCK and fixed range
PC Connectivity		opto-isolated USB (with HI 92000 software)
Battery Type / Life		1.2V AA rechargeable batteries (4) / approximately 100 hours of continuous use (without backlight); user selectable auto-off: 5, 10, 30, 60 minutes or disabled
Environment		IP67
Dimensions		226.5 x 95 x 52 mm (8.9 x 3.75 x 2")
Weight		525 g

\* The 0.001 µS/cm EC range and 0.1 MOhms Resistivity range are not available with the 4m cable probe.

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

**ORDERING INFORMATION**

HI 98188-01 (115V) and HI 98188-02 (230V) are supplied with HI 76313 conductivity probe, 100 mL plastic beaker, HI 7031M 1413 mS/cm calibration solution (230 mL), HI 7035 111.8 mS/cm calibration solution, rechargeable batteries, 12 VDC adapter/charger, instructions and rugged carrying case.  
HI 98188/10M (230V) is supplied with everything above but includes a HI 76313 probe with 10 m (32.8') cable in place of the standard cable length.

**PROBES**

HI 76313 Platinum, four ring conductivity/TDS probe with internal temperature sensor, DIN connector and 4 m (13.1') cable

**SOLUTIONS**

- HI 7030L 12880 µS/cm calibration solution, 500 mL
- HI 7031L 1413 µS/cm calibration solution, 500 mL
- HI 7033L 84 µS/cm calibration solution, 500 mL
- HI 7034L 80000 µS/cm calibration solution, 500 mL
- HI 7035L 111800 µS/cm calibration solution, 500 mL
- HI 7039L 5000 µS/cm calibration solution, 500 mL
- HI 7035L 111800 µS/cm calibration solution, 500 mL
- HI 70442L 1500 mg/L (ppm) calibration solution, 500 mL
- HI 7036L 12.41 g/L (ppt) 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