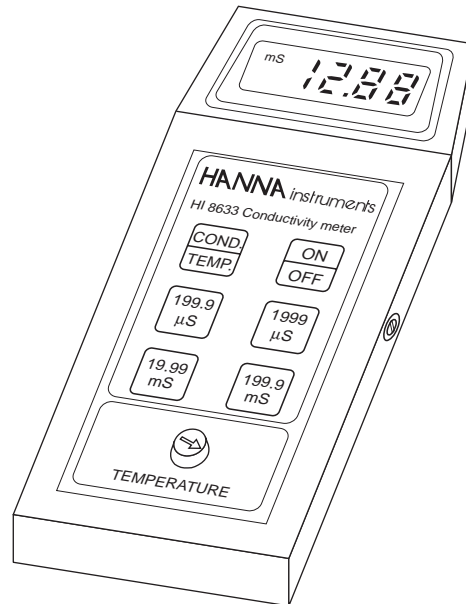


## Instruction Manual

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**HI 8033 - HI 8633**  
**HI 8733 - HI 8734**  
**HI 933000**

**Portable Multi-Range  
Conductivity/TDS Meters**



Dear Customer,

Thank you for choosing a Hanna Product. Please read this instruction manual carefully before using the instrument. It will provide you with the necessary information for a correct use of the instrument, as well as a more precise idea of its versatility.

These instruments are in compliance with the **CE** directives.

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## PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it carefully to make sure that no damage has occurred during shipping. If there is any noticeable damage, notify your Dealer or the nearest Hanna office immediately.

Each meter is supplied with:

- Conductivity probe with 1m (3.3') cable
- Calibration screwdriver (except HI 8033)
- Instruction manual
- 9V battery.

**Note:** Save all packing materials until you are sure that the instrument functions correctly. Any damaged or defective item must be returned in its original packing materials together with the supplied accessories.

## GENERAL DESCRIPTION

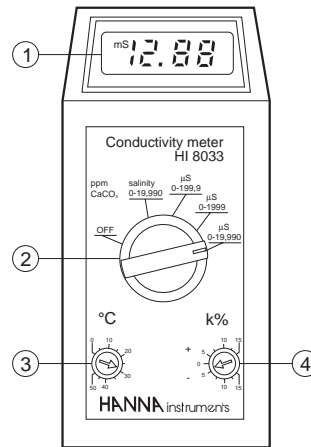
HI 8033, HI 8633, HI 8733, HI 8734 and HI 933000 are some of the most complete and versatile portable conductivity/TDS meters ever manufactured. Designed with utmost precision and simplicity, these meters provide for up to 3 or 4 measurement ranges. The conductivity of a solution depends on the temperature and for this reason measurements are carried out with reference to a standard temperature of 25°C. If the solution measured has a different temperature than 25°C, compensation must be performed.

HI 8033, HI 8633 and HI 8734 compensate for temperature manually.

HI 8733 and HI 933000, with a built-in temperature sensor and circuitry, automatically compensate for temperature changes.

With HI 8733, the temperature coefficient is adjustable from 0 to 2.5% per degree Celsius depending on the type of solution tested. For all the other meters the temperature coefficient is fixed at 2%.

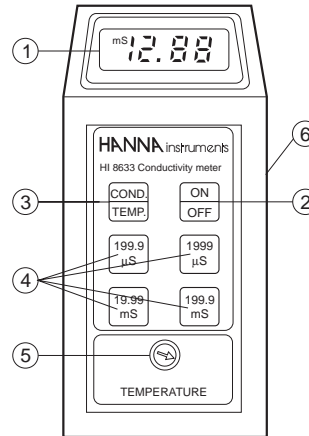
## FUNCTIONAL DESCRIPTION & SPECIFICATIONS OF HI 8033



- 1) 3½-digit Liquid Crystal Display
- 2) Rotary switch
- 3) Manual temperature compensation knob
- 4) Calibration knob

Range	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$ ppm $\text{CaCO}_3$ TDS	0.0 to 199.9 / 0 to 1999 0.00 to 19.99 0 to 19990
Resolution	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$ ppm $\text{CaCO}_3$ TDS	0.1 / 1 0.01 10
Accuracy (@20°C/68°F)		± 1% Full Scale excluding probe error
Typical EMC Deviation		± 2 % Full Scale
Calibration		Manual single setpoint through K% knob
Temperature Compensation		Manual from 0 to 50°C (32 to 122°F) with a $\beta$ of 2% per degree °C
Probe (included)		HI 76301W with 1 m (3.3') screened cable
Environment		0 to 50°C (32 to 122°F); max 95% RH non-condensing
Battery Type Life		9 Volt (alkaline) 100 hours of continuous use
Dimensions		185 x 82 x 40 mm (7.3 x 3.2 x 1.8")
Weight		355 g (13 oz.)

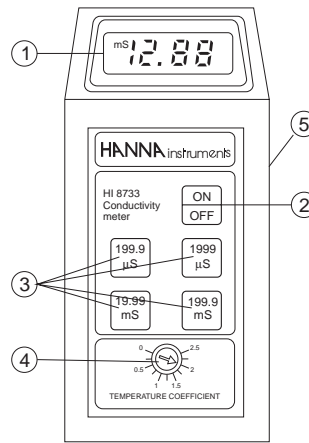
## FUNCTIONAL DESCRIPTION & SPECIFICATIONS OF HI 8633



- 1) 3½-digit Liquid Crystal Display
- 2) ON/OFF key
- 3) Conductivity/temperature selection key
- 4) Measurement range selection keys
- 5) Manual temperature compensation knob
- 6) Calibration trimmer

<b>Range</b>	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$	0.0 to 199.9 / 0 to 1999 0.00 to 19.99 / 0.0 to 199.9
<b>Resolution</b>	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$	0.1 / 1 0.01 / 0.1
<b>Accuracy (@ 20°C / 68°F)</b>		±1% Full Scale excluding probe error
<b>Typical EMC Deviation</b>		±2 % Full Scale
<b>Calibration</b>		Manual single setpoint through trimmer
<b>Temperature Compensation</b>		Manual from 10 to 40°C (50 to 104°F) with a B of 2% per degree °C
<b>Probe (included)</b>		HI 76301W with 1 m (3.3') screened cable
<b>Environment</b>		0 to 50°C (32 to 122°F); max 95% RH non-condensing
<b>Battery Type Life</b>		9 Volt (alkaline) 100 hours of continuous use
<b>Dimensions</b>		185 x 82 x 45 mm (7.3 x 3.2 x 1.8")
<b>Weight</b>		355 g (13 oz.)

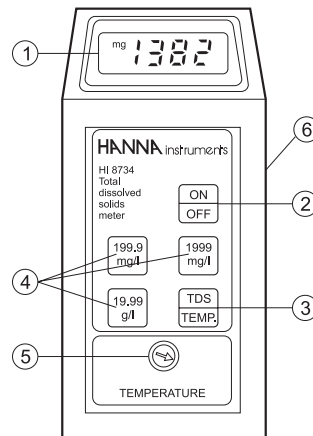
## FUNCTIONAL DESCRIPTION & SPECIFICATIONS OF HI 8733



- 1) 3½-digit Liquid Crystal Display
- 2) ON/OFF key
- 3) Measurement range selection keys
- 4) Automatic Temperature Compensation coefficient knob
- 5) Calibration trimmer

<b>Range</b>	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$	0.0 to 199.9 / 0 to 1999 0.00 to 19.99 / 0.0 to 199.9
<b>Resolution</b>	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$	0.1 / 1 0.01 / 0.1
<b>Accuracy (@ 20°C / 68°F)</b>		± 1% Full Scale excluding probe error
<b>Typical EMC Deviation</b>		± 2 % Full Scale
<b>Calibration</b>		Manual single setpoint through trimmer
<b>Temperature Compensation</b>		Automatic from 0 to 50°C (32 to 122°F) with an adjustable $\beta$ from 0 to 2.5% per °C
<b>Probe (included)</b>		HI 7633W ATC with 1 m (3.3') screened cable
<b>Environment</b>		0 to 50°C (32 to 122°F); max 95% RH non-condensing
<b>Battery Type Life</b>		9 Volt (alkaline) 100 hours of continuous use
<b>Dimensions</b>		185 x 82 x 45 mm (7.3 x 3.2 x 1.8")
<b>Weight</b>		355 g (13 oz.)

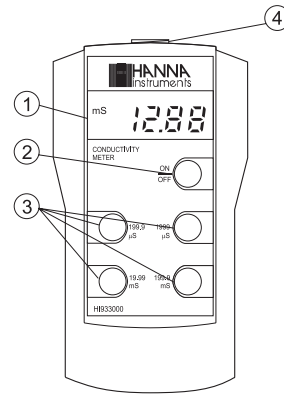
## FUNCTIONAL DESCRIPTION & SPECIFICATIONS OF HI 8734



- 1) 3½-digit Liquid Crystal Display
- 2) ON/OFF key
- 3) TDS/temperature selection key
- 4) Measurement range selection keys
- 5) Manual temperature compensation knob
- 6) Calibration trimmer

<b>Range</b>	mg/L g/L	0.0 to 199.9 / 0 to 1999 0.00 to 19.99
<b>Resolution</b>	mg/L g/L	0.1 / 1 0.01
<b>Accuracy (@ 20°C / 68°F)</b>		±1% Full Scale excluding probe error
<b>Typical EMC Deviation</b>		±2 % Full Scale
<b>Calibration</b>		Manual single setpoint through trimmer
<b>Temperature Compensation</b>		Manual from 0 to 50°C (32 to 122°F) with a $\beta$ of 2% per °C
<b>Probe (included)</b>		HI 76301W with 1 m (3.3') screened cable
<b>Environment</b>		0 to 50°C (32 to 122°F); max 95% RH non-condensing
<b>Battery Type Life</b>		9 Volt (alkaline) 100 hours of continuous use
<b>Dimensions</b>		185 x 82 x 45 mm (7.3 x 3.2 x 1.8")
<b>Weight</b>		355 g (13 oz.)

## FUNCTIONAL DESCRIPTION & SPECIFICATIONS OF HI 933000



- 1) 3½-digit Liquid Crystal Display
- 2) ON/OFF key
- 3) Measurement range selection keys
- 4) Probe connector

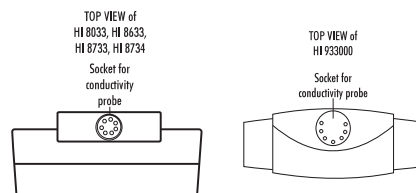
<b>Range</b>	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$	0.0 to 199.9 / 0 to 1999 0.00 to 19.99 / 0.0 to 199.9
<b>Resolution</b>	$\mu\text{S}/\text{cm}$ $\text{mS}/\text{cm}$	0.1 / 1 0.01 / 0.1
<b>Accuracy (@ 20°C / 68°F)</b>		±1% Full Scale excluding probe error
<b>Typical EMC Deviation</b>		±2% Full Scale
<b>Calibration</b>		Manual single setpoint through trimmer in the battery compartment
<b>Temperature Compensation</b>		Automatic from 10 to 40°C (50 to 104°F) with B of 2% per °C
<b>Probe (included)</b>		HI 76302W ATC with 1 m (3.3') screened cable
<b>Environment</b>		0 to 50°C (32 to 122°F); max 95% RH non-condensing
<b>Battery Type Life</b>		9 Volt (alkaline) 100 hours of continuous use
<b>Dimensions</b>		143 x 80 x 38 mm (5.6 x 3.2 x 1.5")
<b>Weight</b>		360 g (13 oz.)



## OPERATIONAL GUIDE

- Each meter is supplied complete with a 9V battery. Slide off the battery compartment cover on the back of the meter (see page 22). Install the battery while paying attention to its polarity.
- Connect the probe to the meter securely by aligning the pins with the socket and pushing the plug in.

With HI 933000, tighten the threaded ring.



- Make sure that the meter has been calibrated before taking any measurements (see page 11 for calibration procedure).

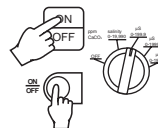
- Immerse the conductivity probe into the sample, with the holes on the shaft completely submerged.

If possible, use plastic beakers or containers to minimize any EMC interference.



- Tap the probe lightly on the bottom of the beaker to remove any air bubbles which may be trapped inside the PVC sleeve.

- Turn the instrument on by pressing the ON/OFF key or by setting the rotary switch (for HI 8033 only) to the desired measurement range.



- **For HI 8033, HI 8633 and HI 8734 only:**

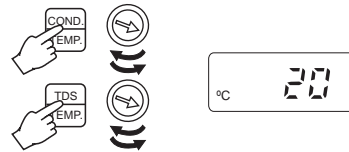
Take the temperature of the solution with a ChecktempC or an accurate thermometer.



With HI 8033 set the temperature knob to the measured value e.g. 20°C.



With **HI 8633** and **HI 8734** press the COND/TEMP key (for HI 8633) or TDS/TEMP (for HI 8734) to display the temperature and adjust the temperature knob to that of the solution e.g. 20°C.



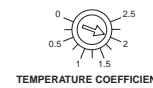
- Select the appropriate measurement range.

**Note:** If the display shows only a "1" on the far left hand side, the meter is out of range. Select the next (higher) range.



- **For HI 8733:**

Adjust the TEMPERATURE COEFFICIENT knob to 2% to compensate for the temperature effect of average solutions (to determine exact value for a particular solution, see page 20).



- **For HI 8733 and HI 933000:**

Wait for a couple of minutes for the temperature sensor to reach thermal equilibrium with the sample before taking measurements.

When the sample's temperature is lower than 20°C or higher than 30°C, allow more time for the thermal equilibrium of the system to be achieved.

- After the measurement has been completed, the instrument should be switched off and the probe should be cleaned and dried (see "Probe Maintenance" on page 21).



- All subsequent measurements will be compensated to 25°C (77°F). If you prefer to standardize the temperature compensation to 20°C (68°F) rather than 25°C (77°F), leave the °C knob at 18°C (if the temperature of your solution is 18°C), adjust the trimmer to read "11.67 mS" (see the conductivity vs. temperature chart at page 18). All subsequent measurements will be compensated to 20°C.
- The calibration is now complete and the instrument is ready for use.

The instrument should be re-calibrated at least once a month, or when the probe or battery is changed.

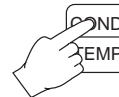
**Note:** For more accurate results, it is advisable to use a calibration solution close to the range to be measured. See the accessories section on page 23 for a wide selection of conductivity solutions.

### **PROCEDURE FOR HI 8633**

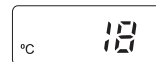
- Pour sufficient quantity of a conductivity calibration solution (e.g. HI 7030/ HI 8030) into a beaker to cover the holes on the probe. If possible, use plastic beakers to minimize any EMC interference.
- Immerse the conductivity probe, making sure that holes are completely submerged, and the ChecktempC in the solution.
- Wait for a couple of minutes for thermal equilibrium to be reached.
- Tap the probe on the bottom, then shake it while rotating to make sure no air bubbles remain trapped in the sleeve.
- Record the temperature of the HI 7030/ HI 8030 buffer solution from the ChecktempC (e.g. 18°C).
- Switch the instrument on by pressing ON/OFF.



- Press COND/TEMP to display the temperature.



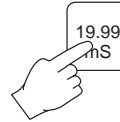
- Adjust the TEMPERATURE knob to display 18°C.



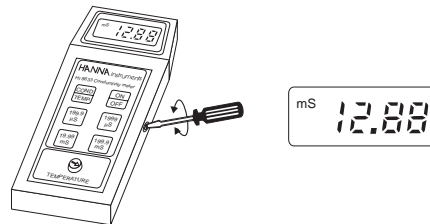
- Press COND/TEMP again to display conductivity measurement.



- Select 19.99 mS/cm range by pressing the appropriate range key.



- Adjust the calibration trimmer (see page 5, #6) on the side of the instrument with the calibration screwdriver until the display shows the conductivity reading at 25°C (see the conductivity vs. temperature on page 18). E.g. @ 25°C, 12880  $\mu$ S/cm = 12.88 mS/cm.



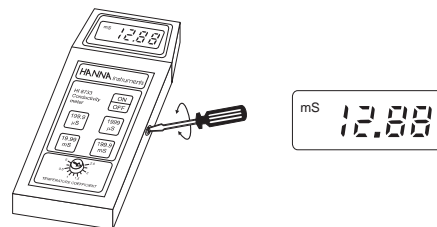
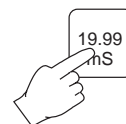
- All subsequent measurements will be compensated to 25°C (77°F). If you prefer to standardize the temperature compensation to 20°C (68°F) rather than 25°C (77°F), leave the TEMPERATURE knob at 18°C (if the temperature of the solution is 18°C), adjust the trimmer to read "11.67 mS" (see the conductivity vs. temperature chart on page 18). All subsequent measurements will be compensated to 20°C.
- The calibration is now complete and the instrument is ready for use.

The instrument should be re-calibrated at least once a month, or when the probe or battery is changed.

**Note:** For more accurate results, it is advisable to use a calibration solution close to the measurement range. See the accessories section on page 23 for a wide selection of conductivity solutions.

### PROCEDURE FOR HI 8733

- Pour sufficient quantity of a conductivity calibration solution (e.g. HI 7030/ HI 8030) into a beaker to cover the holes on the probe. If possible, use plastic beakers to minimize any EMC interference.
- Immerse the conductivity probe in the solution, making sure that holes are completely submerged.
- Wait for a couple of minutes for thermal equilibrium to be reached.
- Tap the probe on the bottom, then shake it while rotating to make sure no air bubbles remain trapped in the sleeve.
- Switch the instrument on by pressing ON/OFF.
- Set the temperature coefficient knob to 2% to compensate for the temperature effect of average solutions (to determine exact value for a particular solution, see page 20).
- Select 19.99 mS/cm range by pressing the appropriate range key.
- Adjust the calibration trimmer (see page 6, #5) on the side of the instrument with the calibration screwdriver until the display shows "12.88 mS" i.e. the conductivity reading @ 25°C.



- All subsequent measurements will be compensated to 25°C (77°F). If you prefer to standardize the temperature compensation to 20°C (68°F) rather than 25°C (77°F), adjust the trimmer to read "11.67 mS" (see the conductivity vs. temperature chart on page 18). All subsequent measurements will be compensated to 20°C.
- The calibration is now complete and the instrument is ready for use.

The instrument should be re-calibrated at least once a month, or when the probe or battery is changed.

**Note:** For more accurate results, it is advisable to use a calibration solution close to the range to be measured. See the accessories section on page 23 for a wide selection of conductivity solutions.

#### **PROCEDURE FOR HI 8734**

- Pour sufficient quantity of a TDS calibration solution (e.g. HI 7032) into a beaker to cover the holes on the probe. If possible, use plastic beakers to minimize any EMC interference.
- Immerse the TDS probe, making sure that holes are completely submerged, and the ChecktempC in the solution.
- Wait for a couple of minutes for thermal equilibrium to be reached.
- Tap the probe on the bottom, then shake it while rotating to make sure no air bubbles remain trapped in the sleeve.
- Record the temperature of the HI 7032 buffer solution from the ChecktempC (e.g. 18°C).



- Switch the instrument on by pressing ON/OFF.



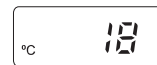
- Press TDS/TEMP to display the temperature.



- Adjust the TEMPERATURE knob to display 18°C.



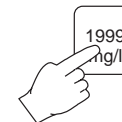
TEMPERATURE



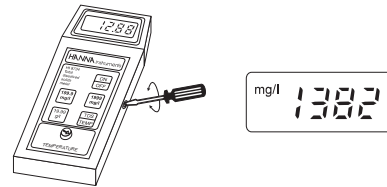
- Press TDS/TEMP again to display the TDS measurement.



- Select 1999 mg/L range by pressing the appropriate range key.



- Adjust the calibration trimmer (see page 7, #6) on the side of the instrument with the calibration screwdriver until the display shows the TDS reading at 25°C (see the TDS vs. temperature chart on page 19). E.g. @25°C "1382 mg/L".



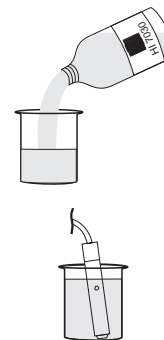
- All subsequent measurements will be compensated to 25°C (77°F). If you prefer to standardize the temperature compensation to 20°C (68°F) rather than 25°C (77°F), leave the TEMPERATURE knob to 18°C (if the temperature of the solution is 18°C). Adjust the trimmer to read "1251 mg/L" (see the TDS vs. temperature chart on page 19). All subsequent measurements will be compensated to 20°C.
- The calibration is now complete and the instrument is ready for use.

The instrument should be re-calibrated once a month, or when the probe or battery is changed.

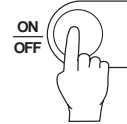
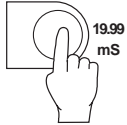
**Note:** For more accurate results, it is advisable to use a calibration solution close to the range to be measured. See the accessories section on page 23 for a wide selection of TDS solutions.

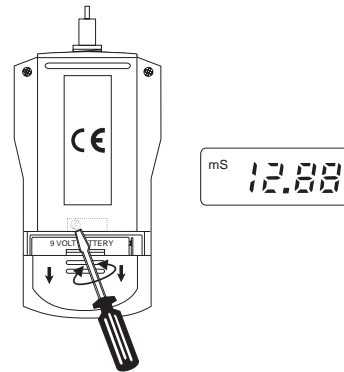
**PROCEDURE FOR HI 933000**

- Pour sufficient quantity of a conductivity calibration solution (e.g. HI 7030/ HI 8030) into a beaker to cover the holes on the probe. If possible, use plastic beakers to minimize any EMC interference.
- Immerse the conductivity probe in the solution, making sure that holes are completely submerged.
- Wait for a couple of minutes for thermal equilibrium to be reached.
- Tap the probe on the bottom, then shake it while rotating to make sure no air bubbles remain trapped in the sleeve.





- Switch the instrument on by pressing ON/OFF. 
- Select 19.99mS/cm range by pressing the appropriate range key. 
- Adjust the calibration trimmer in the battery compartment with a screwdriver until the display shows "12.88 mS" i.e. the conductivity reading @ 25°C.



- All subsequent measurements will be compensated to 25°C (77°F). If you prefer to standardize the temperature compensation to 20°C (68°F) rather than 25°C (77°F), adjust the trimmer to read "11.67 mS" (see the conductivity vs. temperature chart on page 18). All subsequent measurements will be compensated to 20°C.
- The calibration is now complete and the instrument is ready for use.

The instrument should be re-calibrated once a month, or when the probe or battery is changed.

**Note:** For more accurate results, it is advisable to use a calibration solution close to the range to be measured. See the accessories section on page 23 for a wide selection of conductivity solutions.

## CONDUCTIVITY VERSUS TEMPERATURE CHART

The conductivity of an aqueous solution is the measure of its ability to carry an electrical current by means of ionic motion.

The conductivity invariably increases with increasing temperature.

It is affected by the type and number of ions in the solution and by the viscosity of the solution itself. Both parameters are temperature dependent. The dependency of conductivity on temperature is expressed as a relative change per degree Celsius at a particular temperature, commonly as percent per °C.

For manual temperature compensation, refer to the following chart:

°C	°F	HI 7030 HI 8030 ( $\mu\text{S}/\text{cm}$ )	HI 7031 HI 8031 ( $\mu\text{S}/\text{cm}$ )	HI 7033 HI 8033 ( $\mu\text{S}/\text{cm}$ )	HI 7034 HI 8034 ( $\mu\text{S}/\text{cm}$ )	HI 7035 HI 8035 ( $\mu\text{S}/\text{cm}$ )	HI 7039 HI 8039 ( $\mu\text{S}/\text{cm}$ )
0	32	7150	776	64	48300	65400	2760
5	41	8220	896	65	53500	74100	3180
10	50	9330	1020	67	59600	83200	3615
15	59	10480	1147	68	65400	92500	4063
16	60.8	10720	1173	70	67200	94400	4155
17	62.6	10950	1199	71	68500	96300	4245
18	64.4	11190	1225	73	69800	98200	4337
19	66.2	11430	1251	74	71300	100200	4429
20	68	11670	1278	76	72400	102100	4523
21	69.8	11910	1305	78	74000	104000	4617
22	71.6	12150	1332	79	75200	105900	4711
23	73.4	12390	1359	81	76500	107900	4805
24	75.2	12640	1386	82	78300	109800	4902
<b>25</b>	<b>77</b>	<b>12880</b>	<b>1413</b>	<b>84</b>	<b>80000</b>	<b>111800</b>	<b>5000</b>
26	78.8	13130	1440	86	81300	113800	5096
27	80.6	13370	1467	87	83000	115700	5190
28	82.4	13620	1494	89	84900	117700	5286
29	84.2	13870	1521	90	86300	119700	5383
30	86	14120	1548	92	88200	121800	5479
31	87.8	14370	1575	94	90000	123900	5575

For instance, the conductivity values of the calibration solutions at 25°C are 12880  $\mu\text{S}/\text{cm}$ , 1413  $\mu\text{S}/\text{cm}$  or 5000  $\mu\text{S}/\text{cm}$  when using HI 7030, HI 7031 or HI 7039, respectively.

At 20°C, the values are 11670  $\mu\text{S}/\text{cm}$ , 1278  $\mu\text{S}/\text{cm}$  or 4523  $\mu\text{S}/\text{cm}$ , respectively.

With the solutions at 30°C, the values are 14120  $\mu\text{S}/\text{cm}$ , 1548  $\mu\text{S}/\text{cm}$  or 5479  $\mu\text{S}/\text{cm}$ , respectively.

## TDS VERSUS TEMPERATURE CHART

The TDS value in aqueous solutions is directly proportional to conductivity. The ratio between the two parameters depends on the solution and usually it is set to a factor of 0.5 (corresponding to a solution of  $\text{CaCO}_3$ ). This means that  $1 \mu\text{S}/\text{cm}$  is equal to 0.5 mg/L (ppm) of TDS. For manual temperature compensation, refer to the following chart:

°C	°F	HI 7032 mg/L (ppm)	HI 7036 g/L (ppt)
0	32	758	6.82
5	41	876	7.88
10	50	999	8.99
15	59	1122	10.10
16	60.8	1148	10.33
17	62.6	1173	10.56
18	64.4	1200	10.78
19	66.2	1224	11.01
20	68	1251	11.24
21	69.8	1277	11.47
22	71.6	1303	11.71
23	73.4	1329	11.94
24	75.2	1358	12.18
<b>25</b>	<b>77</b>	<b>1382</b>	<b>12.41</b>
26	78.8	1408	12.65
27	80.6	1438	12.89
28	82.4	1461	13.13
29	84.2	1476	13.37
30	86	1515	13.61
31	87.8	1541	13.85

For instance, the TDS values of the calibration solutions at 25°C are 1382 mg/L or 12.41 g/L when using HI 7032 or HI 7036, respectively.

At 20°C, the values are 1251 mg/L or 11.24 g/L, respectively.

With the solutions at 30°C, the values are 1515 mg/L or 13.61 g/L, respectively.

## DETERMINING THE TEMPERATURE COEFFICIENT OF A SOLUTION (HI 8733)

Highly acidic, alkaline samples or solutions with high salt content might have a different coefficient than the customary 2% per degree °C. In order to calculate this coefficient follow the procedure below:

- Immerse the probe of HI 8733 in the sample and adjust the TEMPERATURE COEFFICIENT knob to 0% (i.e. no compensation).



- Condition the sample and probe to 25°C and note the conductivity reading,  $C_{25}$ .
- Condition the sample and probe to a different temperature  $t$ °C (approximately 10°C different from 25°C) and note the conductivity reading  $C_t$ .
- The temperature coefficient  $\beta$  of the solution is calculated as given by the following formula:

$$\beta = 100 \times \frac{(C_t - C_{25})}{(t - 25) \times C_{25}}$$

The above procedure is suitable for determining the temperature coefficient in a laboratory or where the temperature of the solution can be controlled.

If this is not possible (e.g. on-site measurements), the following procedure can be used providing the sample temperature varies by at least 5°C or preferably 10°C:

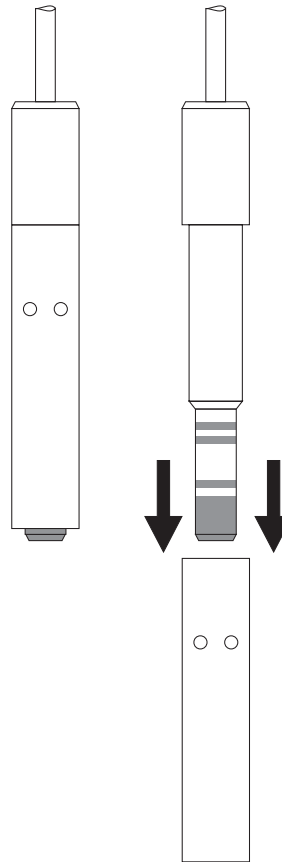
- Immerse the probe of HI 8733 in the test solution and turn the TEMPERATURE COEFFICIENT knob to 0% (no compensation).
- Check the conductivity reading and record the value. Make sure the reading is stable, i.e. no greater variations than  $\pm 0.2$  mS/cm within a minute.
- Repeat the procedure when the temperature of the test solution has changed by at least 5°C. Wait for the conductivity reading to stabilize.
- Adjust the TEMPERATURE COEFFICIENT knob until the display shows the same value as recorded earlier.
- The value indicated by the knob is the temperature coefficient of the solution.

## PROBE MAINTENANCE

Rinse the probe with tap water after every series of measurements. If a more thorough cleaning is required, remove the PVC sleeve and clean the probe with a cloth or a non-abrasive detergent. When reinserting the sleeve onto the probe, be sure that the sleeve is in the right direction with the four holes towards the cable end.

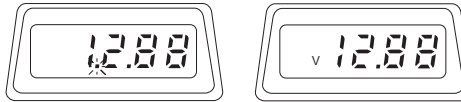
After cleaning the probe, recalibrate the instrument.

The probe body is in PVC. For this reason it must never come into close contact with a heat source. If the probe is exposed to high temperatures (above 50°C/122°F), the rings might become loose or detached, resulting in a serious impairment of the probe. In such cases, the probe has to be replaced.



## BATTERY REPLACEMENT

When the battery becomes weak the meters will display "V" or an additional blinking decimal point (HI 8733).

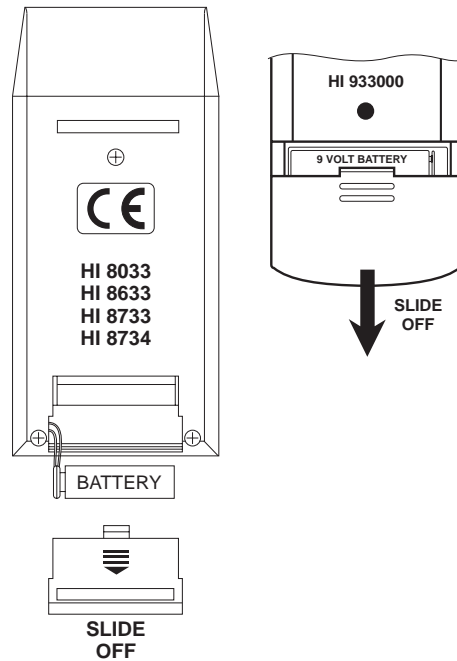


When the low battery indicator appears, the battery has only a few hours left. A low battery will result in unreliable measurements.

It is recommended that the battery be replaced immediately.

Battery replacement must only take place in a non-hazardous area using an alkaline 9V battery.

Slide off the battery compartment cover at the rear of the meter and replace the 9V battery with a new one. Make sure the battery contacts are tight and secure before replacing the cover.



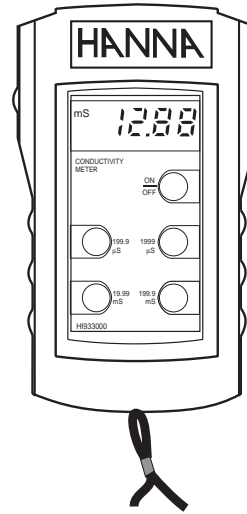
## SHOCKPROOF RUBBER BOOTS (for HI 933000 only)

These rubber boots are specially made to prolong the life of your instrument and to prevent damage due to accidental bangs and falls.

They measure 155 x 90 x 45 mm (6.1x3.5x1.8") and are available in two different colors:

HI 710007 = blue

HI 710008 = orange.



## ACCESSORIES

### CONDUCTIVITY & TDS BUFFER SOLUTIONS

HI 7030L	12880 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460mL
HI 7030M	12880 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 230mL
HI 7031L	1413 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460mL
HI 7031M	1413 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 230mL
HI 7033L	84 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460 mL
HI 7033M	84 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 230 mL
HI 7034L	80000 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460mL
HI 7034M	80000 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 230mL
HI 7035L	111800 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460mL
HI 7035M	111800 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 230mL
HI 7039L	5000 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460mL
HI 7039M	5000 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 230mL
HI 7032L	1382 ppm (mg/L), 460 mL
HI 7032M	1382 ppm (mg/L), , 230 mL
HI 7036L	12.41 ppt (g/L), 460 mL
HI 7036M	12.41 ppt (g/L), 230 mL

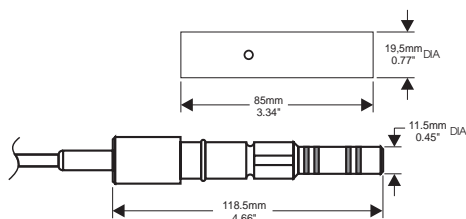
## CONDUCTIVITY BUFFER SOLUTIONS IN FDA APPROVED

### BOTTLES

HI 8030L	12880 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460 mL
HI 8031L	1413 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460 mL
HI 8033L	84 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460 mL
HI 8034L	80000 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460 mL
HI 8035L	111800 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460 mL
HI 8039L	5000 $\mu\text{S}/\text{cm}$ ( $\mu\text{mho}/\text{cm}$ ), 460 mL

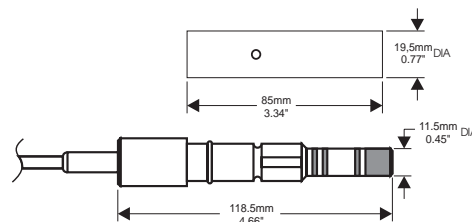
### CONDUCTIVITY PROBES

**HI 76301W** 4-ring conductivity/TDS probe with 1 m (3.3') screened cable (for HI 8033, HI 8633 and HI 8734)



**HI 76302W** 4-ring conductivity probe with built-in temperature sensor and 1 m (3.3') screened cable (for HI 933000)

**HI 7633W** 4-ring conductivity probe with built-in temperature sensor and 1 m (3.3') screened cable (for HI 8733)



### OTHER ACCESSORIES

**HI 710001** Soft carrying case for HI 8033, HI 8633, HI 8733, HI 8734 and HI 933000 measuring 230x100x50 mm

**CHECKTEMPC** Electronic thermometer (range: -50.0 to 150.0°C)

**HI 721313** Rugged carrying case for HI 8733 and HI 8633 measuring 340 x 230 x 90 mm complete with conductivity calibration solution (HI 7030S, 120 mL) and screwdriver



- HI 721314 Rugged carrying case for HI 8734 measuring 340x230x90 mm complete with TDS calibration solution (HI 7032S, 120 mL) and screwdriver
- HI 731326 20 small screwdrivers, length 90 mm, for calibration purposes (except for HI 8033)
- HI 710007 Blue shockproof rubber boot for HI 933000
- HI 710008 Orange shockproof rubber boot for HI 933000
- HI 710009 Blue rubber boot for HI 8033, HI 8633, HI 8733 and HI 8734
- HI 710010 Orange rubber boot for HI 8033, HI 8633, HI 8733 and HI 8734
- MANCONDR2 Instruction manual

## WARRANTY

All Hanna Instruments meters are warranted for two years against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. **The electrodes and the probes are 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 shipping 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.

# CE DECLARATION OF CONFORMITY



## DECLARATION OF CONFORMITY

We

Hanna Instruments Srl  
V.le delle industrie 12  
35010 Ronchi di Villafranca (PD)  
ITALY


herewith certify that the conductivity meters

**HI 8033 HI 8633 HI 8733 HI 8734 HI 933000**

have been tested and found to be in compliance with the following regulations:

<b>IEC 801-2</b>	Electrostatic Discharge
<b>IEC 801-3</b>	RF Radiated
<b>EN 55022</b>	Radiated, Class B
<b>EN 61010-1</b>	User Safety Requirement

Date of Issue: 15-11-1995

  
D. Volpato - Engineering Manager  
On behalf of  
Hanna Instruments S.r.l.

### 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 area could cause unacceptable interference to radio and TV equipment, requiring the operator to take all necessary steps to correct interferences.

The metal band at the end of the probe is sensitive to electrostatic discharges. Avoid touching this metal band at all times.

During calibration of the instruments, ESD wrist straps should be worn to avoid possible damage to the probe by electrostatic discharge.

Any variation introduced by the user to the supplied equipment may degrade the instruments' EMC performance.

To avoid electrical shock, do not use these instruments when voltages at the measurement surface exceed 24VAC or 60VDC.

Use plastic beakers to minimize any EMC interferences.

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

## OTHER PRODUCTS FROM HANNA

- CALIBRATION AND MAINTENANCE SOLUTIONS
- CHEMICAL TEST KITS
- CHLORINE METERS
- DISSOLVED OXYGEN METERS
- HYGROMETERS
- ION SPECIFIC METERS (Colorimeters)
- MAGNETIC STIRRERS
- Na/NaCl METERS
- pH/ORP/Na ELECTRODES
- pH/ORP METERS
- PROBES (DO,  $\mu$ S/cm, RH, T, TDS)
- PUMPS
- REAGENTS
- SOFTWARE
- THERMOMETERS
- TITRATORS
- TRANSMITTERS
- TURBIDITY METERS
- Wide Range of Accessories

Most Hanna meters are available in the following formats:

- BENCH-TOP METERS
- POCKET-SIZED METERS
- PORTABLE METERS
- PRINTING/LOGGING METERS
- PROCESS METERS (Panel and Wall-mounted)
- WATERPROOF METERS
- METERS FOR FOOD INDUSTRY

For additional information, contact your dealer or the nearest Hanna Customer Service Center. You can also e-mail us at: [tech@hannainst.com](mailto:tech@hannainst.com).

## HANNA LITERATURE

Hanna publishes a wide range of catalogs and handbooks for an equally wide range of applications. The reference literature currently covers areas such as:

- Water Treatment
- Process
- Swimming Pools
- Agriculture
- Food
- Laboratory
- Thermometry

and many others. New reference material is constantly being added to the library.

For these and other catalogs, handbooks and leaflets, contact your dealer or the Hanna Customer Service Center nearest to you. To find the Hanna Office in your vicinity, check our home page at [www.hannainst.com](http://www.hannainst.com).

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<http://www.hannainst.com>