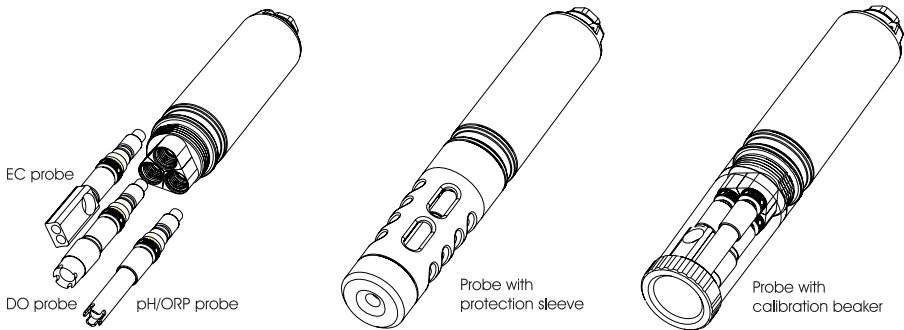


- Insert the supplied O-ring in the membrane.
- Rinse the supplied membrane with electrolyte while shaking it gently. Refill with clean electrolyte. Gently tap the membrane over a surface to ensure that no air bubbles remain trapped. To avoid damaging the membrane, do not touch it with your fingers.
- With the sensor facing down screw the cap clockwise to the end of the threads. Some electrolyte will overflow.

1.5.2 Installation

The multisensor probe can support 3 different electrodes, DO/Temperature, EC, pH/ORP. To make easier the installation, the 3 sensors have 3 different color codes: white for DO, orange for EC and yellow for pH/ORP



For the correct sensors installation, procede as follow:

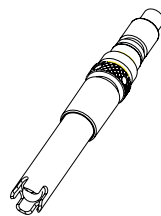
- Insert the sensor with the right alignment to the corresponding coloured connector.
- Screw with the supplied tool the locking nut to fix the sensor.
- After sensors are mounted it is necessary to screw the protection sleeve for measurements or the transparent beaker for calibration.
- With the meter turned off, connect the probe to the DIN socket on the bottom of the meter by aligning the pins and pushing in the plug. Tighten the nut to ensure a good connection.



1.5.3 pH and pH/ORP sensors

As mentioned before HI 9828 is predisposed for pH and ORP measurements.

HI 769828PH and HI 769828PHO are probes with pH and pH/ORP sensors respectively. See the table below for electrodes specifications.



	Reference	Junction	Electrolyte	Tip	Body material
pH	double	cloth	gel	spheric	PEI
ORP	double	cloth	gel	Pt	PEI

To avoid clogging problems and ensure a fast response, the pH bulb must be kept moist at any time. Store the electrode with few drops of HI 70300L storage solution.

To make correct redox measurements the following conditions must prevail:

- The surface of the electrode must be cleaned and smooth.
- The surface of the electrode must undergo a pretreatment in order to respond quickly.

Because the Pt/PtO system depends on the pH, the pretreatment of the electrode may be determined by the pH and the redox potential values of the solution to be measured.

As a general rule, if the ORP mV reading corresponding to the pH value of the solution is higher than the values in the table below, an oxidizing pretreatment is necessary; otherwise a reducing pretreatment is necessary:

pH	mV	pH	mV	pH	mV	pH	mV	pH	mV	pH	mV
0	990	1	920	2	860	3	800	4	740	5	680
6	640	7	580	8	520	9	460	10	400	11	340
12	280	13	220	14	160						

For reducing pretreatment: immerse the electrode for a few minutes in HI 7091L.

For oxidizing pretreatment: immerse the electrode for a few minutes in HI 7092L.

1.6 SPECIFICATIONS

TEMPERATURE

Range	-5.00 to 55.00 °C; 23.00 to 131.00°F; 268.15 to 328.15 K
Resolution	0.01 °C; 0.01 °F; 0.01 K
Accuracy	± 0.15 °C; ± 0.27 °F; ±0.15 K
Calibration	automatic at 1 custom point

pH

Range	0.00 to 14.00 pH; ± 600.0 mV
Resolution	0.01 pH; 0.1 mV
Accuracy	± 0.02 pH ± 0.5 mV
Calibration	automatic 1, 2 or 3 points with 5 memorized standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01) or 1 custom buffer

ORP

Range	± 2000.0 mV
Resolution	0.1 mV
Accuracy	± 1.0 mV
Calibration	automatic at 1 custom point

DISSOLVED OXYGEN

Range	0.0 to 500.0 % 0.00 to 50.00 mg/L
Resolution	0.1 % 0.01 mg/L
Accuracy	0.0 to 300.0 %: ± 1.5 % of reading or ± 1.0% whichever is greater; 300.0 to 500.0 %: ± 3% of reading 0.00 to 30.00 mg/L: ± 1.5 % of reading or 0.10 mg/L whichever is greater; 30.00 mg/L to 50.00 mg/L: ± 3% of reading
Calibration	automatic 1 or 2 points at 0, 100 % or 1 custom point

CONDUCTIVITY

Range	0.000 to 200.000 mS/cm (actual EC up to 400 mS/cm)
Resolution	
Manual	1 μ S/cm; 0.001 mS/cm; 0.01 mS/cm; 0.1 mS/cm; 1 mS/cm
Automatic	1 μ S/cm from 0 to 9999 μ S/cm 0.01 mS/cm from 10.00 to 99.99 mS/cm 0.1 mS/cm from 100.0 to 400.0 mS/cm
Automatic mS/cm	0.001 mS/cm from 0.000 to 9.999 mS/cm 0.01 mS/cm from 10.00 to 99.99 mS/cm 0.1 mS/cm from 100.0 to 400.0 mS/cm
Accuracy	± 1 % of reading or ± 1 μ S/cm whichever is greater
Calibration	automatic 1 point with 6 memorized standards (84 μ S/cm, 1413 μ S/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm) or custom point

RESISTIVITY

Range	0 to 999999 Ω /cm; (depending on setup measurement) 0 to 1000.0 k Ω /cm; 0 to 1.0000 M Ω /cm
Resolution	dependent on resistivity reading
Calibration	based on conductivity or salinity calibration

TDS

Range	0 to 400000 mg/L or ppm; (the maximum value depends on the TDS factor)
Resolution	
Manual	1 mg/L (ppm); 0.001 g/L (ppt); 0.01 g/L (ppt); 0.1 g/L (ppt); 1 g/L (ppt)
Automatic	1 mg/L (ppm) from 0 to 9999 mg/L (ppm) 0.01 g/L (ppt) from 10.00 to 99.99 g/L (ppt) 0.1 g/L (ppt) from 100.0 to 400.0 g/L (ppt)
Automatic g/L (ppt)	0.001 g/L (ppt) from 0.000 to 9.999 g/L (ppt) 0.01 g/L (ppt) from 10.00 to 99.99 g/L (ppt) 0.1 g/L (ppt) from 100.0 to 400.0 g/L (ppt)
Accuracy	± 1 % of reading or ± 1 mg/L (ppm) whichever is greater
Calibration	based on conductivity or salinity calibration

SALINITY

Range	0.00 to 70.00 PSU (extended Practical Salinity Scale)
Resolution	0.01 PSU
Accuracy	$\pm 2\%$ of reading or 0.01 PSU whichever is greater
Calibration	1 custom point

SEAWATER SPECIFIC GRAVITY

Range	0.0 to 50.0 σ_t , σ_{0t} , σ_{15}
Resolution	0.1 σ_t , σ_{0t} , σ_{15}
Accuracy	± 1 σ_t , σ_{0t} , σ_{15}
Calibration	based on conductivity or salinity calibration

AMTOSPHERIC PRESSURE

Range	450 to 850 mmHg; 17.72 to 33.46 inHg; 600.0 to 1133.2 mbar; 8.702 to 16.436 psi; 0.5921 to 1.1184 atm; 60.00 to 113.32 kPa
Resolution	0.1 mmHg; 0.01 inHg; 0.1 mbar 0.001 psi; 0.0001 atm; 0.01 kPa
Accuracy	± 3 mmHg within ± 15 °C from the temperature during calibration
Calibration	automatic at 1 custom point



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