

INSTRUCTION MANUAL

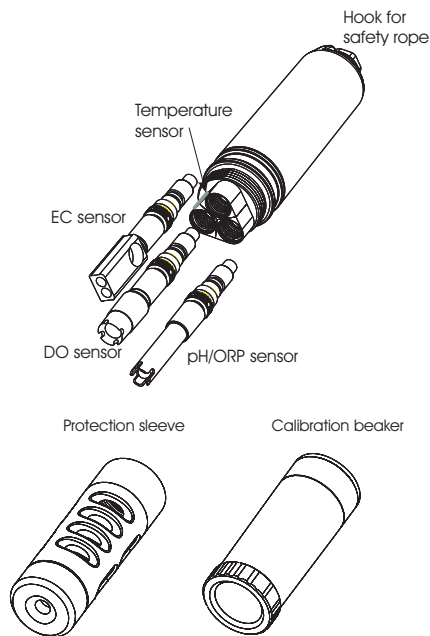
HI769828 Multiparameter Probe

Dear Customer,

Thank you for choosing a Hanna Instruments product. Please read carefully this instruction manual before using the product.

If you need additional technical information, do not hesitate to e-mail us at tech@hannainst.com.

This product is in compliance with the CE directives.



PRELIMINARY EXAMINATION

Remove the probe/sensors from the packing material and examine it carefully to make sure that no damage has occurred during shipment. If there is any damage, please contact your local Hanna Instruments Office.

Note Conserve all packing material until the product has been observed to function correctly. Any defective item must be returned in its original packing.

SPARE PARTS

HI769828/4	Probe body with temperature sensor & 4 m cable
HI769828/10	Probe body with temperature sensor & 10 m cable
HI769828/20	Probe body with temperature sensor & 20 m cable
HI769828-0	pH sensor
HI769828-1	pH/ORP sensor
HI769828-2	DO sensor
HI769828-3	EC sensor

GENERAL DESCRIPTION

HI769828 is the multisensor probe for **HI9828**.

The probe has been designed to resist to all harsh operating conditions. It is very easy-to-use and can be installed for direct pipe measurements.

The protection sleeve allows to dip the probe for a long period without damaging the sensors and the calibration beaker permits to perform maintenance operations directly on field.

Calibration data are stored in the probe internal memory, so that sensors can be changed without needing recalibration. The user can disconnect all sensors separately for a better cleaning and to change the probe body, if for example a different cable length is required.

SPECIFICATIONS

	HI769828-0	HI769828-1	HI769828-2	HI769828-3
Sensor Type	pH	pH/ORP	DO	EC
Measurement	pH; mV (pH)	pH; mV (pH); mV	DO% sat; DO conc.	EC; TDS; Resistivity; Salinity
Range	0.00 to 14.00 ±600.0 mV (pH)	0.00 to 14.00 ±600.0 mV (pH) ±2000.0 mV	0.0 to 500.0 % 0.00 to 50.00 mg/L	0.000-200.000 mS/cm 0-400000 mg/L 0 to 1.0000 MΩ·cm 0.00 to 70.00 PSU
Color Code	Red	Red	White	Blue
Materials	Tip: glass (pH) Junction: cloth Body: PEI Electrolyte: gel Reference: double	Tip: glass (pH); Pt (ORP) Junction: cloth Body: PEI Electrolyte: gel Reference: double	Cat/An: Ag/Zn Membrane: PTFE Body: PVC	Stainless Steel AISI 316 Body:PVC
Maintenance Solution	HI70300 (storage)	HI70300 (storage)	HI7042S (refilling)	
Dimensions	100 x 14 Ø mm	100 x 14 Ø mm	101 x 16.5 Ø mm	111 x 14 Ø mm

ACCESSORIES

HI9828-25	Quick calibration solution, 500 mL bottle
HI9828-27	Quick calibration solution, 1 G bottle
HI7698282	Probe maintenance kit
HI7698283	Calibration beaker
HI7698284	Flow cell
HI7040L	Zero oxygen solution, 500 mL bottle
HI7042S	Electrolyte solution for D.O. sensor, 30 mL bottle
HI76409A/P	D.O. membrane, 5 pcs.
HI70300L	Storage solution, 500 mL bottle

INSTALLATION

D.O. sensor

The temperature sensor built near the galvanic D.O. sensor allows stable temperature compensated D.O. readings in a few seconds.



The thin permeable membrane isolates the sensor elements from the testing solution, but allows oxygen to enter. Oxygen that passes through the membrane causes a current flow, from which the oxygen concentration is determined.

The D.O. sensor is shipped dry. Activate it before installing the probe. To hydrate the sensor and prepare it for use proceed as follows:

- Remove the black & red plastic cap. This cap is used for shipping purposes only and can be thrown away.
- Insert the O-ring in the membrane.
- Rinse the membrane with **HI7042S** electrolyte solution 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.
- Insert the sensor in the probe body with the right alignment to the corresponding white connector.
- With the supplied tool screw the locking nut to fix the sensor.

Conductivity sensor

The conductivity sensor uses the 4-ring technology that allows stable and linear readings without any interference in the whole range.



- Insert the sensor in the probe body with the right alignment to the corresponding blue connector.
- With the supplied tool screw the locking nut to fix the sensor.

pH and pH/ORP sensor

The pH and pH/ORP sensors are gel filled and feature cloth junction, glass and Pt sensors respectively. The external plastic body is built to last even in harsh environmental conditions.



- Insert the sensor in the probe body with the right alignment to the corresponding red connector.
- After mounting the sensors, screw the protection sleeve for taking measurements or the transparent beaker for performing calibration.
- With the meter 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.

PROBE MAINTENANCE

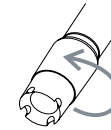
General maintenance

After use, rinse the probe with tap water and dry it. The pH electrode bulb must be kept moist, while the D.O. and EC sensors should be stored dry.

Maintenance of D.O. sensor

For a top performance probe, replace the membrane every 2 months and the electrolyte once a month. Proceed as follows:

- Unscrew the membrane by turning it counterclockwise.
- Rinse the spare membrane with some electrolyte while shaking it gently. Refill with clean electrolyte.
- Gently tap the membrane over a surface to ensure that no air bubbles remain trapped.
- With the sensor facing down, screw the cap clockwise to the end of the threads. Some electrolyte will overflow.



If any deposit scales the sensors, gently brush the sensor surface with the brush supplied in the maintenance kit, while paying attention to not damage the plastic body.

Maintenance of EC sensor

After every series of measurements, rinse the probe with tap water.

If a more thorough cleaning is required, clean the probe with the brush supplied in the maintenance kit or a nonabrasive detergent.

After cleaning the probe, always recalibrate the instrument.

Maintenance of pH & pH/ORP sensors

- Remove the protective cap. Do not be alarmed if any salt deposits are present. This is normal with electrodes and they will disappear when rinsed with water.
- Shake the electrode down as you would do with a clinical thermometer to eliminate any air bubbles inside the glass bulb.
- If the bulb and/or junction are dry, soak the electrode in **HI70300** storage solution for at least one hour.
- To minimize clogging and ensure a quick response time, the glass bulb and the junction should be kept moist and not allowed to dry.
- Replace the solution in the protective cap with a few drops of **HI70300** storage solution. Tap water may also be used for a very short period (couple of days).



NEVER STORE THE ELECTRODE IN DISTILLED OR DEIONIZED WATER.

- Inspect the electrode for scratches or cracks. If any present, replace the electrode.
- Cleaning procedure: clean frequently the probe by soaking it for 1 minute in **HI70670** or **HI70671** cleaning solutions. After performing this procedure, soak the electrode in **HI70300** storage solution before taking measurements.

NOTE For additional information about calibration, connections and readings, please refer to the instrument (**HI9828** multiparameter) instruction manual.