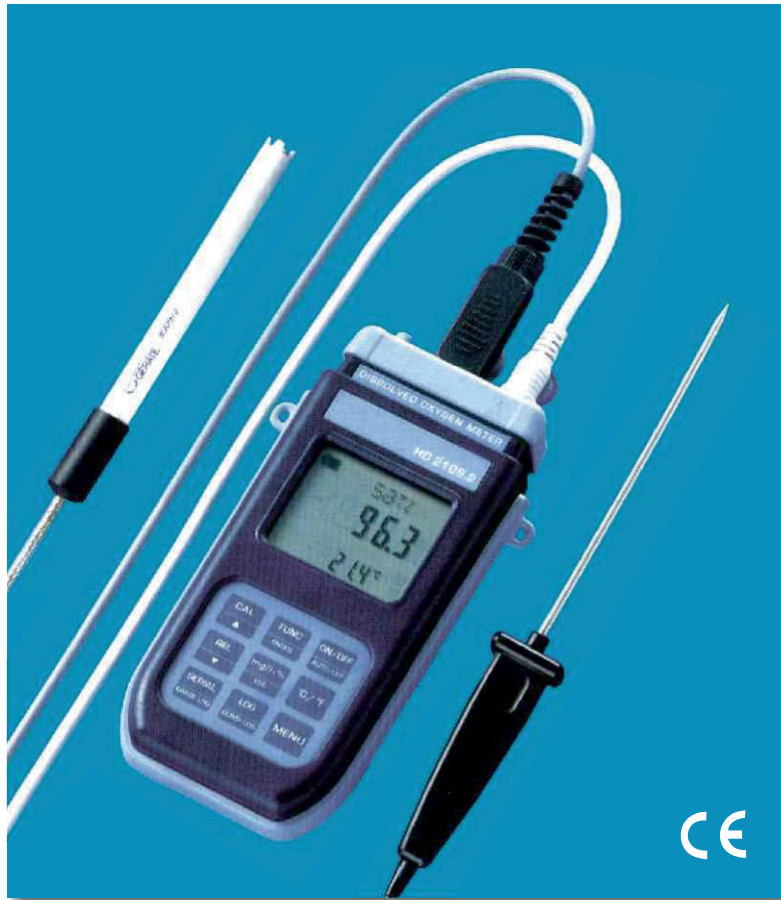


Dissolved Oxygen Meter/Datalogger

HD 2109.1 & HD 2109.2



The **HD2109.1 & HD2109.2** are Portable instruments with a large LCD display. They measure the concentration (in mg/l) of Dissolved Oxygen in liquids, the saturation index (in %) & the temperature using SICRAM combined probes of **Polarographic** type. Thanks to an internal pressure sensor, the instruments automatically compensate for Barometric Pressure. The instrument anticipates automatic compensation of the Oxygen probe membrane permeability and of the salinity of the liquid being examined.

The Dissolved Oxygen probe's quick calibration function guarantees timely correctness of the performed measurements. The dissolved Oxygen & temperature probes are fitted with an automatic detection module, with the factory calibration settings already being memorized inside.

The HD 2109.2 is a **datalogger**. It memorizes up to 18,000 Dissolved Oxygen concentration, Saturation Index Measurements, Barometric Pressure and Temperature samples which can be transferred from the instrument connected to a PC via the multi-standard RS232C serial port and USB 2.0. The storing interval, printing and baud rate can be configured using the menu.

The Max, Min and Avg function calculates the maximum, minimum or average values. Other functions include: the relative measurement REL, the Auto-HOLD function, & the automatic turning off which can also be disabled. **The instruments have IP67 protection degree.**

Instrument Technical Characteristics :

Instrument

Display	2×4½ digits plus symbols Visible area: 52×42mm
Dimensions (L × W × H)	185×90×40mm
Weight	470g (complete with batteries)
Materials	ABS, rubber

Operating Conditions

Working temperature	-5...50°C
Storing temperature	-25...65°C
Working relative humidity	0...90%RH without condensation

Protection degree IP67

Power

Batteries	4×1.5V type AA batteries
Power Absorbed with instrument off	20µA
With dissolved Oxygen Probe	40µA
Mains Output mains adapter	9Vdc/250mA

Time

Date and time	Schedule in real time
Accuracy	1 min/month max departure

Measured Values Storage-model HD2109.2

Type	2000 pages containing 9 samples each
Quantity	18,000 samples
Storage interval	1s...3600s (1hour)

Serial interface RS232C

Type	RS232C electrically isolated
Baud rate	Can be set from 1200 to 38400 baud
Serial cable length	Max 15m
Immediate print intervals...	3600s (1hour)

USB interface - model HD2109.2

Type	1.1 ~ 2.0 electrical isolated
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HTA INSTRUMENTATION (P) LTD.,

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Connections

Input for Oxygen & Temperature probes	8-pole male DIN45326 connector
Serial & USB interface	8-pole MiniDin Connector
Mains adapter	2-pole connector (positive at centre)

Measurement of the Concentration of Dissolved Oxygen

Measurement range	0.00...90.00mg/l
Resolution	0.01 mg/l
Accuracy (60...10%, 1013mbar, 20...25°C)	± 0.03mg/l ± 1 digit

Measurement of the Saturation Index of Dissolved Oxygen

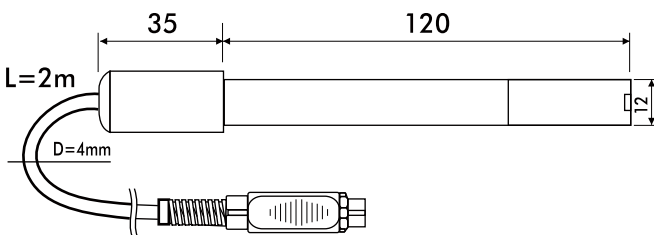
Measurement range	0.0...600.0%
Resolution	0.1%
Accuracy	± 0.3% ± 1 digit

Measurement of Barometric Pressure

Measurement range	0.0...1100.0mbar
Resolution	0.1mbar
Accuracy	±2mbar±1digit between 18 & 25°C ±(2mbar+0.1mbar/°C) in the remaining range

Oxygen probe - dimensions & characteristics

Model	DO9709 SS
Type	Polarographic probe, silver anode, Platinum cathode
Application range	0.00...60.00mg/l
Oxygen Concentration	0...45°C
Functioning Temperature	1%FS
Accuracy Instrument with probe	Replaceable
Membrane	



DO9709 SS : The kit includes: combined probe for measurement of O₂ & Temp. with replaceable membrane, three membranes, 50ml of zero solution, 50ml of electrolyte solution. Cable length 2m. ø12mm×120mm.

DO9709 SS.5 : The kit includes: combined probe for measurement of O₂ & Temp. with replaceable membrane, ø12mm×12mm. Cable length 5m, three membranes, 50ml of zero solution, 50ml of electrolyte solution.

DO9709 SS.10 : The kit includes: combined probe for measurement of O & Temp., replaceable membrane, ø12mm×12mm. Cable length 10m, three membranes, 50ml of zero solution, 50ml of electrolyte solution.

Setting the Salinity

Measurement range	0.0...70.0mg/l
Resolution	0.1mg/l

Temp. Measurement with the sensor inside the dissolved Oxygen Probe

Measurement range	0...+45°C
Resolution	0.1°C
Accuracy	±0.25°C
Drift after 1 year	0.1°C / Year

Order Codes :

HD 2109.1K : The kit is composed of : instrument HD2109.1, calibrator DO 9709/20, connection cable for serial output HD2110CSNM, 4×1.5V alkaline batteries, operating manual, case and DeltaLog9 software.

The dissolved Oxygen and temperature probe must be ordered separately.

HD 2109.2K : The kit is composed of: instrument HD2109.2 **datalogger**, calibrator DO9709/20, connection cable for serial output HD2101/USB, 4×1.5V alkaline batteries, operating manual, case & DeltaLog9 software.

The dissolved oxygen and temperature probes must be ordered separately.

HD 2110CSNM : 8-pole connection cable MiniDin - Sub D 9-pole female for RS232C.

HD2101/USB : Connection cable USB 2.0 connector type A - 8-pole MiniDin (not suitable for HD2109.1K)

DeltaLog9 : Software for download & management of the data on PC using Windows 98 to XP operating systems.

AF209.60 : Stabilized power supply at 230Vdc-300mA mains voltage.

S'print-BT : On request, portable, serial input, 24 column thermal printer, 58mm paper width.

DO9700 : Zero Solution.

DO9701 : Electrolyte Solution.