

## HD2105.1 - HD2105.2



### HD2105.1 - HD2105.2 TEMPERATURE - pH METERS

HD2105.1 and HD2105.2 are portable instruments with a large LCD display. They measure pH and redox potential (ORP) in mV. They measure temperature by using Pt100 or Pt1000 immersion, penetration or contact probes.

The electrode calibration can be carried out on one, two or three points and the calibration sequence can be chosen from a list of 13 buffers.

The temperature probes are equipped with an automatic recognition module and factory calibration data are stored inside.

The HD2105.2 is a **data logger**; it stores up to 34,000 pH and temperature samples which can be transferred to a PC from the instrument connected via the RS232C and USB 2.0 serial ports. Storing interval, printing and baud rate can be configured by using the menu.

Both models are equipped with an RS232C serial port and can transfer the acquired measurements in real time to a PC or to a portable printer.

The **Max, Min and Avg** function calculate the maximum, minimum or average values.

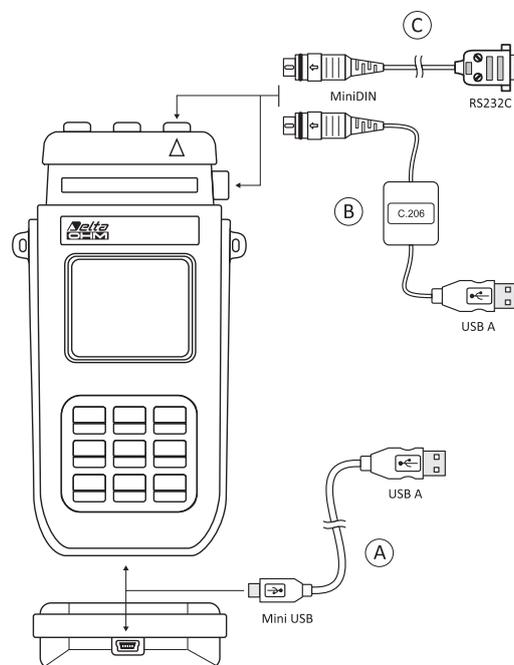
Other functions include: the relative measurement REL, the Auto-HOLD function, and the automatic turning off that can also be excluded.

The instruments have IP66 protection degree.

TECHNICAL SPECIFICATIONS	
Measured quantities	pH - mV - °C - °F
<b>pH measurement by the instrument</b>	
Measuring range	-2.000...+19.999pH
Resolution	0.01 o 0.001pH selezionabile da menu
Accuracy	±0.001pH 1digit
Input impedance	>10 <sup>12</sup> Ω
Calibration error @25°C	Offset  > 20mV Slope < 50mV/pH o Slope > 63mV/pH Sensibility < 85% o Sensibility > 106.5%
Temperature compensation automatic/manual	-50...+150°C
<b>mV measurement by the instrument</b>	
Measuring range	-1999.9...+1999.9mV
Resolution	0.1mV
Accuracy	±0.1mV ±1digit
Drift after 1 year	0.5mV/year
<b>Temperature measurement by the instrument</b>	
Pt100 measuring range	-200...+650°C
Pt1000 measuring range	-200...+650°C
Resolution	0.1°C
Accuracy	±0.1°C ±1digit
Drift after 1 year	0.1°C/year
<b>Measured values storage - model HD2105.2</b>	
Type	2000 pagine di 17 campioni ciascuna
Quantity	34000 pairs of measurements composed of (pH or mV) and (°C or °F)
Storage interval	1, 5, 10, 15, 30 s 1, 2, 5, 10, 15, 20, 30 min 1 ora
Security of stored data	Unlimited, independent of the state of charge of the batteries
<b>Power</b>	
Batteries	4 batteries 1.5V type AA
Autonomy	200 hours with 1800mAh alkaline batteries
Power absorbed with instrument off	20µA
Mains-supply unit (SWD10)	Output mains adapter 12Vdc/1000mA



RS232C serial interface	
Type	RS232C electrically isolated
Baud rate	It can be set from 1200 to 38400 bauds
Data bit	8
Parity	None
Stop bit	1
Flow control	Xon/Xoff
Serial cable length	Max 15m
Print interval	immediate or selectable among: 1, 5, 10, 15, 30 s 1, 2, 5, 10, 15, 20, 30 min 1 hour
USB interface - model HD2105.2	
Type	1.1 - 2.0 electrically isolated
Connections	
Input module for the temperature probes	8-pole male DIN45326 connector
pH/mV input	Female BNC
Serial interface RS232C	8-pole MiniDin connector
USB interface	MiniUSB B-type connector
Mains adapter	2-pole connector (positive at centre)
Operating conditions	
Operating temperature	-5 ... 50°C
Storage temperature	-25 ... 65°C
Working relative humidity	0 ... 90% RH without condensation
Protection degree	IP66
Time	
Date and time	Real time schedule
Accuracy	1min/month max drift
Instrument	
Dimensions (Length x Width x Height)	185x90x40 mm
Weight	470 g (complete with batteries)
Materials	ABS, rubber
Display	2x4½ digits plus symbols Visible area: 52x42mm



- A** For the models of portable data logger series **HD2105.2** has been implemented with a new serial port miniUSB type HID (Human Interface Device).  
When making the connection to the PC by the USB cable Type A - Mini USB B-type coded CP23, no USB driver installation is requested.
- B** For the connection of the models **HD2105.1** to the RS232 port of your PC, the USB/serial converter is available (code C.206). The converter is equipped with its own drivers that have to be installed before connecting the converter to the PC.
- C** The port with the MiniDIN connector which is present on every model is an RS232C type. By means of the cable coded HD2110CSNM, an RS232 port of a PC or the HD40.1. printer can be connected.

#### ORDERING CODES

- HD2105.1:** The kit is composed by the instrument HD2105.1, 4 1.5V alkaline batteries, operating manual, case and DeltaLog9 software downloadable from Delta OHM website.
- HD2105.2:** The kit is is composed by the instrument HD2105.2, 4 1.5V alkaline batteries, USB cable CP23, operating manual, case and DeltaLog9 software downloadable from Delta OHM website

**Electrodes, temperature probes, calibration solutions, cables have to ordered separately.**

#### Accessories

- KP30:** Gel pH combined electrode for general use, 1m cable with BNC, EPOXY body .
- CP:** 1.5m extension cable with BNC/S7 connector for electrode without cable, thread S7.
- BNC:** female BNC for extension cable
- HD8600C:** ACCREDIA ISO 17025 certified buffer solutions kit: pH 4.01+ pH 7.00 + pH 10.01. Two 50 ml bottles for each type (6 bottles in total).

**HD2110CSNM:** 8-pole connection cable MiniDin - Sub D 9-pole female for RS232C.

**C.206:** Cable for instruments of the series HD21...1 for direct connection to the USB input of a PC.

**SWD10:** Stabilized power supply at 100-240Vac/12Vdc-1A mains voltage.

**HD40.1:** The kit includes: 24-column portable thermal printer, serial interface RS232, 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. It uses the optional cable HD2110 CSNM.

**HD22.2:** Laboratory electrode holder composed of base plate with built-in magnetic stirrer, shaft and replaceable electrode holder. Suitable diameter 12mm. Powered by power supplier SWD10 (optional).

**HD22.3:** Laboratory electrode holder composed of base plate. Flexible arm for free positioning. Suitable for electrodes with diameter 12 mm.

