



## TEMPERATURE-pH METER HD2305.0

The **HD2305.0** is a portable instruments with a large LCD display. It measures the pH and the redox potential (ORP) in mV. It measures the temperature using Pt100 or Pt1000 immersion, penetration or contact probes.

The electrode calibration can be carried out on one, two or three points at 4.01pH, 6.86pH and 9.18pH.

The temperature probes are fitted with an automatic detection module, with the factory calibration settings already being memorized inside.

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 disabled.

**The instruments have IP67 protection degree.**

### INSTRUMENT TECHNICAL CHARACTERISTICS

#### Instrument

Dimensions (Length x Width x Height)	140x88x38mm
Weight	160g (complete with batteries)
Materials	ABS
Display	2x4½ digits plus symbols Visible area: 52x42mm

#### Working conditions

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

**Protection degree IP67**

#### Power

Batteries	3 1.5V type AA batteries
Autonomy	200 hours with 1800mAh alkaline batteries
Power absorbed with instrument off	20µA

#### Connections

Input module for the temperature probes	8-pole male DIN45326 connector
pH/mV input	Female BNC

#### Measurement of pH by Instrument

Measurement range	-2.000...+19.999pH
Resolution	0.01
Accuracy	±0.01pH±1 digit
Input impedance	>10 <sup>12</sup> Ω
Calibration error @25°C	Offset   >20mV Slope<50mV/pH or Slope>63mV/pH Sensitivity < 85% or Sensitivity > 106.5%

#### Measurement of mV by Instrument

Measurement range	-1999.9...+1,999.9mV
Resolution	0.1mV
Accuracy	±0.1mV
Drift after 1 year	0.5mV/year

#### Measurement of temperature by Instrument

Pt100 measurement range	-200...+650°C
Pt1000 measurement range	-200...+650°C
Resolution	0.1°C
Accuracy	±0.1°C
Drift after 1 year	0.1°C/year

### TECHNICAL DATA OF PROBES AND MODULES EQUIPPED WITH INSTRUMENT

#### Temperature probes Pt100 sensor using SICRAM module

Model	Type	Application range	Accuracy
TP87	Immersion	-50°C...+200°C	±0.25°C (-50°C...+200°C)
TP472I.0	Immersion	-50°C...+400°C	±0.25°C (-50°C...+350°C) ±0.4°C (+350°C...+400°C)
TP473P.0	Penetration	-50°C...+400°C	±0.25°C (-50°C...+350°C) ±0.4°C (+350°C...+400°C)
TP474C.0	Contact	-50°C...+400°C	±0.3°C (-50°C...+350°C) ±0.4°C (+350°C...+400°C)
TP475A.0	Air	-50°C...+250°C	±0.3°C (-50°C...+250°C)
TP472I.5	Immersion	-50°C...+400°C	±0.3°C (-50°C...+350°C) ±0.4°C (+350°C...+400°C)
TP472I.10	Immersion	-50°C...+400°C	±0.3°C (-50°C...+350°C) ±0.4°C (+350°C...+400°C)

#### Common characteristics

Resolution	0.1°C
Temperature drift @ 20°C	0.003%/°C

#### 4 wire Pt100 and 2 wire Pt1000 Probes

Model	Type	Application range	Accuracy
TP87.100	Pt100 4 wires	-50...+200°C	Class A
TP87.1000	Pt1000 2 wires	-50...+200°C	Class A

#### Common characteristics

Resolution	0.1°C
Temperature drift @ 20°C	0.005%/°C



## ORDER CODES

**HD2305.0KE:** The kit is composed of: instrument HD2305.0, **KP30 electrode**, **TP87 temperature probe**, 4.01pH and 6.86pH buffer solutions, 3 1.5V alkaline batteries, operating manual, case.

**HD2305.0K:** The kit is composed of: instrument HD2305.0, **TP87 temperature probe**, 3 1.5V alkaline batteries, operating manual. **The electrodes must be ordered separately.**

### pH Electrodes

**KP20:** Combined pH electrode, gel-filled, with screw connector S7, body in Epoxy, Ag/AgCl sat. KCl.

**KP30:** Combined pH electrode, cable 1m, gel-filled, body in Epoxy, Ag/AgCl sat. KCl.

**KP60:** Combined pH electrode, 1 diaphragm, gel-filled, with screw connector S7, body in glass, Ag/AgCl sat. KCl.

**KP 61:** Combined pH electrode, 3 diaphragms for milk, cream, etc. gel-filled, with screw connector S7, body in glass, Ag/AgCl sat. KCl.

**KP 62:** Combined pH electrode, 1 diaphragm for pure water, paints, etc. gel-filled, with screw connector S7, body in glass, Ag/AgCl sat. KCl.

**KP 70:** Combined pH electrode, micro diam. 6 x L=70mm, gel-filled, with screw connector S7, body in glass, Ag/AgCl sat. KCl.

**KP 80:** Combined pointed pH electrode, gel-filled, with screw connector S7, body in glass, Ag/AgCl sat. KCl.

**CP:** Extension cable 1.5m with BNC connectors on one side and S7 on the other side for electrode without cable.

**CE:** Screw connector S7 for pH electrode.

**BNC** Female BNC for electrode extension.

### ORP Electrodes

**KP90:** REDOX PLATINUM electrode, with screw connector S7, gel-filled, body in glass.

### pH Buffer solutions

**HD8642:** Buffer solution 4.01pH - 200cc.

**HD8672:** Buffer solution 6.86pH - 200cc.

**HD8692:** Buffer solution 9.18pH - 200cc.

### Redox Buffer solutions

**HDR220:** Redox buffer solution 220mV 0.5 l.

**HDR468:** Redox buffer solution 468mV 0.5 l.

### Temperature probes complete with SICRAM module

**TP87:** Pt100 sensor immersion probe. Probe's stem  $\varnothing$  3mm, length 70mm. Cable length 1 metre.

**TP4721.0:** Pt100 sensor immersion probe. Stem  $\varnothing$  3 mm, length 230 mm. Cable length 2 metres.

**TP473P.0:** Pt100 sensor penetration probe, Stem  $\varnothing$  4mm, length 150 mm. Cable length 2 metres.

**TP474C.0:** Pt100 sensor contact probe. Stem  $\varnothing$  4mm, length 230mm, contact surface  $\varnothing$  5mm. Cable length 2 metres.

**TP475A.0:** Pt100 sensor air probe. Stem  $\varnothing$  4mm, length 230mm. Cable length 2 metres.

**TP4721.5:** Immersion probe, sensor Pt100. Stem  $\varnothing$  6mm, length 500 mm. Cable length 2 metres.

**TP4721.10:** Pt100 sensor immersion probe. Stem  $\varnothing$  6mm, length 1,000mm. Cable length 2 metres.

### Temperature probes without SICRAM module

**TP87.100:** Pt100 sensor immersion probe, Probe's stem  $\varnothing$  3mm, length 70mm. Connection cable 4 wires with connector, length 1 metre.

**TP87.1000:** Pt1000 sensor immersion probe. Probe's stem  $\varnothing$  3mm, length 70mm. Connection cable 2 wires with connector, length 1 metre.

**TP47:** Only connector for probe connection: direct 4 wire Pt100 and 2 wire Pt1000.





HD8642

HD8772

HD8692

