



# CONDUCTIVITY METER - THERMOMETER HD2306.0

The **HD2306.0** is a portable instrument with a large LCD display. It measures conductivity, liquid resistivity, total dissolved solids (TDS), and salinity using combined 4-ring and 2-ring conductivity/temperature probes. Temperature only is measured by Pt100 or Pt1000 immersion, penetration or contact probes.

The probe calibration can be performed automatically in one or more than one of the 147 $\mu$ S, 1413 $\mu$ S, 12880 $\mu$ S or 111800 $\mu$ S/cm conductivity calibration solutions. The temperature probe is fitted with an automatic detection module, with the factory calibration settings already being memorized inside.

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

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

**The instrument has 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

### 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

3 1.5V type AA batteries

Autonomy

200 hours with 1800mAh alkaline batteries

Power absorbed with instrument off

20 $\mu$ A

### Connections

Conductivity input/temperature probes 8-pole male DIN45326 connector

### Measurement of conductivity by Instrument

Resolution with K cell=0.1

0.01 $\mu$ S in range 0.00...19.99 $\mu$ S

Measurement range

(K cell=1) / Resolution

0.0...199.9 $\mu$ S / 0.1 $\mu$ S

200...1999 $\mu$ S / 1 $\mu$ S

2.00...19.99mS / 0.01mS

20.0...199.9mS / 0.1mS

Accuracy (conductivity)

$\pm$ 0.5%  $\pm$ 1digit

## TECHNICAL DATA OF PROBES AND MODULES EQUIPPED WITH INSTRUMENT

### 2 and 4 electrode conductivity probes

ORDER CODES	MEASUREMENT RANGE	DIMENSIONS
SP06T	K=0.7 5 $\mu$ S...200mS/cm 0...90°C 4-electrode cell in Pocan/Platinum	
SPT01G	K=0.1 0.1 $\mu$ S...500 $\mu$ S/cm 0...80°C 2-electrode cell in Glass/Platinum	
SPT1	K=1 10 $\mu$ S...10mS/cm 0...50°C 2-electrode cell in Epoxy/Graphite	
SPT1G	K=1 10 $\mu$ S...10mS/cm 0...80°C 2-electrode cell in Glass/Platinum	
SPT10G	K=10 500 $\mu$ S...200mS/cm 0...80°C 2-electrode cell in Glass/Platinum	

**Measurement of resistivity by Instrument**

Measurement range / Resolution	4.0...199.9Ω / 0.1Ω 200...999Ω / 1Ω 1.00k...19.99kΩ / 0.01kΩ 20.0k...99.9kΩ / 0.1kΩ 100k...999kΩ / 1kΩ 1...10MΩ / 1MΩ
Accuracy (resistivity)	±0.5% ±1digit

**Measurement of total dissolved solids (with coefficient  $\chi/TDS=0.5$ )**

Resolution with K cell=0.1	0.05mg/l in range 0.00...19.99mg/l
Measurement range (K cell=1) / Resolution	0.0...199.9 mg/l / 0.5 mg/l 200...1999 mg/l / 1 mg/l 2.00...19.99 g/l / 0.01 g/l 20.0...199.9 g/l / 0.1 g/l
Accuracy (total dissolved solids)	±0.5% ±1digit

**Measurement of temperature by Instrument**

Pt100 measurement range	-50...+200°C
Pt1000 measurement range	-50...+200°C
Resolution	0.1°C
Accuracy	±0.25°C
Drift after 1 year	0.1°C/year

**Automatic/manual temperature compensation**

Reference temperature	0...100°C with $\alpha_T=0.00...4.00\%/^{\circ}\text{C}$
$\chi/TDS$ conversion factor	20°C or 25°C
Cell constant K (cm <sup>-1</sup> )	0.4...0.8 0.1, 0.7, 1.0 and 10.0

**Standard solutions**

automatically detected (@25°C)

- 147 μS/cm
- 1413 μS/cm
- 12880 μS/cm
- 111800 μS/cm

**4 wire Pt100 and 2 wire Pt1000 Temperature probes**

Model	Type	Working range	Accuracy
TP47.100	Pt100 4 wires	-50...+200°C	Class A
TP47.1000	Pt1000 2 wires	-50...+200°C	Class A
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**

**HD2306.0K:** The kit is composed of: instrument HD2306.0, **conductivity/temperature combined probe SP06T**, standard calibration solution HD8712 (12880µS/cm), 3 1.5V alkaline batteries, operating manual, case. Other conductivity probes must be ordered separately.

**Conductivity probes**

Please see the order codes reported in the probes' technical specifications.

**Standard conductivity calibration solutions**

**HD8747:** Standard calibration solution 0.001mol/l equal to 147µS/cm @25°C, 200cc.

**HD8714:** Standard calibration solution 0.01mol/l equal to 1413µS/cm @25°C, 200cc.

**HD8712:** Standard calibration solution 0.1mol/l equal to 12880µS/cm @25°C, 200cc.

**HD87111:** Standard calibration solution 1mol/l equal to 111800µS/cm @25°C, 200cc.

**Temperature probes**

**TP47.100:** Direct 4 wire Pt100 sensor immersion probe. Probe's stem Ø 3mm, length 230mm. 4 wire connection cable with connector, length 2 metres.

**TP47.1000:** Pt1000 sensor immersion probe. Probe's stem Ø 3mm, length 230mm. 2 wire connection cable with connector, length 2 metres.

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

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

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

