

HD2306.0



HD2306.0 CONDUCTIVITY METER - THERMOMETER

The HD2306.0 is a portable instrument with LCD display. It measures **conductivity, liquid resistivity, and total dissolved solids (TDS)**, using combined 4-ring and 2-ring conductivity/temperature probes. Temperature only is measured by Pt100 or Pt1000 immersion, penetration, contact or air probes. The probe calibration can be performed automatically in one or more than one of the 147 $\mu\text{S}/\text{cm}$, 1413 $\mu\text{S}/\text{cm}$, 12880 $\mu\text{S}/\text{cm}$ or 111800 $\mu\text{S}/\text{cm}$ conductivity calibration solutions.

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

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

Other functions include: the relative measurement REL and the automatic turning off that can also be excluded.

The instrument has IP67 protection degree.



INSTRUMENT TECHNICAL CHARACTERISTICS		
Measurement of conductivity		Resolution
Measurement range Kcell=0.1	0.00...19.99 $\mu\text{S}/\text{cm}$	0.01 $\mu\text{S}/\text{cm}$
Measuring range Kcell=1	0.0...199.9 $\mu\text{S}/\text{cm}$	0.1 $\mu\text{S}/\text{cm}$
	200...1999 $\mu\text{S}/\text{cm}$	1 $\mu\text{S}/\text{cm}$
	2.00...19.99 mS/cm	0.01 mS/cm
Measuring range Kcell=10	20.0...199.9 mS/cm	0.1 mS/cm
	200...1999 mS/cm	1 mS/cm
Accuracy (conductivity)	$\pm 0.5\% \pm 1$ digit	
Measurement of resistivity		
Measuring range Kcell=0.1	till 100 $\text{M}\Omega\text{-cm}$ (*)	
Measuring range Kcell=1	5.0...199.9 $\Omega\text{-cm}$	0.1 $\Omega\text{-cm}$
	200...999 $\Omega\text{-cm}$	1 $\Omega\text{-cm}$
	1.00k...19.99 $\text{k}\Omega\text{-cm}$	0.01 $\text{k}\Omega\text{-cm}$
Measuring range Kcell=10	20.0k...99.9 $\text{k}\Omega\text{-cm}$	0.1 $\text{k}\Omega\text{-cm}$
	100k...999 $\text{k}\Omega\text{-cm}$	1 $\text{k}\Omega\text{-cm}$
	1...10 $\text{M}\Omega\text{-cm}$	1 $\text{M}\Omega\text{-cm}$
Accuracy (resistivity)	$\pm 0.5\% \pm 1$ digit	
Measurement of total dissolved solids (with coefficient $\lambda/\text{TDS}=0.5$)		
Measuring range Kcell=0.1	0.00...19.99 mg/l	0.05 mg/l
Measuring range Kcell=1	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
Measuring range Kcell=10	20.0...99.9 g/l	0.1 g/l
	100...999 g/l	1 g/l
Accuracy (total dissolved solids)	$\pm 0.5\% \pm 1$ digit	
Measurement of temperature by Instrument		
Pt100 measurement range	-50...+200 $^{\circ}\text{C}$	
Pt1000 measurement range	-50...+200 $^{\circ}\text{C}$	
Resolution	0.1 $^{\circ}\text{C}$	
Accuracy	± 0.25 $^{\circ}\text{C}$	
Drift after 1 year	0.1 $^{\circ}\text{C}/\text{year}$	
Temperature compensation automatic/manual	0...100 $^{\circ}\text{C}$ con α_t selezionabile da 0.00 a 4.00%/ $^{\circ}\text{C}$	
Reference temperature	20 $^{\circ}\text{C}$ o 25 $^{\circ}\text{C}$	
λ / TDS Conversion factor	0.4...0.8	
Preset cell constant values (cm^{-1})	K=0.1 - K=0.7 - K=1 - K=10	
Standard solutions automatically detected @25$^{\circ}\text{C}$	147 $\mu\text{S}/\text{cm}$ 1413 $\mu\text{S}/\text{cm}$ 12880 $\mu\text{S}/\text{cm}$ 111800 $\mu\text{S}/\text{cm}$	
Measured quantities	λ , Ω , TDS, $^{\circ}\text{C}$, $^{\circ}\text{F}$	

(*) The resistivity measurement is obtained from the reciprocal of conductivity measurement. Close to the bottom of the scale, the indication of resistivity appears like reported in the table below:

K cell = 0.1 cm^{-1}	
Conductivity ($\mu\text{S}/\text{cm}$)	Resistivity ($\text{M}\Omega\text{-cm}$)
0.01 $\mu\text{S}/\text{cm}$	100 $\text{M}\Omega\text{-cm}$
0.02 $\mu\text{S}/\text{cm}$	50 $\text{M}\Omega\text{-cm}$
0.03 $\mu\text{S}/\text{cm}$	33 $\text{M}\Omega\text{-cm}$
0.04 $\mu\text{S}/\text{cm}$	25 $\text{M}\Omega\text{-cm}$

Power	
Batteries	3 1.5V type AA batteries
Autonomy	200 hours with 1800mAh alkaline batteries
Power absorbed (instrument off)	< 20 μ A
Connections	
Conductivity input/temperature probes	8-pole male DIN45326 connector
Working conditions	
Operating temperature	-5 ... 50 °C
Storage temperature	-25 ... 65 °C
Working relative humidity	0 ... 90% RH without condensation
Protection Degree	IP67
Instrument	
Dimensions (Length x Width x Height)	140 x 88 x 38 mm
Weight	160 g (complete with batteries)
Materials	ABS
Display	2x4½ digits plus symbols Visible area: 52x42 mm

ORDERING CODES

HD2306.0: The kit is supplied with: instrument HD2306.0, 3 1.5V alkaline batteries, operating manual, case.
Conductivity probes, calibration solutions and temperature probes have to be ordered separately.

Accessories

HD8700C: ACCREDIA ISO 17025 certified standard solutions kit: 0.001 mol/l (147 μ S/cm @ 25 °C) + 0.01 mol/l (1413 μ S/cm @ 25 °C) + 0.1 mol/l (12880 μ S/cm @ 25 °C).

Two 50 ml bottles for each type (6 bottles in total).

HD22.2: Laboratory electrode holder composed of base plate with built-in magnetic stirrer, shaft and replaceable electrode holder. Suitable diameter 12mm. It holds up to 5 electrodes at the same time. 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 12mm. It holds up to 5 electrodes at the same time.

Conductivity Probes

SP06T: Conductivity and temperature combined probe. Cell constant 0.7.

SPT01G: Conductivity and temperature combined probe, glass body, 2 platinum wire electrodes, cell constant 0.1.

SPT1G: Conductivity and temperature combined probe, glass body, 2 platinum wire electrodes, cell constant 1.

SPT10G: Conductivity and temperature combined probe, glass body, 2 platinum wire electrodes, cell constant 10.

Temperature probes of the series TP87 and TP47... are suitable.

CONDUCTIVITY PROBES		
ORDER CODE	MEASUREMENT RANGE	DIMENSIONS
SP06T	K=0.7 5 μ S/cm... 100 mS/cm 0...90 °C 4-electrode cell in PBT/Platinum General use No heavy tasks Max pressure 5 bar	
SPT01G	K=0.1 0.1 μ S/cm... 500 μ S/cm 0...80 °C 2-electrode cell in Glass/Platinum Pure water Max pressure 5 bar	
SPT1G	K=1 10 μ S/cm... 10 mS/cm 0...80 °C 2-electrode cell in Glass/Platinum General heavy tasks, average conductivity Max pressure 5 bar	
SPT10G	K=10 500 μ S/cm... 200 mS/cm 0...80 °C 2-electrode cell in Glass/Platinum General heavy tasks, high conductivity Max pressure 5 bar	