

WATERPROOF pH / CONDUCTIVITY / SALINITY METER CPC-401

CPC-401 is designed for accurate measurement of: pH, redox potential, conductivity, resistivity, salinity and temperature. The currently offered model has been modified and is equipped with new functions which make working easier and ensure higher accuracy.

Characteristic features:

- Used for field and laboratory measurements.
- Waterproof housing (IP-66) facilitates work in difficult conditions.
- The meter is equipped with easy-to-read backlit LCD with brightness control.
- "HOLD" function to freeze the result on the display.
- Signalisation of the result stabilisation with the "READY" symbol and a sound.
- Possibility of sending a calibration report to a PC - up to 10 last calibrations.
- Standardised procedures in all measuring functions make working easier.



In the pH measuring function:

- Depending on the chosen electrode, making measurements in clean water, sewage and soil is possible.
- pH electrode calibration in 1 ÷ 5 points.
- Automatic detection of buffer solutions, introduced by the user.
- Automatic correction of the stored pH standard solution value along with the temperature changes for NIST standards, what eliminates the necessity of the temperature adjustment.

- Storing of 3 pH electrodes' characteristics enables quickly replacement – very useful feature during field work.
- Automatic evaluation of the electrode's condition.
- Readout of the pH electrode condition and data - the offset and slope percentage may be checked.
- The pH and conductivity measurement circuits are isolated, so there is no interference.

In the redox (mV) measuring function:

- Precise redox potential measurement (accuracy 0.1mV).
- Possibility of making the relative measurement.

In the conductivity measurement function:

- Wide measuring range enables measurements in ultra pure water, natural water as well as in salines and chemical compounds.
- Resistivity measurement of the tested liquid.
- Salinity measurement in conversion to NaCl or KCl.
- Defining TDS (Total Dissolved Solids) based on conductivity measurement.
- 6 sub-ranges switched automatically.
- Wide range of α coefficient chosen depending on the measured solution.
- In case of measurements of natural water with conductivity from 60 $\mu\text{S}/\text{cm}$ to 1 mS/cm the meter enables using non-linear temperature compensation. The parameters of this type of water are determined in norm EN27888:1999 and concern surface water, deep water and well water. This solution lowers the measurement error.
- The measurement accuracy of ultra pure water with temperature compensation was increased by automatic adjustment of the α coefficient depending on the temperature and kind of trace contaminations.
- Calibration by entering the constant K of the cell or in standard solutions in 1 to 5 points.
- Possibility of changing the reference temperature.
- In set with high accuracy **ECF-1** conductivity cell.
Measuring range: 0 ÷ 400 mS/cm is sufficient for conductivity measurements in majority of liquids of maximal concentration, e.g. aqueous soil extracts and water with grease or oil. Metal electrodes are easy to clean. Plastic housing protects from mechanical damage.
- Possibility of storing K constants of 3 conductivity cells.
- Automatic conversion of conductivity into salinity on the basis of the actual characteristics and not a constant coefficient, what greatly increases accuracy.
- Possibility to measure electric admittance of tree seedlings (checking the vitality of seedlings with a special sensor).

Other features:

- Automatic or manual temperature compensation.
- Internal clock with date.
- Internal datalogger enables storing up to 4000 measurements taken as single or in series with time, temperature and date.
- Non-volatile memory of the stored results and calibration data
- The next calibration date reminder.
- Possibility of connecting with a PC by micro USB connector.
- Change of the date protected by a password

- The data transmission software enables printout of the data in a form protected against any changes.
- Powered by rechargeable batteries or power adapter with USB - micro USB cable.
- The meter meets the GLP requirements.
- 24 months of warranty for the meter.
- Software for data transmission and collection delivered in set.

The set includes: **ECF-1** conductivity cell, **CT2B-121** temperature probe with **Pt-1000B** resistor and **EPS-1** pH electrode for measurements in clear water, which should not be used in other types of liquid. Measurements in liquid with sediment should be made with use of **IJ44A** pH electrode. Its unusual construction ("intermediate junction") protects the real junction (diaphragm) of the electrode against clogging, ensures stable measurements in these types of liquids or semi-liquid mass, in which other electrodes stop working quickly. When properly handled, the electrode's lifetime is longer than the standard electrodes.

TECHNICAL DATA

Function	pH	mV	Conductivity / Salinity	Temperature
Range	-6.000 ÷ 20.000 pH	±1999.9 mV	0 ÷ 1999.9 mS/cm, autorange / NaCl 0 ÷ 296 g/l KCl 0 ÷ 239 g/l	-50.0 ÷ 199.9 °C
Accuracy (± 1 digit)	±0.002 pH*	±0.1 mV*	<19.99 mS/cm: ±0.1%* > 20 mS/cm: ±0.25%* / salinity: ±2%*	±0.1 °C**
Temp. compensation	-5.0 ÷ 110.0 °C	-	-5.0 ÷ 70.0 °C	-
Input impedance	>10 ¹² Ω	>10 ¹² Ω	-	-
α coefficient	-	-	0 ÷ 10.00 %/ °C	-
K constant	-	-	0.010 ÷ 19.999 cm ⁻¹	-
Resistivity	Range: 0.500Ωcm ÷ 200MΩcm, accuracy: ±2% of the measured value			
Temperature sensor	Pt-1000 - standard or accurate			
Power supply	Rechargeable batteries: 2 x AA 1.2V, 5 V / 1000 mA micro USB power adapter			
Weight	220 g			
Dimensions (mm)	L = 149; W = 82; H = 22			

*The accuracy of the meter only.

**The accuracy of the meter only. The total error includes the meters and probe's accuracy.

In the range 0 ÷ 100 °C the acceptable error of the probe with Pt-1000B resistor: ±0.8 °C, with Pt-1000A resistor: ±0.35 °C.

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