pH / CONDUCTIVITY / SALINITY METER CPC-505

A device of high accuracy, which measures: pH, redox potential, conductivity, resistivity, salinity, TDS 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:

- Large easy-to-read backlit LCD facilitates working.
- “HOLD” function enables freezing 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 measurement in pure water, sewage, soil or other samples is possible.
- pH electrode calibration: 1 ÷ 5 points.
- Automatic detection of pH buffers entered by the user.
- Automatic correction of the standard solution value (NIST) with the temperature changes, it is not necessary to adjust the temperature of the solution.
- Possibility of storing 3 electrodes’ characteristics makes their fast changing easy.
- Automatic evaluation of the electrode’s condition.
- Possibility of the electrode's characteristic readout (offset and slope).
- The pH and conductivity measurement circuits are isolated, what eliminates the interference between them.

In the conductivity measuring function:

- Wide measuring range enables measurements in ultra pure water, natural water as well as in high conductivity samples.
- 6 sub-ranges switched automatically.
- Calibration by entering the K constant in range 0.010 ÷ 19.999 cm^{-1} or in standard solutions in 1 ÷ 5 points.
- Possibility of storing K constant of 3 conductivity cells.
- Possibility of changing the reference temperature.
- Wide range of the α coefficient (0.00 ÷ 10.00 % / °C).
- In case of measurements of natural water with conductivity from 60 µS/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 the ultra pure water with temperature compensation was increased by automatic adjustment of the α coefficient depending on the temperature and kind of trace contaminations.
- Automatic conversion of conductivity into salinity in NaCl or KCl on the basis of the actual characteristics and not a constant coefficient, what greatly increases accuracy.
- Defining the TDS (Total Dissolved Solids) based on conductivity measurement.
- 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.

In the redox (mV) measuring function:

- Precise redox potential measurement (accuracy 0.1mV).
- Possibility to measure redox potential relatively to the entered or measured reference potential – Vref.
- Possibility of automatic calculation of the redox potential result in reference to standard hydrogen electrode.

Other features:

- Automatic or manual temperature compensation.
- Internal clock with date.
- Internal datalogger enables storing up to 4000 measurements taken in series or singly with temperature, time and date.
- Storing the readouts and calibration data in non-volatile memory.
- Software for data collection and transmission to a PC delivered in a set.
- Stores and reminds the calibration date.
- USB output.
- Change of the date protected by a password
- The data transmission software enables printout of the data in a form protected against any changes.
- The meter meets the GLP requirements.
- 24 months of warranty for the meter.

The standard set includes: **ECF-1** conductivity cell, **CT2B-121** temperature probe with **Pt-1000B** resistor and **EPS-1** pH electrode for measurements in clean 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 ºC
Accuracy (± 1 digit)	±0.002 pH*	±0.1 mV*	< 19.99 mS/cm ± 0.1%*, > 20 mS/cm: ± 0.25%* Salinity: ± 2.0%*	±0.1 ºC**
Temp. compensation	-5.0 ÷ 110.0 ºC	-	-5.0 ÷ 70.0 ºC	-
Input impedance	$>10^{12}\Omega$	$>10^{12}\Omega$	-	-
α coefficient	-	-	0 ÷ 10.00 %/ ^{0}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	12V / 100 mA power adapter			
Weight	560 g			
Dimensions (mm)	L = 200; W = 180; H = 20/50			

*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 ºC the acceptable error of the probe with Pt-1000B resistor: ±0.8 ^{0}C, with Pt-1000A resistor: ±0.35 ^{0}C.

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