LABORATORY MULTIFUNCTION METER CX-505

CX-505 measures pH, redox potential (mV), conductivity, salinity, TDS, resistivity, dissolved oxygen in % of saturation or mg/l, atmospheric pressure and temperature. The meter includes all functions of pH meters, conductivity meters and oxygen meters of the 505 series. The most recent model has been modified, what results in offering new functions which make working easier, ensure higher accuracy and fulfil more requirements.

Characteristic features:

- "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.
- Equipped with an easy to read backlight LCD display.
- Unification of operating procedures for all functions makes working easier.

In the pH measuring function:

- Calibration of the pH electrode: 1 ÷ 5 points.
- Automatic detection of the buffers’ value entered by the user.
- Automatic correction of the pH standard solution value (NIST) with the temperature changes, there is no necessity to adjust the temperature of the solution.
- Possibility of storing characteristics of 3 pH electrodes enables replacing them quickly.
- Automatic control of the electrode’s condition.
- Possibility of viewing the electrode's parameters (buffer and slope).
- The measuring circuits of pH and conductivity are isolated what enables accurate and error free simultaneous measurements in this same vessel.
- Depending on the kind of applied electrode it may be used for clean water, sewage, soil, pastes, etc.

In the mV and redox 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 the standard hydrogen electrode.

In the conductivity measuring function:

- Full measuring range enables measurements in ultra pure water as well as in very polluted solutions or chemical compounds.
- Resistivity measurement.
- Salinity measurement with calculation to NaCl or KCl.
- Possibility of defining the TDS with entering the TDS coefficient in range 0.2 ÷ 1.0.
- 6 sub-ranges switched automatically.
- Wide range of α coefficient 0 ÷ 10 % / °C chosen depending on the measured solution.
- 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 the 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.
- Possibility to store constants K of 3 cells, which cover whole measuring range.
- Automatic calculation of conductivity into salinity in NaCl or KCl on the basis of the actual characteristics instead of a constant coefficient, what greatly increases accuracy.
- High accuracy conductivity cell **ECF-1** available as additional equipment. Measuring range: 0 ÷ 400 mS/cm is sufficient for conductivity measurements in majority of liquids of maximal concentration, e.g. aqueous soil extracts and sewage. Metal electrodes are easy to clean. Plastic housing protects from mechanical damage.

In the oxygen measuring function:

- Automatic calculation of atmospheric influence on oxygen dissolved concentration in water in mg/l.
- Automatic transfer of the salinity value measured in the conductivity mode to the oxygen measurement mode (in mg/l) with calculation of its influence on the oxygen content value.
- Calibration of the oxygen sensor in 1 or 2 points.
- In case of oxygen measurements it is recommended to buy an accurate, easy in use and maintenance galvanic **COG-1** oxygen sensor.

In the atmospheric pressure measuring function:

- Possibility of continuous observation of atmospheric pressure value on the meter’s screen.

Other features:

- Automatic or manual temperature compensation.
- Internal clock with date.
- Data-logger for 4000 data sets.
- Storing of measurement results with time and date, taken as single or in series with set time interval.
- The results and calibration data are stored in non-volatile memory.
- Possibility of screen brightness control depending on the external conditions.
- Remembers the next calibration date.
- USB output for connecting with a PC.
- 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 power adapter.
- The meter meets the GLP requirements.
- IP64 ingress protection.
- 24 months of warranty for the meter.

The additional equipment should be chosen by the user depending on the predicted parameters which will be measured and type of measured solutions. The accessories are chosen individually. **EPS-1** pH electrode for clean water, **IJ44A** for waste water, pasts, semi solid samples, **EPX-4** for chemical compounds or **EPX-4U** for re-distilled water. For oxygen measurements **COG-1** and for conductivity **ECF-1.**
The standard set includes **CT2B-121** temperature probe.

TECHNICAL DATA

Function	pH	mV	Conductivity / Salinity	O_2 (mg/l)	O_2 (%)	Temperature
Range	- 6.000 ÷ 20.000 pH	±1999.9 mV	0 ÷ 1999.9 mS/cm (autorange) 0 ÷ 239 g/l KCl 0 ÷ 296 g/l NaCl	0 ÷ 60 mg/l	0 ÷ 600% in air: 0 ÷ 100%	-50.00 ÷ 200.00 ºC
Accuracy (± 1 digit)	±0.002 pH*	±0.1 mV*	<19.99 mS/cm: ±0.1%* >20 mS/cm: ±0.25%* Salinity ± 2%*	±0.01 mg/l**	±0.1%**	±0.1 ºC***
Temp. compensation	-5 ÷ 110 ºC	-	-5 ÷ 70 ºC	0 ÷ 40 ºC	-	-
Input impedance	$10^{12}\Omega$	$10^{12}\Omega$	-	-	-	-
α coefficient	-	-	0.00 ÷ 10.00 % / ºC	-	-	-
K constant	-	-	0.010 ÷ 20.000 cm^{-1}	-	-	-
Resistivity	Range: 0.500 Ωcm ÷ 200 MΩcm, accuracy: ±2% of the measured value*					
Atmospheric pressure range	800 ÷ 1100 hPa					
Weight	570 g					
Dimensions (mm)	L=200, W=180, H=20/50					

*The accuracy of the meter only.
**The accuracy of the meter only. With COG-1 or COG-2 oxygen sensor the accuracy at calibration temperature: ±1%.
By the difference ±5 °C accuracy: ± 3%, by the difference ±10°C accuracy: ±5%.
***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 °C, with Pt-1000A resistor: ±0.35 °C.

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