

WATERPROOF MULTIFUNCTION METER CX-401 FOR FIELD AND LAB USE

- This small-size meter includes all functions of pH meters, conductivity meters and oxygen meters of the 401 series.
- The actually offered meter was modified, it resulted in offering new functions which make the work easier, ensure higher accuracy and fulfil more customer's requirements.
- **CX-401** measures: pH, redox potential (mV), conductivity, resistivity, salinity in KCl or NaCl, TDS, dissolved oxygen in % of saturation or in mg/l, atmospheric pressure and temperature.
- "HOLD" function to freeze the result on the display.
- Signalisation of the result stabilisation "READY" with symbol and sound.
- Possibility of sending to a PC a report of calibration - up to 10 last calibrations.
- The meter may be used for the field measurements as well as during accurate laboratory work.
- The meter is equipped with an easy-to-read backlight LCD display with brightness control.
- All functions are distinctive by very high accuracy and repeatability.
- Unification of the operating procedures in all measuring functions makes working trouble-free.
- Low weight and small size make working in the field easier.
- Waterproof housing (IP-66) enables working in difficult conditions.

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In the pH measurement function:

- Depending on the kind of applied electrode it may be used for clean water, sewage, soil, meat, paint etc. measurements etc.
- Calibration of the pH electrode in 1 ÷ 5 points.
- Automatic detection of buffer solutions, their values may be set by the user.
- Automatic correction of the pH sample solution value changes along with the temperature changes for NIST standards.
- Possibility of storing characteristics of 3 pH electrodes enables their quick replacing – very useful feature during field work.
- Automatic control of the electrode's condition.
- Readout of the pH electrode condition and data - the zero shift and slope percentage may be checked.
- The pH and conductivity measurement circuits are isolated one from another.

In the conductivity measurement function:

- Full measuring range enables measurements in ultra pure water, natural water as well as in very salty solutions.
- Newly introduced function is the resistivity measurement of the tested liquid.
- Salinity measurement in NaCl or KCl on the basis of the actual real characteristics.
- Defining the TDS (Total Dissolved Solids) based on conductivity measurement.
- 6 sub-ranges switched automatically.
- 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 is determined in norm EN27888:1999 and concerns surface waters, 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.
- Calibration by entering the constant K of the cell or in standard solutions in 1 to 5 points.
- Wide range of α coefficient 0 ÷ 10 % / °C chosen depending on the measured solution.
- Possibility of changing the reference temperature.
- High accuracy conductivity cell ECF-1 available as additional equipment. Measuring range 0÷500 mS/cm sufficient for measurements in ultra pure water and high salt concentration samples. Metal electrodes are easy to clean and PVC body protects it against mechanical damages.
- Possibility to measure electric admittance of tree seedlings – checking the vitality of seedlings after purchasing a special sensor.

In the mV – redox measurement function:

- Precise Redox potential measurement (accuracy 0.1mV).

In the oxygen measurement function:

- Possibility of measurement of the oxygen dissolved in the liquids and oxygen in the air.
- Measurement of the dissolved oxygen in % or mg/l.
- Atmospheric pressure measurement with automatic calculation of its influence on dissolved oxygen measurement value.
- Automatic transfer of the salinity measured in the conductivity mode to the oxygen measurement mode with calculation of its influence on the oxygen content value.
- Easy in use and maintenance galvanic oxygen sensor.
- 1 or 2 point oxygen sensor calibration.
- Wide measuring range enables measurements in lakes with blooming vegetation.

Other features:

- Automatic or manual temperature compensation.
- Internal clock with date.
- Collecting up to 4000 results in the internal data logger with temperature, time and date, also taking series of measurements possible.
- Non-volatile memory of the stored results and calibration data
- Possibility of connecting with a PC by micro USB connector
- Software for data transmission and collection delivered in set.
- 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.
- The meter was awarded with a golden medal on International Fair EUROLAB.

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Possibility of choosing a meter equipped with BNC connectors for separate electrodes, cells and sensors or with a multi pin connector for multifunction measuring head.

Technical Data

Function	pH	mV	Conductivity, Salinity	O ₂ (mg/l)	O ₂ (%)	Temperature
Range	-2.000 ÷ 16.000 pH	±1999.9 mV	0 ÷ 1999.9 mS/cm 0 ÷ 200 g/l KCl 0 ÷ 250 g/l NaCl	0 ÷ 60 mg/l	0 ÷ 600%	-50.0 ÷ 199.9 °C
Accuracy (± 1 digit)	±0.002 pH	±0.1 mV	±0.1% >20 mS/cm: ±0,25% Salinity ± 2%	±0.1 mg/l	±1%	±0.1 °C*
Temp. Compensation	-5 ÷ 110 °C	-	-5 ÷ 70 °C	0 ÷ 40 °C	0 ÷ 40 °C	-
Input impedance	10 ¹² Ω	10 ¹² Ω	-	-	-	-
Atm. Pressure range	800 ÷ 1100 hPa					
Dimension (mm)	L=149 W=82 H=22					
Power	rechargeable battery 2 x AA 1.2V, USB power adapter 5V/1000 mA					

* Accuracy of the meter. The total error is dependent on the kind of applied probe.