

## WATERPROOF pH / OXYGEN METER CPO-401

**CPO-401** measures pH, redox (mV), atmospheric (air) oxygen and oxygen dissolved in water and sewage in % of saturation or mg/l, temperature and atmospheric pressure. The operating procedures in all measuring functions have been unified, what makes working trouble-free.

### Characteristic features:

- Used for work in the field and laboratory.
- High accuracy and repeatability in all measuring functions.
- "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.
- The meter is equipped with easy-to-read backlit LCD with brightness control.
- Low weight and small size make working in the field easier.
- Waterproof housing (IP-66) enables work in difficult conditions.



### In the pH measuring function:

- Depending on the chosen electrode it may be used for measurements in clear water, sewage or soil.
- pH electrode calibration in 1÷ 5 points.
- Automatic detection of buffer solutions values set 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.
- Possibility to store 3 pH electrodes' characteristics enables replacing them quickly – 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.

#### **In the redox (mV) measuring function:**

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

#### **In the oxygen measuring function:**

- Possibility to measure oxygen dissolved in water in % or mg/l and oxygen saturation in the air in %.
- Galvanic dissolved oxygen sensor, accurate and easy to operate, when properly handled and maintained the sensor may be efficient for several years.
- The meter is equipped with a function of automatic atmospheric pressure measurement with calculation of its influence on the oxygen measurement readout in mg/l.
- 1 or 2 point calibration of the oxygen sensor.
- Possibility of introducing the salinity value, measured with conductivity meter, with automatic calculation of its influence on the result of oxygen content measurement in water or sewage in mg/l.
- Wide measuring range enables measurements in lakes with blooming vegetation.

If oxygen measurements in mg/l are preferred, it's advisable to buy the **CCO-401** meter, which automatically counts the influence of salinity measured in the conductivity mode on the oxygen measurement result, or **CX-401**, which additionally measures pH.

#### **Other features:**

- Automatic or manual temperature compensation.
- Clock with date.
- Internal datalogger enables storing up to 4000 results, taken in series or singly with temperature, time and date.
- The results and characteristics are stored in non-volatile memory.
- Remembers and signals the next calibration date.
- 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.
- Small size and weight.
- Waterproof housing.

The standard set includes: **COG-1** oxygen sensor, **CT2B-121** temperature sensor 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, which enables measurements in various samples of both pure and contaminated liquids and semi-solids. 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 and maintained the electrode may be efficient for several years.

## TECHNICAL DATA

Function	pH	mV / redox	Oxygen water %	Oxygen water mg/l	Oxygen air %	Temperature
<b>Range</b>	-6.000 ÷ 20.000 pH	±1999.9 mV	0 ÷ 600%	0 ÷ 60 mg/l	0 ÷ 100 %	-50.0 ÷ 199.9 °C
<b>Accuracy (± 1 digit)</b>	±0.002 pH*	±0.1 mV*	±0.1%**	±0.01 mg/l**	±0.1 %*	±0.1 °C***
<b>Temp. compensation</b>	-5 ÷ 110 °C	-	-	0 ÷ 40 °C	-	-
<b>Input impedance</b>	>10 <sup>12</sup> Ω	>10 <sup>12</sup> Ω	-	-	-	-
<b>Atmosph. pressure</b>	800 ÷ 1100 hPa, accuracy: ± 2 hPa					
<b>Temperature sensor</b>	Pt-1000 standard or accurate					
<b>Power supply</b>	2 x AA 1.2V rechargeable batteries, 5 V / 1000 mA USB power adapter					
<b>Weight</b>	220 g					
<b>Dimensions (mm)</b>	L=149 W=82 H=22					

\* 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 °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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