

LABORATORY OXYGEN METER CO-502, pH / OXYGEN METER CPO-502, CONDUCTIVITY / SALINITY / OXYGEN METER CCO-502

All the models measure: concentration of oxygen dissolved in water and sewage in % or mg/l, oxygen saturation in air, temperature and atmospheric pressure. The most recent model has been improved with more possibilities providing easier operation.

The meters are equipped with a built-in thermal printer (60 mm).

CCO-502 model additionally measures conductivity and salinity.

CPO-502 model additionally measures pH and redox potential.

Standardised operating procedures for all functions make working easier.

Characteristic features

- Easy-to-read backlit LCD facilitates working.
- Standardised procedures in all measuring functions make working easier.
- "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.

Oxygen measuring function

- Galvanic oxygen sensor, accurate and easy to operate.
- When properly maintained, the sensor may be efficient for several years.
- Possibility to measure oxygen dissolved in water in % or mg/l and oxygen saturation in air in %.
- Calibration of the oxygen sensor in 1 or 2 points.
- Automatic or manual temperature compensation.



All the models have the same housing, they differ in number of buttons and colours.

- Each model equipped with a function of automatic atmospheric pressure measurement with calculation of its influence on the oxygen measurement readout in mg/l.
- In **CO-502** and **CPO-502** models possibility of introducing the salinity value with automatic calculation of its influence on the result of oxygen measurement.
- **CCO-502** model automatically calculates the influence of salinity measured in the conductivity mode on the oxygen measurement result.

Conductivity measuring function in CCO-502

- Full conductivity measuring range enables measurements in ultra pure water as well as saline.
- 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 are determined by the 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 has been improved by automatic adjustment of the α coefficient depending on the kind of trace contaminations and temperature.
- Calibration by entering the K constant in range $0.01 \div 19.999 \text{ cm}^{-1}$ or in standard solutions in 1 – 5 points.
- Wide range of α coefficient chosen depending on a kind of measured liquid.
- Possibility of changing the reference temperature.
- Converting the conductivity into salinity in NaCl and KCl proceeds according to the real characteristics, what greatly increases accuracy.
- Possibility of determining the TDS by entering the TDS coefficient (0.2 to 1.0).
- Resistivity measurement.
- In set with high accuracy conductivity cell **ECF-1**. Measuring range $0 \div 400 \text{ mS}/\text{cm}$ is sufficient for measurements in ultra pure water and high salt concentration samples. Metal electrodes are easy to clean.

pH measuring function in CPO-502

- The pH and conductivity measurement circuits are isolated.
- pH calibration in $1 \div 5$ points.
- Automatic detection of the buffer solutions' values entered by the user.
- Automatic correction of the standard solution's pH value changes along with the temperature changes for NIST standards, what eliminates the necessity of the standards' temperature adjustment.
- Storing of 3 pH electrodes characteristics enables to replace them quickly.
- Automatic evaluation of the electrode's condition.
- Readout of the electrode's characteristic (slope, offset).
- Depending on the kind of applied pH electrode it may be used for clear water, sewage, soil measurements etc.

Redox potential (mV) measuring function in CPO-502

- Precise redox potential measurement (accuracy 0.1mV).
- Relative measurement function.

Other features

- Automatic or manual temperature compensation.
- Stores the next calibration date.
- Internal clock with date.
- Internal datalogger enables storing up to 4000 measurements taken as single or in series with time, temperature and date.
- The results and calibration data are stored in non-volatile memory.
- 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.
- The meters meet the GLP requirements.
- 24 months of warranty for the meter.

In comparison with the **CC-505** meter, the **CC-502** model is equipped with a smaller display.

The standard set includes **CT2B-121** temperature sensor with **Pt-1000B** resistor and **COG-1** oxygen sensor. Other accessories depend on the chosen model of the meter.

Technical Data

Function	O ₂ (%)	O ₂ (mg/l)	Temperature	pH (CPO-505)	mV (CPO-505)	Conductivity / Salinity (CCO-505)
Range	0 ÷ 600%, 0 ÷ 100% in the air	0 ÷ 60 mg/l	-50.0 ÷ 199.9°C	- 6.000 ÷ 20.000 pH	1999.9mV	0 ÷ 1999.9 mS/cm / 0 ÷ 239 g/l KCl, 0 ÷ 296 g/l NaCl
Accuracy (± 1 digit)	±0.1%**	±0.01 mg/l**	±0.1 °C***	±0.002 pH*	±0.1 mV*	<19.99 mS/cm: ±0.1%* >20 mS/cm: ±0.25%* salinity: 2%*
Temp. compensation	-	0 ÷ 40 °C	-	-5 ÷ 110 °C	-	-5 ÷ 70 °C
Input impedance	-	-	-	10 ¹² Ω	10 ¹² Ω	-
α coefficient	-	-	-	-	-	0.00 ÷ 10.00% / °C
Atm.press.	800 ÷ 1100 hPa, accuracy: ±2 hPa					
Resistivity	Range: 0.500 Ωcm ÷ 200 MΩcm, accuracy: ±2% of the measured value					
Printer	thermal, width = 60 mm					
Power supply	6 V / 2 A power adapter					
Weight	660 g (CPO-505)					
Dimensions (mm)	L = 200, W = 180, H = 20/50					
PC connection	USB					

*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.
cpc-502

ELMETRON® Sp. j.

41-814 Zabrze . Witosza 10 POLAND

tel. +48 32 2738106

www.elmetron.pl e-mail: info@elmetron.com.pl