

## MULTIFUNCTION METER CX-701

The multifunction meter CX-701 belongs to the newest generation of measuring equipment and enables very accurate measurements of:

1. pH,
2. redox potential - mV
3. ion concentration
4. conductivity
5. salinity calculated to NaCl, KCl or TDS
6. dissolved oxygen in % of saturation or mg/l
7. atmospheric pressure in hPa
8. temperature of air or liquids in °C, °F and K
9. enables semi-automatic titration

- All operations are done with use of buttons generated on the 10" colour graphic backlit touch screen.
- **CX-701** may be used in laboratory as well as in the field after placing it in a special case with rechargeable batteries (optional).
- The rechargeable batteries allow for continuous work in the field for 8 – 15 hours, depending on the kind of chosen measuring functions and settings of the screen etc.



- Possibility of simultaneous measurements and observing results of up to 5 functions displayed in numerical form, function chosen as the main one may also be displayed in graphical form.
- The pH, ions, mV and temperature inputs are isolated from the dissolved oxygen and conductivity inputs.
- Additional information is given as pop up windows and voice messages.
- Storing the date of next calibration.

### In the pH measurement mode:

- pH electrode calibration in 1 to 5 points;
- Automatic detection of pH buffers and standards, their value may be set by the user;
- In case of using standard solutions (NIST norm) automatic introduction of temperature correction on the value of those standards what makes calibration much easier;
- Storing of 3 pH electrodes' characteristics enables to replace them quickly – very useful feature during field work.
- Automatic control of the electrode's condition.
- Depending on the chosen pH electrode kind possible measurements in pure water, sewage, pastes, etc.
- Enables readout of the pH electrode parameters – buffer and slope

**In the conductivity measurement mode:**

- Full measuring range enables making measurements in ultra pure water as well as in very salty solutions.
- 6 ranges switched automatically.
- Works with conductivity cells equipped with platinum electrodes.
- Calibration by entering the constant K in range  $0.01 \div 19.999 \text{ cm}^{-1}$  or in buffer solution.
- Possibility of storing constants K of 3 cells which cover the whole measuring range.
- Possibility of changing the reference temperature.
- Automatic calculation conductivity into salinity in NaCl or KCl on the basis of the actual characteristics, what greatly increases the accuracy of conversion.
- Possibility of defining the TDS with use of conductivity measurement by entering the TDS coefficient in range 0.2-1.0.
- Possibility to measure electric admittance of tree seedlings – checking the vitality of seedlings with a special sensor.

**In the Ions measurement mode:**

- The measuring range of the meter enables co-operation with all ion selective electrodes (ISE) chosen depending on the measured ion, equipped with BNC connector.
- Molar weight of measured ion is automatically introduced.
- Automatic conversion of the units – e.g. M/l to mg/l or pX without the necessity of manual conversion.
- Possibility of entering freely chosen standard solution value.
- Possibility of simultaneous measurement of Ions and pH.

**In the dissolved oxygen mode:**

- Air pressure measurement with automatic calculation of its influence on the oxygen measurement.
- Automatic transfer of the salinity value measured in conductivity mode to the oxygen measurement mode and automatic calculation of its influence on the result in mg/l oxygen content.
- Easy in use and maintenance galvanic dissolved oxygen sensor.
- Calibration of the oxygen sensor in 1 or 2 points.

**In the redox potential (mV) measurement mode:**

- Precise redox potential measurement (accuracy 0.1 mV).
- Possibility of the mV measurement relatively to the entered or measured reference (Vref) value.

**In the titration mode:**

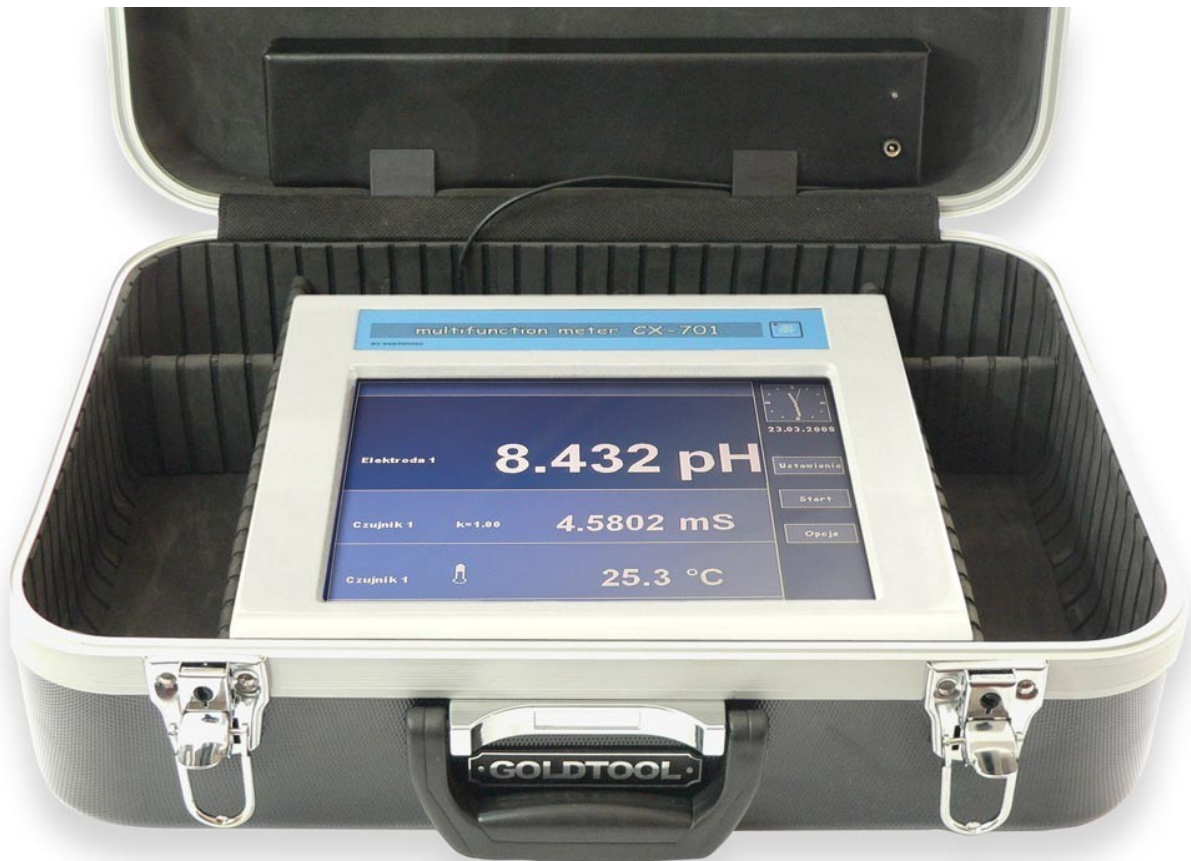
- Potentiometric, calorimetric and conductometric titration with automatic determining of the final points.
- The only required operating procedure is entering the volume of the added titrator.
- The results of titration are collected as series of measurements with the significant values marked.

**Other features:**

- The results are stored on the 2GB SD memory card, the number of collected data is practically unlimited.
- Two ways of co-operation with a PC:
  - by connecting the SD card with a PC and transferring the data included on the card,
  - by connecting the meter with a PC with use of USB cable, what enables transfer of the current readouts or the series collected in the meter's memory to the PC.
- The results of all actually measured functions are stored simultaneously.
- Storing of measurement's results with time and date, taken as single or in series with set time interval.
- Automatic or manual temperature compensation.
- The charts are scaled both during the continuous observation and during the analysis of the collected results, zoom function.
- The results and calibration data are stored in non-volatile memory.
- Internal clock with date.
- Powered with 15V power adapter.
- The meter meets the GLP requirements.
- 24 months of warranty.
- CX-701 was awarded with 2 golden medals on EUROLAB 2009 international fairs.

| Measurement     | pH / mV                        | Ion  | Redox              | O <sub>2</sub>       | Conductivity   | Atm. pressure. | Temperature                            |
|-----------------|--------------------------------|--|--------------------|----------------------|--|----------------|--|
| Ranges          | -3.000 ÷ 20.000 pH<br>±2000 mV | -3 ÷ 20 pX<br>0 ÷ 100 M/l<br>0 ÷ 1000 g/l<br>0 ÷ 1 000 000 ppm | ±1999 mV           | 600.0%<br>60.00 mg/l | 0 ÷ 1.99 S/cm<br>0 ÷ 200 g/l KCl<br>0 ÷ 250 g/l NaCl | 800 ÷ 1100 HPa | -200÷200 °C<br>-328÷392 °F<br>73÷473 K |
| Accuracy        | ±0.001 pH<br>±0.1mV            | ±0.001 pX<br>± 0.25%   | ±0.1 mV            | ±1%                  | ±0.1 %<br>> 20 m/cm ±0.25 %                          | ± 2 HPa        | ±0.2 °C*                               |
| Temp. Compens.  | -5 ÷ 110 °C                    | -5 ÷ 110 °C  | —                  | 0 ÷ 40 °C            | -5 ÷ 70 °C   | -              | —                                      |
| Input impedance | 10 <sup>12</sup> Ω             | 10 <sup>12</sup> Ω   | 10 <sup>12</sup> Ω | —                    | —  | -              | —                                      |
| Constant K      | —                              | —  | —                  | —                    | 0.1÷ 19. 999   | -              | —                                      |
| α coefficient   | —                              | —  | —                  | —                    | 0 ÷ 10 % / °C  | -              | —                                      |
| Size / Weight   | 280 x 262 x 94/38 / 1,7 kg,    |  |                    |                      |  |                |  |

\* Accuracy of the meter, total accuracy is a sum of the meter's error and the sensor (probe) error.



Case for CX-701 for field work

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