

# Многофункциональные счетчики СХ-804

## Технические характеристики

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# MULTIFUNCTION CONTROLLER CX-804

**CX-804** multifunction controller is one of the devices of new generation representing wide range of features and applications. It enables simultaneous measurement in 1 to 4 measurement points. The readouts are displayed simultaneously on graphic display. The information about the relays' status is also given.



High measurement accuracy and stability have been provided.

Thanks to the modern electronic components the controller's memory has become fully independent from the power supply.

Depending on the needs the controller may be prepared and programmed for measurements of the chosen functions.

It is possible to choose up to 4 measurement functions and make simultaneous measurements with use of suitable types of electrodes and sensors.

Depending on needs, the device is able to measure pH, redox, conductivity, oxygen dissolved in water, relative air humidity and temperature. It is possible to choose up to 4 measurement functions and make simultaneous measurements with use of suitable types of electrodes and sensors. The device may be also used for measurement in one function, but in 4 points (e.g. pH).

The controller is a stationary device in housing resistant to humidity (IP-65).

Easy and intuitive in use.

**CX-804** cooperates with several kinds of immersible or flow-through heads. The choice of suitable head, sensors and electrodes has to be agreed individually with the user, because it depends on the chosen type of measurement function, working conditions and parameters of the measured liquid.

The signal from the electrodes or sensors is amplified in pre-amplifier placed in the head or next to it in case of flow heads.

After converting the signal from electrodes and sensors, the device calculates it to the measured function units and shows the readout on the display. At the same time, the measurement signal is compared with set alarm threshold (upper or lower) and in case of exceeding it, the relay in appropriate channel is switched. The device enables entering the threshold value of the measured function separately for each channel and sending the information about measurements in all channels to the computer.

Each channel is additionally equipped with isolated current loop outputs at 0 - 20 or 4 - 20 mA.

Isolated digital outputs: RS-485, MODBUS (ASCII and RTU).

The device is equipped with two relays controlling valves for each channel.

Contrary to the controllers of 801 series, **CX-804** does not have PID controlling option.

It is possible to calibrate the meter without the need of disconnecting the outputs.

The controller is powered with standard 230V voltage, which is galvanically isolated from the input clamps. It is possible to use different power supply voltage: 110/230/24V AC, 12 – 24V DC (optionally).

The device is easy to operate, has an English menu. It is equipped with a collective optical signalisation of working correctness and the progress of the controlling process.

The device is equipped with real time clock with date and low power supply level signalisation system.

It is possible to connect to the remote panel (keyboard with display), which enables to control the device from up to 1 km distance.

24 months of warranty, quick warranty and after-warranty service.

CE Certificate.

## TECHNICAL DATA

### pH measurement

|                                |                  |
|--------------------------------|------------------|
| Measurement value              | pH, temperature  |
| pH range                       | 0 ÷ 14 pH        |
| Resolution                     | 0.01 pH          |
| Accuracy*                      | 0.02 pH ±1 digit |
| Input impedance                | $>10^{12}\Omega$ |
| Temperature measuring range**  | -50 ÷ 200 °C     |
| Temperature compensation       | automatic        |
| Temperature compensation range | -5 ÷ 130 °C      |
| Sensor calibration             | 1,2 or 3 point   |

### Redox potential measurement

|                               |                  |
|-------------------------------|------------------|
| Measurement value             | mV, temperature  |
| pH range                      | -2000 ÷ 2000 mV  |
| Resolution                    | 1 mV             |
| Accuracy*                     | ± 1 mV ±1 digit  |
| Input impedance               | $>10^{12}\Omega$ |
| Temperature measuring range** | -50 ÷ 200 °C     |

**Conductivity measurement**

|                                       |                                                                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Measurement value</b>              | conductivity, temperature                                                                                                            |
| <b>Range</b>                          | version for measurements in clean water: 0 ÷ 9999 µS/cm<br>version for measurements in sewage, waste water, etc.:<br>0 ÷ 999.9 mS/cm |
| <b>Resolution</b>                     | depending on the range 0.1 µS/cm to 0.1 mS/cm                                                                                        |
| <b>Accuracy*</b>                      | 0,5 % ± 1 digit                                                                                                                      |
| <b>Temperature compensation</b>       | automatic                                                                                                                            |
| <b>Temperature compensation range</b> | -5 ÷ 70 °C                                                                                                                           |
| <b>Temperature measuring range**</b>  | -50 ÷ 200 °C                                                                                                                         |
| <b>K constant range</b>               | 0.005 ÷ 20.000 cm <sup>-1</sup>                                                                                                      |
| <b>α coefficient range</b>            | 0.00 ÷ 10.00 %/°C                                                                                                                    |
| <b>Sensor calibration</b>             | 1 point by entering the constant K of the cell or with use of the standard solution.                                                 |

**Oxygen dissolved in water**

|                                       |                                  |
|---------------------------------------|----------------------------------|
| <b>Measurement value</b>              | O <sub>2</sub> , temperature     |
| <b>Oxygen O<sub>2</sub> %</b>         | 0 ÷ 600 %                        |
| <b>Oxygen O<sub>2</sub> mg/l</b>      | 0 ÷ 60 mg/l                      |
| <b>Resolution</b>                     | 0.1 % or 0.01 mg/l               |
| <b>Accuracy***</b>                    | ±0.2 %, ± 0.02 ±1 digit          |
| <b>Temperature range**</b>            | -50 ÷ 200 °C                     |
| <b>Temperature compensation</b>       | automatic                        |
| <b>Temperature compensation range</b> | 0 ÷ 40 °C (for mg/l measurement) |
| <b>Sensor calibration</b>             | 1 or 2 point                     |

**Relative air humidity (RH)**

|                                       |                                                                                |
|---------------------------------------|--------------------------------------------------------------------------------|
| <b>Measurement value</b>              | RH, temperature                                                                |
| <b>Range %</b>                        | 0 ÷ 100% / -40 ÷ 70 °C                                                         |
| <b>Temperature range</b>              | -40 ÷ 70 °C                                                                    |
| <b>Temperature compensation range</b> | -20 ÷ 70 °C                                                                    |
| <b>Resolution</b>                     | 0.1%                                                                           |
| <b>Accuracy</b>                       | in the range 10 ÷ 90% RH: ±2%, beyond this range: ±4%: /<br>temperature: ±1 °C |

**Temperature (as separate function)**

|                          |              |
|--------------------------|--------------|
| <b>Measurement value</b> | temperature  |
| <b>Range</b>             | -70 ÷ 300 °C |
| <b>Resolution</b>        | 0,1 °C       |
| <b>Accuracy****</b>      | ±2 °C        |

#### Other data

|                                                                 |                                                               |
|-----------------------------------------------------------------|---------------------------------------------------------------|
| <b>Temperature accuracy*</b>                                    | ±0.2 °C                                                       |
| <b>The relays' parameters</b>                                   | 2A/250VAC/30VDC                                               |
| <b>Measurement input</b>                                        | isolated                                                      |
| <b>Datalogger output</b>                                        | isolated, 0 ÷ 20 mA or 4 ÷ 20 mA                              |
| <b>Temperature datalogger output</b>                            | isolated, 0 ÷ 20 mA or 4 ÷ 20 mA                              |
| <b>RS485 output</b>                                             | isolated                                                      |
| <b>Maximal RS485 connection length</b>                          | 1000 m                                                        |
| <b>Maximal cable length between preamplifier and controller</b> | 200 m                                                         |
| <b>Maximal distance between sensor and preamplifier</b>         | 10 m                                                          |
| <b>Power supply</b>                                             | 240 V 50 Hz, for a special order: 170VAC÷250VAC, 24VDC/24 VAC |
| <b>Isolation class</b>                                          | PN-83/T-06500                                                 |
| <b>Radio-electric interference</b>                              | N level                                                       |
| <b>Dimensions (L x W x H)</b>                                   | 215 x 215 x 95 mm                                             |
| <b>Weight of controller / preamplifier</b>                      | 1350 g / 150g                                                 |
| <b>Ambient temperature</b>                                      | -25 ÷ 40 °C                                                   |
| <b>Atmospheric humidity / pressure</b>                          | Max. 80% / 80 ÷ 110 kPa                                       |
| <b>Atmospheric aggressivity level</b>                           | N/2/AG-U/C                                                    |

\* The accuracy of the meter only.

\*\* Temperature measuring range limited to the temperature operating range of the head or electrode.

\*\*\* 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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