





# Kontrol 100

The Kontrol 100 Series are advanced controllers designed for Single-Parameter, High-precision and greater measurement accuracy.
The Kontrol 100 family is ideal for professional water-treatment applications that require accurate measurement of critical parameters. The devices feature a reinforced galvanic isolation and guarantee high-precision measurement.

## TECHNICAL CHARACTERISTICS

**Graphic Display and Keypad**
The instruments of the Kontrol 100 family have a large 128 x 128-pixel high-contrast backlit graphic display that changes colour depending on the working condition of the device, to signal alarm situations or other operating conditions. Also graphic icons to show analog and digital output status, washing cycle, alarms with red backlight.
Simultaneous flashing values for the measurements and temperature readings.
Five control keys for instrument calibration procedure and setup configuration.

**Enclosure Box and Power Supply**
Wall mounting ABS plastic material IP65 Full box protection (144x144x122 mm)
Panel mounting ABS IP65 Front panel only (96x96x42 mm) and Rear IP20 protection
Universal Power Supply 100÷240 Vac 50/60 Hz
Low Power Supply 12÷32 Vdc or 24 Vac

**Current Outputs**
4÷20mA output current through two independent programmable Output measures with Proportional routine regulation.

**PID regulation**
K100 series controller provides a PID regulation to allow the user to programme the outputs and mainly used in a wide range of applications for industrial process control.

**Relay Outputs**
Two independent relays, two set points, alarm remote and probe washing setting by software.
On/Off, Timed and Proportional (PWM) routine function setting.
**Solid State Relay (SSR)**
Two Frequency output signal, two independent set points.

**Snail Lock fixing system**
Quick connection for panel mounting version.

**Communication features and QR codes**
Serial Output RS485 MODBUS RTU/ASCII communication protocol allows the device to be connected to the local network of an existing system and to the local SEKO hub via SekoWeb portal. A QR code returns the current configuration of the device on a smartphone, including advanced settings and calibration values.

**APPLICATIONS**

- Waste water
- Diary
- CIP
- Fish farming
- Drinking water
- Cooling towers
- Boilers
- Reverse osmosis
- Galvanic process
- Irrigation



Your Choice,
Our Commitment

Technical data can be changed without notice.
Kontrol-100-Series_R4

## PRODUCTS KEY

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **K** | **Kontrol** | | | | | | |
| | **100** | **Series** | | | | | |
| | | **PR** | pH/ORP Probe | | | | |
| | | **FX** | Flow Rate Probe | | | | |
| | | **CD** | Electrical Conducibility (Conductivity) Probe | | | | |
| | | **ID** | Electrical Conducibility (Inductive) Probe | | | | |
| | | **MP** | **M**odular **P**arameter …CL/PAA/BR/H2O2/O3/ …Custom unit | | | | |
| | | | **P** | Box Type 96x96 | | | |
| | | | **W** | Box Type 144x144 | | | |
| | | | | **M** | 100-240 Vac | | |
| | | | | **N** | 12-32 Vdc, 24 Vac | | |
| | | | | | **0** | None (Optional) | |
| | | | | | **A** | RS485 MODBUS | |
| | | | | | | **000** | Free |
| **K** | **100** | **PR** | **P** | **M** | **0** | **000** | |

## MEASURE RANGE

| Measure | Description | Accuracy |
|---|---|---|
| **pH** | 0 ÷ 14,00 pH | ± 0,01 pH |
| **ORP** | ± 2.000 mV | ± 1 mV |
| **Conductivity** | 0,054 ÷ 200.000 µS | ± 2 % |
| **Flow Rate** | 0 ÷ 99.999 liters/Sec | ± 0, 5 Hz |
| **Chlorine** | 0 ÷ 200 ppm | ± 0,01 ppm |
| **PAA** | 0 ÷ 99.000 ppm | ± 0,01 ppm |
| **H2O2** | 0 ÷ 99.000 ppm | ± 0,01 ppm |
| **Ozone** | 0 ÷ 99.000 ppm | ± 0,01 ppm |
| **Bromine** | 0 ÷ 10 ppm | ± 0,01 ppm |
| **Turbidity** | 0 ÷ 4.000 NTU | ± 2 % |
| **Oxygen** | 0 ÷ 20 ppm | ± 2 % |
| **Temperature** | -50 ÷ 100 °C (-32÷212 °F ±1,8°F) | ± 0,2 °C |

## TECHNICAL SPECIFICATIONS FOR THE pH MEASURE

| | |
|---|---|
| Measure Range | 0.00 ÷ 14.00 pH |
| Resolution | ± 0.01 pH |
| Accuracy | 0.01 pH |

## TECHNICAL SPECIFICATIONS FOR THE ORP MEASURE

| | |
|---|---|
| Measure Range | ± 2.000 mV |
| Resolution | ± 1 mV |
| Accuracy | ± 1 mV |

## TECHNICAL SPECIFICATIONS FOR THE FLOWRATE MEASURE

| | |
|---|---|
| Sensor | Hall, Reed or Push-Pull Sensor |
| Measure Range | 0,5 Hz at 1.500 Hz |
| Accuracy | ± 0.5 Hz |

## TECHNICAL SPECIFICATIONS FOR THE mA MEASURE

| | |
|---|---|
| Sensor | Current Sensor with 2 or 3 wires |
| Measure Range | 0-20 mA or 4-20 mA |
| Resolution | ±1 µA |
| Accuracy | ± 0,01 ppm |

## TECHNICAL SPECIFICATIONS FOR THE CONDUCTIVITY MEASURE

| Probes | Range |
|---|---|
| Range with C 0.01 cm-1 / K 100 sensor | 0.005 µS/cm to 200 µS/cm (5 KΩ x cm to 200 MΩ x cm) |
| Range with C 0.10 cm-1 / K 10 sensor | 0.05 µS/cm to 2 mS/cm (500 Ω x cm to 20 MΩ x cm) |
| Range with C 0.20 cm-1 / K 5 sensor | 0.1 µS/cm to 4 mS/cm (250 Ω x cm to 10 MΩ x cm) |
| Range with C 1.00 cm-1 / K 1 sensor | 0.5 µS/cm to 20 mS/cm (50 Ω x cm to 2 MΩ x cm) |
| Range with C 10.0 cm-1 / K 0.1 sensor | 5 µS/cm to 200 mS/cm (5 Ω x cm to 200 KΩ x cm) |
| Range with C 20.0 cm-1 / K 0.05 sensor | 10 µS/cm to 400 mS/cm (2,5 Ω x cm to 100 KΩ x cm) |
| Resolution Cond/Res | 0.0001 / 0.001 / 0.01 / 0.1 / 1 (adjustable from menu) |
| Accuracy Cond/Res | ± 2% on the measuring point |
| Maximum distance of the sensor | up to 50 m (up to 164 ft) |
| TDS Range | 0.3 to 2.0 ppm/µS |

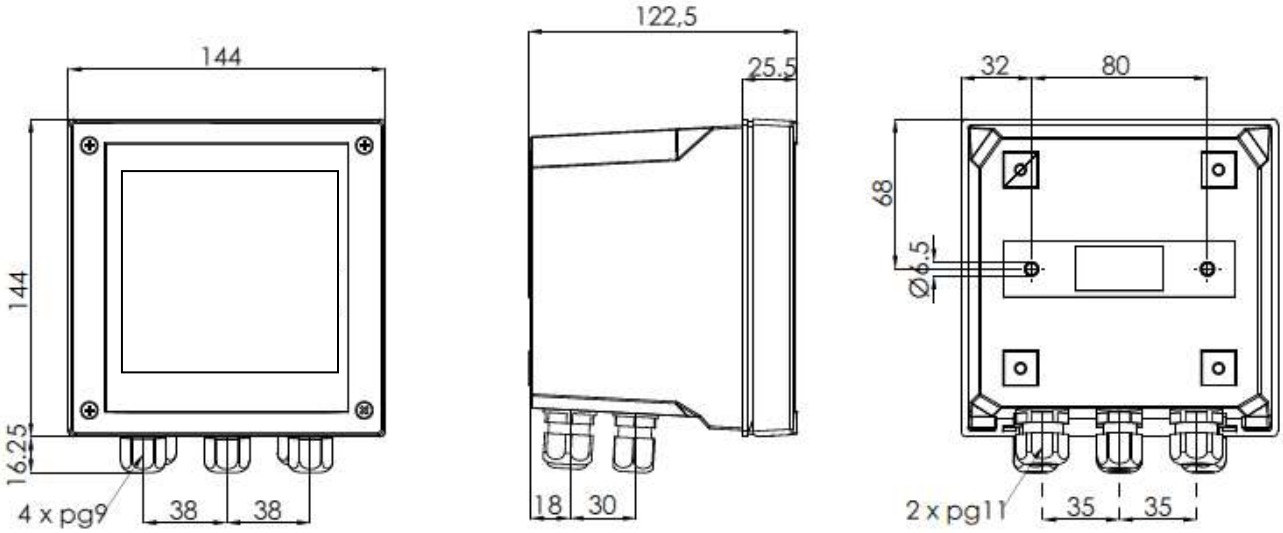
## TECHNICAL SPECIFICATIONS FOR THE TEMPERATURE MEASURE

| | |
|---|---|
| Sensor | PT100/PT1000 |
| Measure Range | -50 ÷ 150°C |
| Resolution | ± 0.1 °C (°F) |
| Accuracy | PT100: ±0.5°C (±0.9°F) – PT1000: ±0.2°C (±0.4°F) |

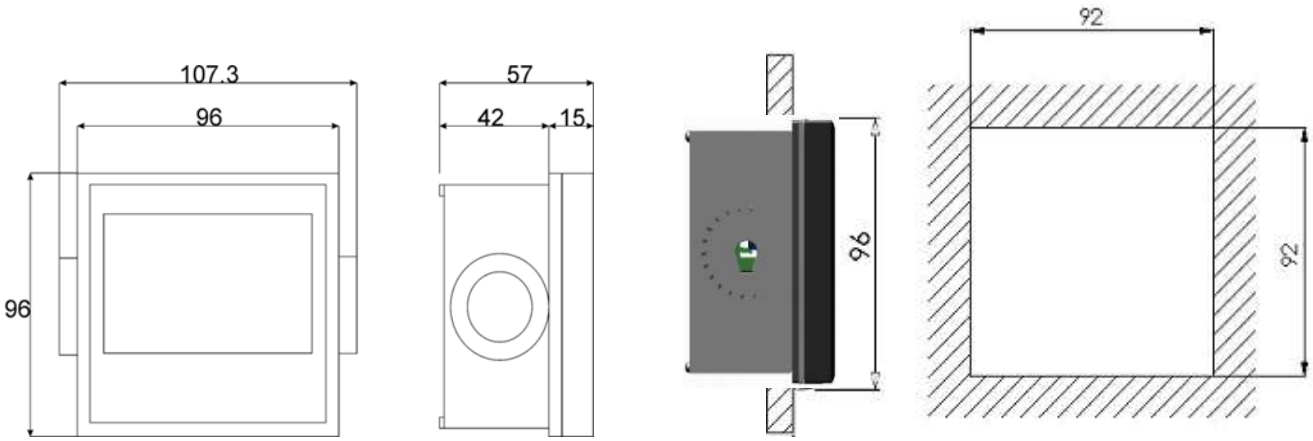
## OPERATING SPECIFICATIONS

| | |
|---|---|
| **Power Supply** | 100÷240 Vac 50-60 Hz or 12÷32 Vdc / 24Vac |
| **Power Consumption** | < 5VA (@100÷240Vac) and <3.5W (@12÷32Vdc / 24 Vac |
| **Relay Outputs:** | mechanical 250 VAC/5A, 30 VCC/3 A |
| **Alarms:** | |
| **Function** | Delay, Faults and Min/Max |
| **Delay time** | 1÷3600 sec |
| **Threshold disabling** | Enable / Disable |
| **Relay function** | Closed / Open |
| **Permanence Interval** | 0.00 ÷ 14.00 pH / -2000 ÷ +2000 mV |
| **Permanence Time** | 1÷3600sec<br>For Alarm and Wash it is used the relay N. 2 with normally open contact, with maximum switching current of 5 Ampere at 230Vac. Maximum switching power on resistive load 230VA. |
| **SSR (Solid State Relay)** | 2-SPST 400 VAC, max 125 mA, Bidirectional, NPN, PNP<br>Frequency Output: 0 to 400 pulse/min<br>Pulse-On Duration: 100 msec |
| **Serial Port RS485:** | Serial port RS485 with Modbus RTU/ASCII Protocol. |
| **HOLD Digital Input:** | |
| **Input Voltage** | 12÷32 Vdc |
| **Absorption** | 10mA max |
| **Analog Outputs:** | |
| **Outputs** | N.2 output 4-20mA Programmable |
| **Maximum Load** | 800 Ohm |
| **NAMUR Alarm Output** | 3.6 mA or 22 mA |
| **Hold Alarm Value** | |
| **TDS function (for CD model only):** | |
| **Outputs** | ppm (parts per million) for cooling tower application<br>Ohm (resistivity) for reverse osmosis application |
| **Value range** | 0.3 to 2.0 ppm/µS |

## DIMENSIONS




**- Wall mounting size** (144x144x122,5 mm) - Dimensions and footprint for wall mounted device.




**-Panel mounting size** (96x96x42 mm) - Panel cutout and dimensions for Snail Lock System for panel mounted device.