

Measurement of Chlorine and pH

RANGE S200

Water Control System – WCS for free chlorine and pH



Complete set of measure and control

- Accurate measurement of chlorine concentration and calculation of active chlorine
- Measured parameters :
 - Free Chlorine : 0.00-5.00 mg/L
 - Active Chlorine : 0.00-5.00 mg/L
 - pH : -2.00 to +16.00 pH
 - Temperature ; -30.00 to +140.00 °C
- Complete system plug and play
- Self-cleaning of the system

Main application areas

- Chemical and process technology
- Water and Waste water treatment
- Cooling water treatment
- Drinking water and beverage.

Advantages of the measuring system

The principle of measure is based on a potentiostatic probe, without reagent or consumable, on a closed-loop so reducing the costs of functioning and avoiding the loss of online water.

The increase of the value of the pH reducing the efficiency of the treatment of the Chlorine, the transmitter S200 shows a value of free Chlorine compensated in pH5 and of active Chlorine optimized to assure a piloting of the optimal process.

The whole WCS for the free Chlorine included all necessary for the measure of concentration in Chlorine: electrode potentiostatique indestructible for the measure of free Chlorine, electrode pH, measure and compensation in flow, room of opaque measure, closed-loop ...

Function of automatic auto-cleaning by electrolysis allowing to dissolve the firm deposits: limestone or fats.

Advantages of the controller

Access to the menus of programming secured via password (3 user's levels).

Controller possessing numerous possibilities of piloting: 2 digital output for the control of the frequency of functioning of dosing pump, 3 relay output potential free NO contacts., 2 analog output 0/4-20 mA, 2 separately adjustable PI..controllers.

Temperature compensation manually or by using a Pt100 or Pt1000

Calibration of the pH with automatic detection of the value of the buffer solution..

Single-point calibration for free chlorine (DPD method).

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Technical characteristics sensor

Measured parameter	
Measuring principle Free Chlorine	Potentiostatic with one gold ring Reference used on the pH probe
Measuring principle pH	Combined electrode reference / measure
Measuring range	Free Chlorine : 0.00 to 5.00 mg/L Active Chlorine : 0.00 to 5.00 mg/L pH : -2.00 to +16.00 Temperature : -30.00 to +140.00 °C
Resolution	Chlorine : 0.01 mg/L pH : 0.01 mV Resistor > 5x10 ¹¹ Ω Temperature : 0.1 °C/Pt100/Pt1000
Accuracy	+/- 2 % Full Scale
Response time	30 s
Chlorine sensor	
Material in contact with the middle	Glass/gold
Water temperature max.	70 °C
Pressure max	8 bars at 20 °C
Flow	Between 40 and 120 l/h Fluctuations Compensated and checked
Temperature	Pt1000
pH sensor	
Water temperature max.	70 °C
Pressure max	8 bars at 20 °C
Flow	Between 40 and 120 l/h Fluctuations Compensated and checked

Technical characteristics S200

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Software and functionality	
2 Digital input	Controller stop by external contact Pulse input of measuring water turbine (flow measurement)
2 Analog outputs	0/4-20 mA electrically isolated, freely configurable Load max. 500Ω, resolution < 0.01 mA
3 Relay outputs	2 digital output, freely assignable to control outputs - 1 as permanent alarm relay - 1 potential-free NO contact Max. 250 V, 6A, 1000 VA
Digital relay outputs	2 digital output, freely assignable to control outputs Per control output 1 potential-free make contact Max. 12 V, 200 mA
Controller	2 separately adjustable controllers On-Off control (with hysteresis), P or PI control
Control behavior	On-Off controller with adjustable hysteresis Pulse – pause controller Pulse frequency controller Continuous controller (analog output)
Limit value	Minimum and maximum limit value per controller Adjustable time delay (09999 s)
Digital interface 1	Modbus RTU Slave

Constructional design wall-mounted casing S200	
Mains power	230 V/AC, +/- 10 % (50/60 Hz) 110 V/AC, +/- 10 % (50/60 Hz) Consumption 16 VA
Display	LCD display, 4x20 characters, alphanumeric, backlight Easy operation by means of 5 keys
Dimensions (WxHxD)	160 x 165 x 85 mm
Weight	1,1 Kg
Protection class	IP 65
Operating temperature	-20 to + 55 °C Max 90 % relative humidity at 40 °C non-condensing
Storage temperature	-20 to +65 °C

All components required for measurements are mounted on a plastic plate, dimensions 495 x 580 x 80 mm.