

# Dissolved Oxygen Controller & pH / ORP Controller



DO Controller



pH / ORP Controller



DO Sensor



## Dissolved Oxygen Controller

### Overview

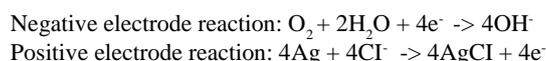
On-line Dissolved Oxygen meter is a kind of electrochemical analyzer, is a high-intelligent online continuous analyzer. Can be equipped with S1000 polarographic electrode, automatically switch measurement range from ppb levels to the ppm level. It's specially suitable to detect the content of oxygen from boiler feed water, condensate water, sewage and other industries liquid. DO100 sensor suit for large-scale application because of its fast response, stable and reliable performance, and low cost.

### Specification

Measuring range	0 ~ 19.99mg / L
Resolution	0.01 mg / L
Accuracy	±1.5% F.S
Automatic temperature compensation range	0 ~ 45°C
Output Signal	4 ~ 20mA (load resistance <750Ω) RS485 (optional)
Output method	ON / OFF relay output contact
Power supply	220VAC±15%, 50/60Hz
Relay withstand the load	Max 230VAC 5A Max 115VAC 10A
The relay hysteresis	Adjustable
Current output load	Max 500Ω
Isolation voltage to ground	Min 500VDC
Dimension	96 x 96 x 90 mm Hole size : 1/4DIN
Weight	0.96Kg
Ambient Temperature	5 ~ 35°C
Humidity	80%

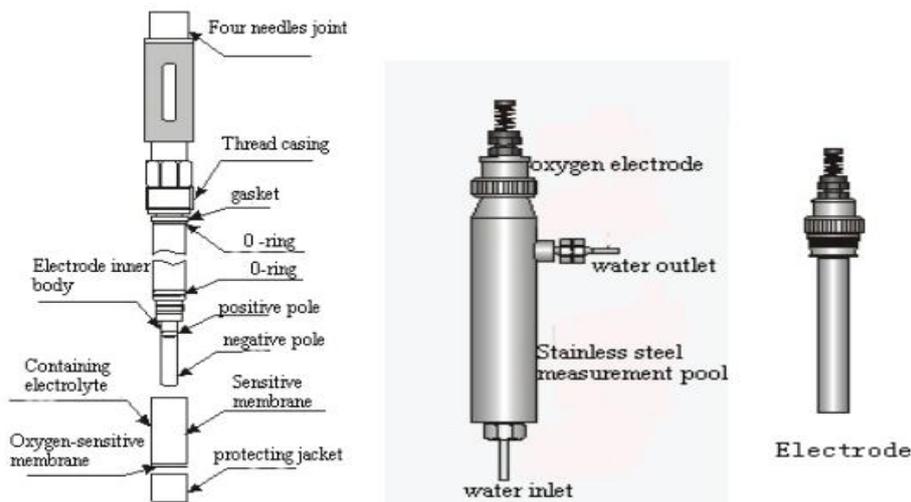
### Electrode Working Principle

The electrode is polarographic type. The positive electrode is Ag / AgCl, the negative electrode is platinum (Pt), filled with ingredients between the positive electrode and negative electrode. The electrode was wrapped around by silicone rubber membrane. When it taken into use, 675mV polarization voltage will be added between the electrodes. The oxygen is consumed at negative electrode through permeating the diaphragm, while the same amount of oxygen generated at the positive electrode. This dynamic process will be reach the balance when on both sides of the same partial pressure of oxygen. The current between the electrodes is propotional with the oxygen partial pressure. The analyzer detect this current, and then through a series of transformations, finally get the oxygen concentration and oxygen content. The same time, the NTC (negative temperature coefficient thermistor) test the temperature of the fluid, the analyzer do temperature compensation after sampling, take the oxygen concentration or oxygen content converted into a value of 25°C.



### Electrode Structure

The following figure shows the various components of the oxygen electrode and the relationship



## pH/ORP Controller

### Overview

This series of instrument is a kind of used for testing and precision instrument to control the pH value. A built-in microcomputer in storage, calculation and compensation about the determination of pH value of all parameters, such as pH, temperature display, temperature compensation, high and low alarm value display and so on.

Hidden in the EPROM enables the series of instrument in the AC power supply cut off or when the power supply line fault can still save the correction and the set point value.

A characteristic of this series of instrument is that it can use the controller online correction.

### Technical Performance

Measuring range	pH 0.00 ~ 14.00 pH
Resolution	0.01pH; Class: 0.05
Stability	≤0.03pH/24h
Adjustable Calibration Range	Zero ± 1.45pH Slope 80% ~ 100%
pH Standard Solution	6.86 / 4.01 / 9.18; 4.00 / 7.00 / 10.01
Control Range	0 ~ 14.00pH

### Main Function

Display, high and low points output ON/OFF, high and low points alarm, 30 days historical data query (optional), 4~20mA output, RS485 output (optional).

### Temperature Compensation

The electrode has auto temperature compensation

### Signal Output

4~20mA current output, output load is less than 500Ω. Output current  $I=4mA + \{ (D-DL) / (DH-DL) \} \times 16mA$

Note: I - output current D - tested pH value; DH - pH value corresponding 20mA set by users, namely upper limit of output; DL - pH value corresponding 4mA set by users, namely lower limit of output.

Error = ±0.04mA

### Controller

Model	C1000
Type	LCD
Output	4 ~ 20mA

### pH Sensor

Model	pH100
Type	Polarographic
Class	IP68

### DO Sensor

Model	DO100
Type	Optical
Class	IP68

### ORP Sensor

Model	ORP100
Type	Polarographic
Class	IP68



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