Instruction Manual for Ion Drop Counter

Product No.:ZC1036

■ Description

This product consists of an Ion Drop Counter, syringe set, accessories and sensor electrode. It is used to explore the acid-base drop experiment and determinate the concentration of some ionized solution.

■ Product Specification

No.	Name	Picture	Quantity	Remark
1	Ion Drop Counter		1 set	
2	Syringe set		1 set	1 set of syringe, 2 sets of three-way valve, 1 drip nozzle
3	Accessories		1 set	1 piece of rotary union, 1 piece of aluminum rod, and 1 piece of binder clip

4	Plum screw		1 piece	
5	Hand Screw		3 pieces	
6	Sensor electrode		1 set	

Tab.1

■ Product General Assembly Figure

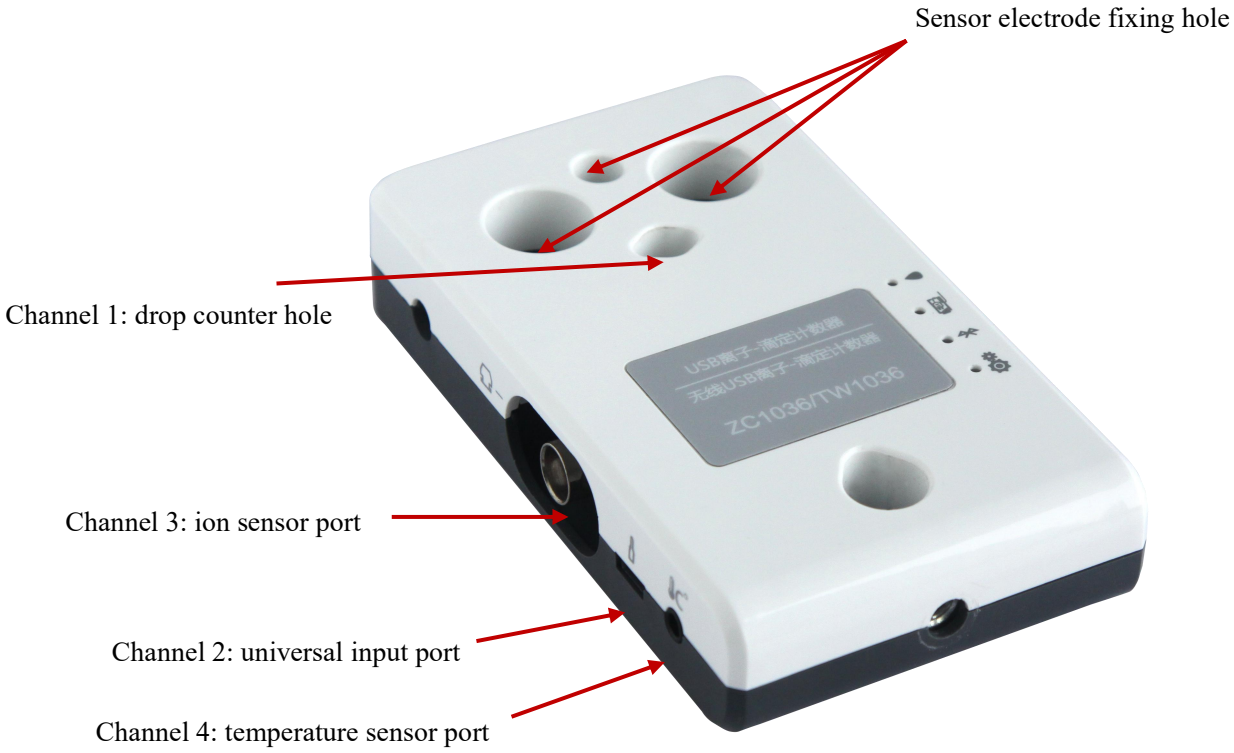
Fig.1: Ion Drop Counter

(The iron stand and the temperature sensor probe are provided separately)

■ Product General Assembly Procedures

Assembly is not required, as shown in Fig. 1.

■ Function Area



■ Specification of Sensor Electrode

Channel	Name	Function	Measuring Range	Resolution	Accuracy	Other specification/ first and second value for calibration
1	Drop counter	Count the number of drops	0～∞c/0～∞mL	1c/0.1mL	±1c/ ±0.1mL	Maximum drop rate：30 drops/s
2	Universal input port	Connect to universal input	Refer to the specification of connected sensor			
3	pH sensor		0 ～14	0.01	±0.2pH	4.00:9.18
	Nitrite ion sensor		0.5ppm～4600ppm	0.4ppm		46ppm：4600ppm（0.1mol/L:0.001mol/L）
	Nitrate ion sensor		0.6ppm～6200ppm	0.4ppm		62ppm：6200ppm（0.1mol/L:0.001mol/L）
	Chloride ion sensor		1.8ppm～3550ppm	0.3ppm		35ppm：3550ppm（0.1mol/L:0.001mol/L）
	Ammonium ion sensor		0.9ppm～1800ppm	0.1ppm		18ppm：1800ppm（0.1mol/L:0.001mol/L）
	Sodium ion sensor		0.2ppm～2300ppm	0.2ppm		23ppm：2300ppm（0.1mol/L:0.001mol/L）
	Potassium ion sensor		0.2ppm～39000ppm	3ppm		390ppm：39000ppm（0.1mol/L:1mol/L）
	Calcium ion sensor		0.4ppm～4000ppm	0.7ppm		40ppm：4000ppm（0.1mol/L:0.001mol/L）
	Dissolved CO_2 sensor		0.2ppm～440ppm	0.1ppm		44ppm：440ppm（0.1mol/L:0.001mol/L）
4	Temperature sensor		-40℃～+135℃	0.1℃	±0.6℃	

Note: The electrode in the standard configuration includes only pH sensor electrode. Other electrodes are provided separately.

■ Typical Experiment

Acid-base neutralization drop

Heat by acid-base reaction

Produce nitrogen dioxide by decomposition of nitrite

Detect concentration of sodium ion, potassium and calcium ions

■ Notes

1. Before experiment, connect sensors to sensor electrode.

2. The experiment should be carried out by using the specific experiment software.

3. The other ion sensor electrode are provided separately. You can purchase them if required.

■ Maintenance

The device should be placed in a cardboard box if not in use. Use a damp cloth to wipe out the dust on the surface lightly. Avoid scratches caused by sharp articles on the surface.