

PION400

Portable pH/Ion Meter

IndSen Ion Selective Electrodes

for both laboratory
sample testing and in-line
continuous monitoring

instantly identifies up to
14 kinds of ion selective
electrode for seamless
setup

Automatic Electrode Recognition

Versatile Measurement Modes

with 15 pre-programmed
ion-specific modes, a pH
measurement mode, and one
customizable user-defined ion
mode



NO_3^-

Cu^{2+}

Ca^{2+}

K^+

Cl^-

I^-

NH_4^+

Br^-

F^-



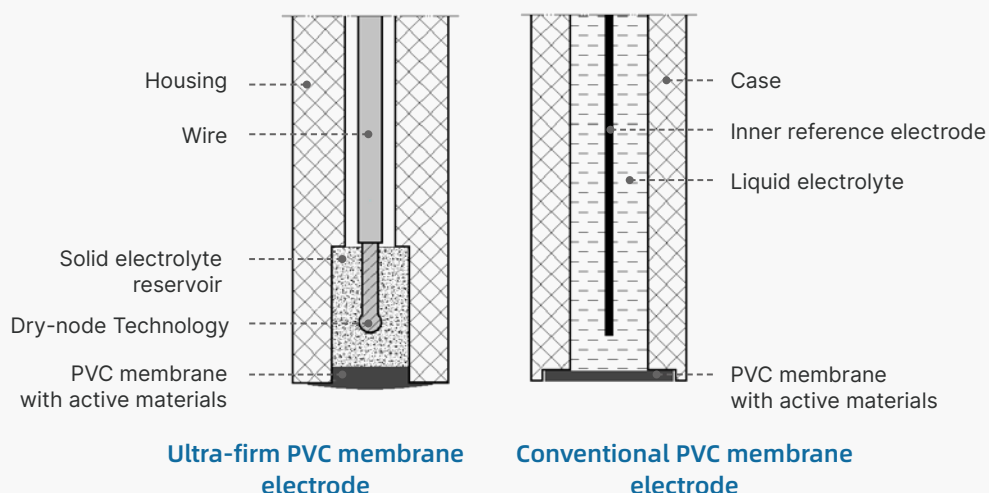
IndSen 2071M

Analog signal ion composite electrode



IndSen Ion Selective Electrodes

IndSen Ultra-Firm PVC Membrane Electrodes: Engineered with innovative features such as an integrated reservoir for solid electrolyte and ion-active materials in a rugged, durable structure. Offers 2–3 times the service life of conventional PVC membrane electrodes with significantly reduced maintenance requirements.



	Ultra-firm PVC membrane	Conventional PVC membrane
PVC membrane	★ About 1.2mm in thickness, no dent	0.3 – 0.8mm in thickness, surface of the membrane can be easily bulged or dented
Ionic active materials	★ A reservoir of ion-selective materials and electrolyte, greatly extending the service life of the electrode	Exists only in PVC membrane, active materials tend to be consumed quickly
Reference electrode	★ Solid electrolyte, no fluidity or volatilization, strengthening the membrane	Liquid electrolyte, volatile, weak membrane strength
Pre-conditioning	★ Soak for a few minutes	Soak for several hours
Service life	★ Shelf life is 12 months, and warranty period is 6 months	The shelf life is less than 6 months

Technical Specifications

Name	Ion	Electrode Membrane	Range			Temperature Range °C	pH Range pH
			pX	mol/L	mg/L (ppm)		
Calcium ion electrode	Ca ²⁺	Ultra-Firm PVC membrane	5.3 – 1 pCa	5×10 ⁻⁶ – 10 ⁻¹	0.20 – 4008	5 – 50	4 – 11
Potassium ion electrode	K ⁺		6 – 0 pK	10 ⁻⁶ – 1	0.039 – 3910	5 – 50	1 – 9
Nitrate ion electrode	NO ₃ ⁻		5 – 0 pNO	10 ⁻⁵ – 1	0.62 – 62000	5 – 50	4.6 – 8
Ammonium ion electrode	NH ₄ ⁺		5 – 0.3 pNH	10 ⁻⁵ – 0.5	0.18 – 9000	5 – 50	2 – 8.5
Fluoride ion electrode	F ⁻	Crystalized membrane	6 – 1 pF	10 ⁻⁶ – 10 ⁻¹	0.019 – 1900	5 – 45	5 – 6
Chloride ion electrode	Cl ⁻	Solid-state membrane	4.3 – 1 pCl	5×10 ⁻⁵ – 10 ⁻¹	1.775 – 3550	5 – 60	2 – 11
Bromide ion electrode	Br ⁻		5.3 – 1 pBr	5×10 ⁻⁶ – 10 ⁻¹	0.40 – 7990	5 – 60	2 – 11
Iodide ion electrode	I ⁻		6.3 – 1 pI	5×10 ⁻⁷ – 10 ⁻¹	0.0635 – 12690	5 – 60	2 – 11
Copper ion electrode	Cu ²⁺		6.3 – 1 pCu	5×10 ⁻⁷ – 10 ⁻¹	0.032 – 6355	5 – 60	3 – 7



	Model	ION400	PION400
pH	Range	/	0.00 to 14.00 pH
	Resolution	/	0.01 pH
	Accuracy	/	±0.01 pH ±1 digit
	Temp. Compensation	/	0 to 100°C , Auto or Manual
	Calibration	/	1-3 Points Auto. Calibration
mV	Range	-1000 to 1000 mV	
	Resolution	1 mV	
	Accuracy	±0.2% F.S ±1 digit	
Ion	Range	pX: 0.00 to 10.00	
	Resolution	0.01pX	
	Accuracy	±1.0% F.S.	
	Built-in Ion Types	Ca ²⁺ , NH ₄ ⁺ , NO ₃ ⁻ , Cu ²⁺ , Cl ⁻ , Br ⁻ , Pb ²⁺ , Cd ²⁺ , CN ⁻ , Na ⁺ , F ⁻ , I ⁻ , K ⁺ , Ag ⁺ , S ²⁻ , X (user-defined ion)	
	Temp. Compensation	0 to 100°C (32 to 212°F) Auto. or Manual	
	Calibration	1 to 3 point Manual Calibration	
Temp.	Range	0 to 100°C (32 to 212°F)	
	Resolution	0.1 °C	
	Accuracy	±0.9°F (±0.5°C) ±1 digit	
Others	Power Supply	AA Batteries (1.5V*4)	
	IP Rating	IP57 Waterproof and Dustproof	

Package Contents Overview



Completeness of the Instrument Set

	Model	Product Name	Included Meter + Electrodes	Included Solutions	Other Accessories
PION 400	PION400	Portable pH/ISE Measurement Meter	- PION400 Meter 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle)	Calibration Bottles /50ml x3 User Manual Quick Start Guide
	PION400-NH4	Portable pH/Ammonium Ion Measurement Kit	- PION400Meter - IndSen 2071M-NH-TS Combination Ammonium Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Ammonium Ion Calibration Solution (100 mL)	
	PION400-NO3	Portable pH/Nitrate Ion Measurement Kit	- PION400Meter - IndSen 2071M-NO-TS Combination Nitrate Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Nitrate Ion Calibration Solution (100 mL)	
	PION400-CA	Portable pH/Calcium Ion Measurement Kit	- PION400Meter - IndSen 2071M-CA-TS Combination Calcium Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Calcium Ion Calibration Solution (100 mL)	
	PION400-K	Portable pH/Potassium Ion Measurement Kit	- PION400Meter - IndSen 2071M-K-TS Combination Potassium Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Potassium Ion Calibration Solution (100 mL)	
	PION400-F	Portable pH/Fluoride Ion Measurement Kit	- PION400Meter - IndSen 2071M-F-TS Combination Fluoride Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Fluoride Ion Calibration Solution (100 mL)	
	PION400-CL	Portable pH/Chloride Ion Measurement Kit	- PION400Meter - IndSen 2071M-CL-TS Combination Chloride Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Chloride Ion Calibration Solution (100 mL)	
	PION400-CU	Portable pH/Copper Ion Measurement Kit	- PION400Meter - IndSen 2071M-CU-TS Combination Copper Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Copper Ion Calibration Solution (100 mL)	
	PION400-BR	Portable pH/Bromide Ion Measurement Kit	- PION400Meter - IndSen 2071M-BR-TS Combination Bromide Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Bromide Ion Calibration Solution (100 mL)	
	PION400-I	Portable pH/Iodide Ion Measurement Kit	- PION400Meter - IndSen 2071M-I-TS Combination Iodide Ion Electrode 201T-S pH/Temperature Electrode	pH calibration buffer solutions (4/7/10, 50 mL per bottle) 1000 ppm Iodide Ion Calibration Solution (100 mL)	
ION 400	ION400-NH4	Portable Ammonium Ion Measurement Kit	- ION400Meter - IndSen 2071M-NH-TS Combination Ammonium Ion Electrode	1000 ppm Ammonium Ion Calibration Solution (100 mL)	
	ION400-NO3	Portable Nitrate Ion Measurement Kit	- ION400Meter - IndSen 2071M-NO-TS Combination Nitrate Ion Electrode	1000 ppm Nitrate Ion Calibration Solution (100 mL)	
	ION400-CA	Portable Calcium Ion Measurement Kit	- ION400Meter - IndSen 2071M-CA-TS Combination Calcium Ion Electrode	1000 ppm Calcium Ion Calibration Solution (100 mL)	
	ION400-K	Portable Potassium Ion Measurement Kit	- ION400Meter - IndSen 2071M-K-TS Combination Potassium Ion Electrode	1000 ppm Potassium Ion Calibration Solution (100 mL)	
	ION400-F	Portable Fluoride Ion Measurement Kit	- ION400Meter - IndSen 2071M-F-TS Combination Fluoride Ion Electrode	1000 ppm Fluoride Ion Calibration Solution (100 mL)	
	ION400-CL	Portable Chloride Ion Measurement Kit	- ION400Meter - IndSen 2071M-CL-TS Combination Chloride Ion Electrode	1000 ppm Chloride Ion Calibration Solution (100 mL)	
	ION400-CU	Portable Copper Ion Measurement Kit	- ION400Meter - IndSen 2071M-CU-TS Combination Copper Ion Electrode	1000 ppm Copper Ion Calibration Solution (100 mL)	
	ION400-BR	Portable Bromide Ion Measurement Kit	- ION400Meter - IndSen 2071M-BR-TS Combination Bromide Ion Electrode	1000 ppm Bromide Ion Calibration Solution (100 mL)	
	ION400-I	Portable Iodide Ion Measurement Kit	- ION400Meter - IndSen 2071M-I-TS Combination Iodide Ion Electrode	1000 ppm Iodide Ion Calibration Solution (100 mL)	

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