

200 Series Advanced Electrochemistry Meters



200 Series Advanced Meters

Premium features and multiple functions in an easy-to-use electrochemistry instrument.

Denver Instrument's 200 Series offers a meter for every application. Multiple modes allow several readings at one time. Advanced features ensure easy operation.

Complete GLP/GMP/ISO documentation. All calibration points are time and date stamped. Results are recorded along with time, date, units, temperature, channel, and a stability indication. Add alphanumeric sample identification and a sample number with ease. All results can be stored and easily recalled or sent to a printer or computer.

Data Logging and RS232 Output. Press the Print key to send the current reading of all active channels to memory, computer or printer. Use data logging to select a time interval for measurements to be taken and recorded. The internal data log stores up to 620 results and all points are automatically sent through the RS232. The bi-directional interface of this instrument also allows complete control of the meter via computer. Command strings can be sent by a computer for inline processes.

Standardization is easy. Just press the Standardization key. Follow the standardization menu and checklist to ensure proper technique. The meter will accept the buffer reading when stable and auto compensate for temperature. The meter performs electrode diagnostics.

Calibration data is available for each standardization. Simply press the Cal Data button for a complete listing of calibration points, time and date of standardization along with electrode efficiencies. Press the graph icon to see a detailed graph of the standardization curve.



User Friendly. The large, backlit display shows time, date, and any active channel measurement and units. Display multiple channels simultaneously. Plain language menus step you through each procedure and "soft keys" allow quick access to the most frequently used features. The help key is always ready with easy to understand descriptions of current options.

Great choice for multiple users. Four features help with uniformity in the use of the meter. Activate the standardization delay and the unit will not complete the standardization process until the programmed time has lapsed. Set the calibration reminder to ensure routine standardization. Use the strict calibration setting to prevent measurements when a calibration is due. An audible alarm can be activated to signal when data is outside of specified range.

Exceptional pH measurement. Adjustable resolution to 1, 2 or 3 significant digits. Accuracy to 0.002 pH units. Standardize up to 5 calibration points. Choose from 26 preprogrammed buffers, create a custom set of up to 5 standards or manually enter buffers. An error message will let you know if your electrode is out of specification. Point-to-point calibration and automatic temperature correction make standardization very reliable.

mV readings. Adjustable resolution of 1 or 0.1mV. Perfect for oxidation-reduction potential (ORP) measurements. Create a mV offset for titrations and an array of other applications. Excellent for troubleshooting pH or ion selective electrode problems.

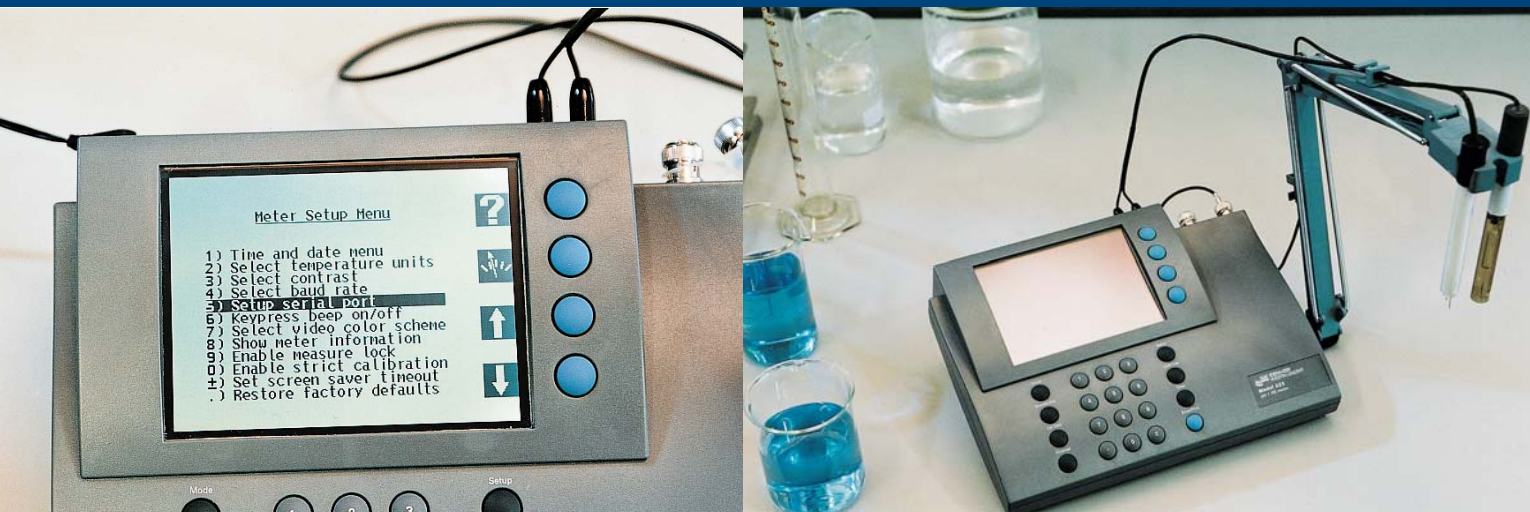
Automatic or manual temperature compensation. Internally programmed temperature tables provide automatic temperature compensation when using Denver pH/ATC electrodes with integrated ATC or separate ATC probes. This means you have the most reliable standardization curve for your environment. Temperature can be displayed in °C, °F or K.

Ion measurement. Display units in %, ppt, ppm, ppb, mg/l, ug/l, M or a custom ion unit. Choose from fixed- or floating- point notation. Select from 14 different pre-programmed standard ions or one custom ion. Improve accuracy by entering up to seven standards for a point-to-point standardization curve.

Advanced ion measurement techniques are simplified. Easily perform known addition/subtraction or analate addition/subtraction analyses. The meter will prompt you through the steps of the addition and ask you for information needed to calculate and display the results.

Conductivity Measurement. Select display units to float throughout range or fixed $\mu\text{S}/\text{cm}$, mS/cm , $\text{ohms}\cdot\text{cm}$, $\text{Kohms}\cdot\text{cm}$, $\text{Mohms}\cdot\text{cm}$. Standardize up to 5 points for reliable calibration. Temperature correction can be set with a temperature coefficient from 0 to 4.0% per °C or no temperature correction.

Directly measure ppt NaCl salinity, ppt practical salinity, or total dissolved solids (TDS). Set a solids factor for your TDS measurements or let the meter calculate your solids factor. The four-band conductivity circuit makes this one of the most accurate conductivity meters available.



Model 250

Modes: pH/mV/Temperature/ISE/Conductivity
 Inputs: 2 BNC/ATC, 1 multi-pin Conductivity/ATC
 Meter Kit: 9357.1 Meter Only: 9370.1

Model 225

Modes: pH/mV/Temperature/ISE
 Inputs: 2 BNC/ATC
 Meter Kit: 9355.1 Meter Only: 9368.1

Model 220

Modes: pH/mV/Temperature/Conductivity
 Inputs: 1 BNC/ATC, 1 multi-pin Conductivity/ATC.
 Meter Kit: 9354.1 Meter Only: 9367.1

Model 215

Modes: pH/mV/Temperature
 Inputs: 1 BNC/ATC
 Meter Kit: 9353.1 Meter Only: 9366.1



Meter Kit includes: Meter, power supply, high performance glass-body pH/ATC electrode with Free-Flow Platinum Junction, electrode arm and operation manual. Order conductivity cells and ion probes separately.

Meter Only includes: Meter, power supply, electrode arm and operation manual.

Modes	pH	mV	Temperature
Range	-2.000 to 20.000	±2000.0	-5.0 to 105.0°C
Resolution	0.001/ 0.01 / 0.1	0.1 / 1	0.1
Accuracy	±0.001	±0.05	± 0.3

pH Mode

Temp Compensation	Automatic & manual: -5 to 105°C
Slope Control	Automatic, 90 to 105%: Manual, 80 to 110%

Ion Mode (Models 250 and 225)

Range	1.00 x 10 ⁻⁹ to 9.99 x 10 ⁹
Resolution	1, 2, 3 significant digits
Relative Accuracy	± 0.09n%

Conductivity Mode (Models 250 and 220)

Conductivity Ranges	0 to 300,000 uS (depending on cell constant)
Relative Accuracy	0.5% of reading
Salinity Ranges	Autoranging, 0.01 to 70ppt NaCl equivalent salinity Autoranging, 0.01 to 42ppt practical salinity
Resistivity	30ohm•cm to 1, 10 or 20 megohm•cm (at cell constants of 10, 1, 0.5cm ⁻¹ respectively). Autoranging units; readout in ohm•cm, kilohm•cm, or megohm•cm. Fixed units: kilohm•cm
Total Dissolved Solids	0.005 to 1.5x10 ⁵ mg/L (at 0.5 solids factor, depending on cell constant)
Temp Coefficient	Off or On, 0 to 4%/°C

Common Specifications

Environment	15 to 40°C, from 0 to 90% Relative Humidity
Power Requirements:	115V 50/60Hz (Additional voltages available)

 **DENVER
INSTRUMENT**
Precision laboratory instruments since 1880

6542 Fig St.
 Arvada, Colorado 80004
 800.321.1135
 303.431.7255
 303.423.4831 FAX
www.denverinstrumentUSA.com