CDM230 Conductivity Meter

- ✓ Conductivity, Resistivity, Salinity, TDS, Concentration
- ✓ 7 decades with 5 frequencies
- ✓ Natural water temperature correction
- ✓ Automatic cell constant determination
- ✓ 2, 3 or 4-pole cells
- ✓ GLP feature

CDM230

The CDM230 Conductivity Meter from Radiometer Analytical is a multipurpose instrument which combines five versatile functions in one compact benchtop unit. It forms part of the MeterLab® range designed to ensure reliable pH, ion and conductivity measurements.

Five modes in one meter

The CDM230 instantly displays conductivity, resistivity, salinity, Total Dissolved Solids or concentration as well, of course, as temperature. The complex conversion from the conductance measured to the final result is automatic. The salinity on sea water calculation, for example, is based on oceanographic tables and standards which are endorsed by UNESCO.

Easy to customise

The CDM230 stores three methods easily adapted to fit your particular application. For example, a method may be edited to print out the conductivity at set intervals, report the result at the reference temperature of your choice or lock the salinity result on the display as soon as your stability criterion is fulfilled.

Accurate measurements

Highly accurate conductivity measurements can be performed over seven decades from 0.001 µS to 2 S, i.e. samples ranging from ultrapure water to concentrated sulphuric acid. Depending on the sample conductivity, the meter automatically selects one of five frequencies guaranteeing excellent measuring accuracy.

Dedicated water functions

For reliable water analysis, natural water temperature correction is provided. This is based on a non-linear correction in compliance with ISO/DIS 7888. For low conductivity samples, the conductivity value of pure water can be subtracted automatically from the measured value according to ASTM D1125-91.

Cell calibration

Simply place the cell in the standard and the meter calculates the cell constant using a table of temperature-dependent conductivity values for five standards including sea water. If you need more than one cell, the CDM230 can store up to three cell constants.

Conductivity cells

The CDM230 lets you choose 2, 3 or 4-pole conductivity cells according to your application. With the CDC565 and CDC866T 4-pole cells from Radiometer Analytical a single calibration covers five to six decades of conductivity.

GLP

The CDM230 prints out full reports including the date, time and instrument ID. It also prompts you as soon as a new calibration is required. The last 50 sample results and the last 5 calibrations for each cell are stored in the special GLP memory.

Radiometer analytical

Specifications

Methods

3 can be edited (A, B, C)
Each method can be edited for conductivity, resistivity, salinity on sea water, TDS or concentration

Measuring dynamics

Conductivity:
0.001 µS/cm to 2.000 S/cm using a cell constant of 1 cm^{-1}

Resistivity:
0.5 Ω•cm to 500 MΩ•cm using a cell constant of 1 cm^{-1}

Salinity: 2.00 to 42.00

TDS: 0 to 9999 mg/l

Concentration:
Depends on selected unit

Temperature:
-9.9°C to 99.9°C

Measuring range selection

Automatic: conductivity, resistivity, salinity, TDS, concentration
Manual: conductivity

Resolution

Conductance: 1/4000 full-scale
Temperature: 0.1°C

Accuracy

Conductivity: see table

Resistivity: typically ±1% of reading ±3 on lsd (1)

Temperature:
±0.3°C between 0 and 70°C
±0.5°C below 0, above 70°C

Measurement procedures

- sliding stability indicator
- AUTOREAD
- printing at intervals

Result units

Conductivity: S/cm or S/m

Resistivity: Ω•cm or Ω•m

Salinity: no unit

TDS: mg/l

Concentration: g/l, mg/l, µg/l, g/kg, mg/kg, µg/kg, %, ppm, ppb, mol/l, mmol/l, µmol/l, mol/kg, mmol/kg, µmol/kg

GLP functions

Complete printouts including date, time, instrument ID.

The last 5 calibrations for each cell and the last 50 sample results are stored

Cell calibration

3 cell constants between 0.050 and 15.000 cm^{-1} can be entered or determined independently

Automatic determination of cell constant using preset standards: 1D KCl, 0.1D KCl, 0.01D KCl, 0.05% NaCl, sea water

Adjustment of the cell constant against standard of your choice

Temperature corrections

Linear correction: selectable reference temperature (0-99°C) and coefficient (0.00-9.99%/°C)

Non-linear correction according to ISO/DIS 7888 for Natural water (conductivity, resistivity and concentration)

Pure water correction

Automatic subtraction of pure water conductivity from measured value (ASTM D1125-91)

Cable correction

Cable resistance: 0 to 1.999 Ω
Cable capacitance: 0 to 1999 pF

Inputs/Outputs

Inputs for conductivity cell and temperature sensor

RS232C port for printer/PC

Dual analogue recorder output: direct conductance signal or final conductivity reading

Power supply for SAM7 Sample Stand or SAM90 Sample Station

Finish

Splashproof cabinet with 2 x 16-character, alphanumeric LCD

Languages

English, French, German, Spanish and Italian

Ambient temperature

5 to 40°C

Relative humidity

20 to 80%

Electromagnetic compatibility

EMC qualified

Power requirements

12 Vdc/1 A mains adapter

Dimensions (H x W x D)

8 x 28.5 x 20 cm

Weight

1.6 kg

Conductance range	Accuracy	Measuring frequency
0.001-4.000 µS	±0.5% of reading ±3 on lsd (1)	94 Hz
0.01-40.00 µS	±0.2% of reading ±3 on lsd (1)	94 Hz
0.1-400.0 µS		375 Hz
0.001-4.000 mS		2.93 kHz
0.01-40.00 mS		23.4 kHz
0.1-400.0 mS		46.9 kHz
1-2000 mS	±1% of reading ±3 on lsd (1)	46.9 kHz

(1) least significant digit

Ordering Information

CDM230 Conductivity Meter

230 V Version	**R21M040**
115 V Version	**R21M041**

- when you need to be sure...

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Approved Quality System

CE