

## Portable conductivity meter, CM 35

Two instruments in one. The conductivity cells normally used with the CM 35 have an integrated temperature sensor. As a result, apart from measuring conductivity the instrument can be used as a thermometer up to 60 or 80 °C, depending on the cell used. By replacing the cell with an appropriate Pt 1000 probe the CM 35 becomes a precision thermometer up to 600 °C. The CM 35 is a very robust, light and functional instrument.

### Key features

**Double LCD display**, for simultaneous reading of the specific conductivity at the selected reference temperature, 20 or 25°C, and the real temperature of the sample.

**Double function:** apart from acting as a conductivity meter it can be used as a precision thermometer. The temperature probes which can be connected to the CM 35 are described on page 98.

**Automatic temperature compensation** applying a selectable temperature coefficient of between 0 and 5 %/°C.

**Calibration with one, two or three standards.**

**Salinity measurements**, up to 50 g/l of NaCl.

**Automatic change of scale** from  $\mu\text{S}/\text{cm}$  to  $\text{mS}/\text{cm}$ , both during calibration or measurement. The instrument selects the scale with the best resolution for each measurement. Works with cells with electrodes made of different materials, platinum or titanium.

The instrument **automatically switches itself off** if no keys are pressed for 5 minutes. This function can be disabled by the user.

**Industrial-use membrane keypad**, damp-proofed and long-life.

**The casing** is ABS with joints to ensure IP 65 waterproofing.

**Sensors connector with IP 67 protection.**

**Optional carry-case**, holds everything you need to work in comfort.

### Certificates

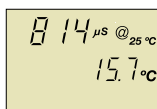
The CM 35 is supplied with the specifications Certificate and the EC Declaration of Conformity as per directive EMC 89/336/EC.

*For further information, please see page 132.*

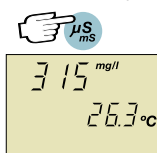


### Display examples

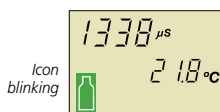
Simultaneous measurement of specific conductivity at 25 °C and temperature of the sample.



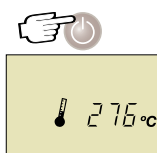
Measurement of salinity



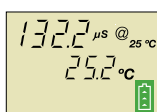
Instrument in calibration mode with one, two or three standards.



Measuring as a thermometer



Low battery warning



### Keypad

The whole range of functions can be accessed using only 4 keys, both in conductivity meter and thermometer modes.

### Operation

The CM 35 software is similar to that of all other CRISON portables, and has been designed to make the use of this new range of instruments as easy as possible.

### Technical specifications

#### Measuring ranges

Conductivity, $\chi$	0.01 $\mu\text{S}/\text{cm}$ ... 500 $\text{mS}/\text{cm}$ (See cells)
°C	-20.0... 150.0
Salinity	0.0... 1999 $\text{mg}/\text{l NaCl}$
	2.0... 50.0 $\text{g}/\text{l}$
Thermometer	-200... 600°C,

#### Resolution

Conductivity depending on the range and cell constant used.

Temperature 0.1°C between -99.9 ... 199.9°C. Rest of the range 1°C

#### Measuring error ( $\pm 1$ digit)

Conductivity  $\leq 0.5\%$  m.v. (in the range 0-10  $\mu\text{S}/\text{cm}$ ,  $\leq 0.02$   $\mu\text{S}/\text{cm}$ )

Salinity  $\leq 2\%$  measured value.

Temperature  $\leq 0.2^\circ\text{C}$

Thermometer  $\leq 0.2^\circ\text{C}$  between -99.9 ... 199.9°C, rest of the range  $\leq 1^\circ\text{C}$ .

#### Reproducibility ( $\pm 1$ digit)

Conductivity meter, better than  $\pm 0.2\%$  of the readings

Thermometer,  $\pm 0.1^\circ\text{C}$  between -99.9 ... 199.9°C. Rest of the range  $\pm 1^\circ\text{C}$ .

#### Temperature compensation

Using a Pt 1000 sensor built into the cell.

#### Reference temperature, RT

20 or 25°C, selectable.

#### Temperature coefficient, TC

0.00... 5.00%/°C, selectable.

#### Calibration

1, 2 or 3 calibration standards.

Automatic standards recognition: 147  $\mu\text{S}/\text{cm}$ , 1413  $\mu\text{S}/\text{cm}$

and 12.88  $\text{mS}/\text{cm}$  (at 25°C). Values between 10 and 35 °C.

Factory settings

#### Accepted cell constant

Between 0.05 and 50  $\text{cm}^{-1}$

#### Display

Liquid crystal, with icons

#### Keypad

Membrane, 4 keys. Guaranteed for up to 6 million strokes per key.

Material: PET with protective treatment

#### Sensors connector

MP-5, five-contact multipin. IP 67 protection.

#### Power supply

Two 1.5V, type AA batteries, autonomy of over 300 h

#### Electrical safety

EN 61010-1, EN 61010-1/A2

#### EMC (Electromagnetic compatibility)

Meets EC, EN 61326, EN 61326/A1

#### Degree of protection

IP 65

#### Permitted ambient conditions

Operating temperature 0 ... 50°C

Storage and transport temperature -15 ... 65°C

< 80 % relative humidity, non-condensing

#### Enclosure

Casing material: ABS

#### Physical parameters

Weight ~200 g, dimensions: 160 x 75 x 50 mm

Specifications subject to change without notice

### Ordering information

Code	Description
35 00	CM 35 without accessories
35 01	CM 35 with accessories, without cell
35 02	CM 35 with accessories and carry case

ACCESSORIES: Bottles containing 125 ml of standard solutions 147, 1413  $\text{S}/\text{cm}$  and 12.88  $\text{mS}/\text{cm}$ , small flasks for calibration.

CELLS: The cell should be requested separately for all versions of the CM 35, see page 80.

TEMPERATURE PROBES: See page 98.