

4.3 Determining/setting up the cell constant [C]

Why determine/set up the cell constant?

Due to aging, the cell constant slightly changes. As a result, an inexact measured value is displayed. Calibration determines the current value of the cell constant and stores this value in the meter. Thus, you should calibrate at regular intervals.

You can either determine the cell constant of the conductivity measuring cell in the range $0.450 \dots 0.500 \text{ cm}^{-1}$ or $0.800 \dots 0.880 \text{ cm}^{-1}$ by calibration in the control standard 0.01 mol/l KCl , or adjust it manually in the range $0.800 \dots 0.880 \text{ cm}^{-1}$. Besides, the fixed cell constant 0.475 cm^{-1} can be selected.

Cleaning interval (*Int.C*)

After the adjusted cleaning interval has expired the sensor symbol flashes and thus reminds you to clean the measuring cell. It is still possible to measure.

The cleaning interval (*Int.C*) is set to 180 days (d180) in the factory. You can change the interval (see section 4.5.2).



Note

In order to maintain the high measurement accuracy of the measuring system, clean the measuring cell and recalibrate after the cleaning interval has expired.

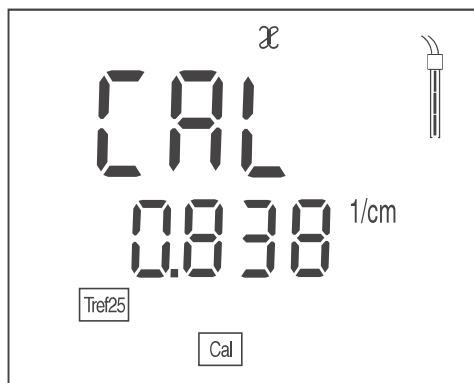
4.3.1 Determining the cell constant (calibration)

Determining the cell constant (calibration in control standard)

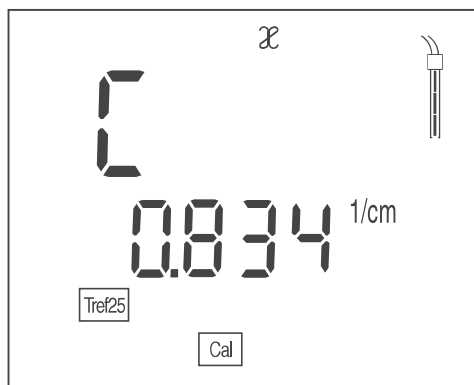
- 1 Press <CAL> repeatedly until *CAL CELL* is displayed.



- 2 Press <ENTER> or <CAL __> to confirm the selection of *CAL CELL*.
The cell constant of the last calibration is displayed.



- 3 Immerse the measuring cell in the control standard solution, 0.01 mol/l KCl.
- 4 Start the calibration with **<ENTER>**. The determination of the cell constant with stability control starts. The **AR** display indicator flashes until there is a stable signal. The cell constant determined is displayed. The meter automatically stores the cell constant.



- 5 Switch to the measuring mode with **<ENTER>**. The determined cell constant is used.



Stability control

Note

If the error message *E3* appears, refer to chapter 6 WHAT TO DO IF...


During calibration, the stability control is automatically activated.



Note

This method of automatically determining the cell constant by calibration in the 0.01 mol/l KCL control standard solution can only be used for measuring cells with cell constants in the range 0.450 ... 0.500 cm⁻¹ or 0.800 ... 0.880 cm⁻¹.

Calibration evaluation After the calibration, the meter automatically evaluates the current status. The evaluation appears on the display.

Display	Cell constant [cm^{-1}]
 <p>You are working with a correctly calibrated measuring cell.</p>	<p>in the range 0.450 ... 0.500 cm^{-1} 0.800 ... 0.880 cm^{-1}</p>
<p><i>E3</i></p> <p>Eliminate the error according to chapter 6 WHAT TO DO IF...</p>	<p>outside the ranges 0.450 ... 0.500 cm^{-1} or 0.800 ... 0.880 cm^{-1}</p>

Downloading calibration data You can download the calibration data.

- 1 Press **<CAL__>** to display the calibration data. The calibrated cell constant is displayed.

4.3.2 Using the last calibrated cell constant

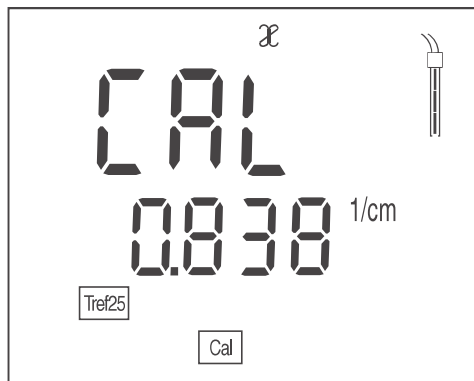
Precondition A valid calibration must be available (see section 4.3.1).

- 1 Press **<CAL>** repeatedly until *USE CELL* is displayed.



- 2 Press **<ENTER>** or **<CAL__>** to confirm the selection of *USE CELL*.

- 3 If necessary, press <CAL> repeatedly until *CAL* and the last calibrated cell constant is displayed.



- 4 Confirm the selection with <ENTER>. The displayed cell constant is used. The meter switches to the measured value display.

4.3.3 Setting the cell constant manually



Note

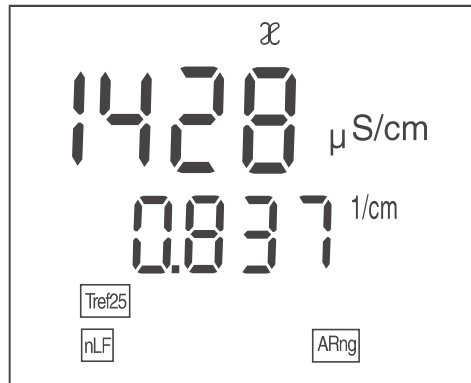
The cell constant to be set must either be taken from the operating manual of the measuring cell or is printed on the measuring cell.

Range
0.800 ... 0.880 cm⁻¹

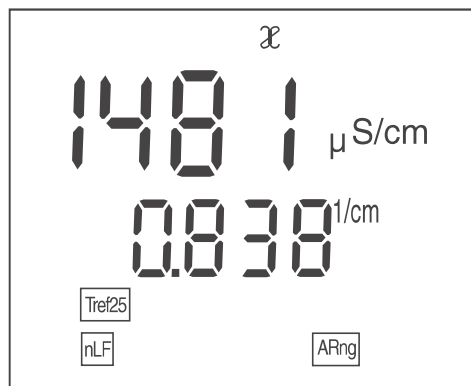
- 1 Press <CAL> repeatedly until *USE CELL* is displayed.



- 2 Confirm the selection with <ENTER> or <CAL__>. The cell constant that was set last is displayed.
- 3 If necessary, press <CAL> repeatedly until a cell constant in the range 0.800 ... 0.880 cm⁻¹ is displayed.



- 4 Set the cell constant to be used with \blacktriangle \blacktriangledown , e.g. 0.837 cm^{-1} .



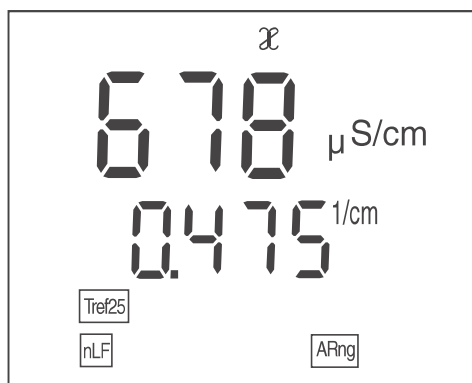
- 5 Confirm the selection with **<ENTER>**.
The new cell constant is used from now on.
The meter switches to the measured value display.

Selecting the cell
constant
 0.475 cm^{-1}

- 1 Press the <CAL> key repeatedly until *USE CELL* is displayed.



- 2 Confirm the selection with <ENTER> or <CAL__>.
- 3 If necessary, press <CAL> repeatedly until the cell constant 0.475 cm^{-1} is displayed.



- 4 Confirm the selection with <ENTER>.
The meter switches to the measured value display.