Instructions for concentration adjustment SLI04

The conductivity measuring device type SLI-04 has the option of displaying the concentration of a product, e.g. a cleaning solution, directly as a percentage value.

Since these concentrations depend on the respective conductive mixture properties of the mixed solutions, e.g. the cleaning agent and the type of water (tap water; distilled water, etc.), it is necessary to determine the corresponding concentration values in advance. This is usually done in a laboratory.
These values can be transferred to the device using the "SeliSoft" software.
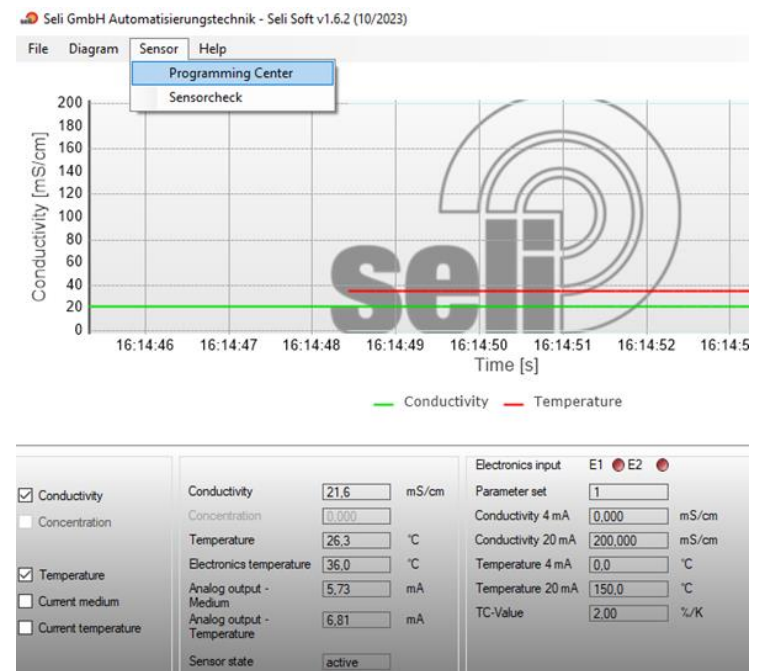
In order to be able to set the conductivity measuring device type SLI-04 with the "SeliSoft" software, connect the device to the PC USB interface consisting of type ST-PA-M12 + type ST-M12-Y-AD.

After installing and starting the software, select Menu tab File → Auto Search.
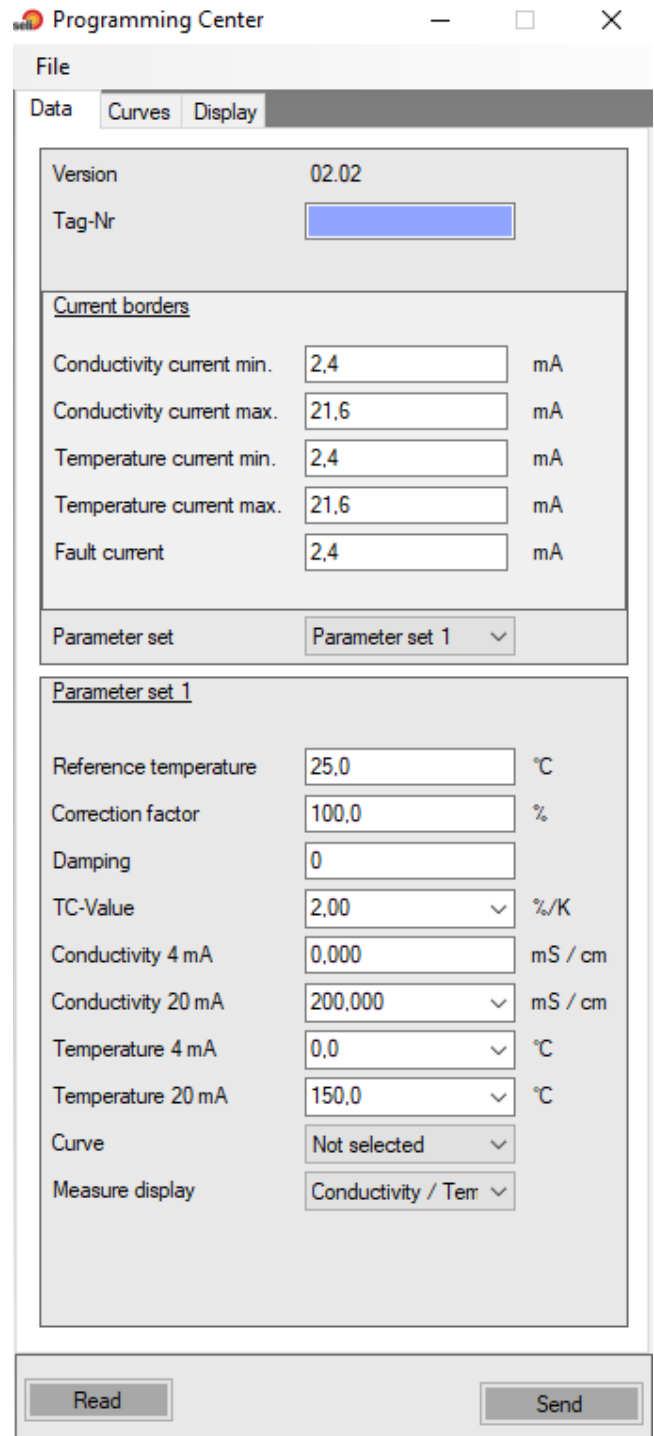

This starts the user interface and the live diagram of the conductivity meter.

To set up, go to the Programming Center Sensor menu tab → Programming Center

All device settings are made in the programming center.

Programming Center

File

Data Curves Display

Version	02.02
Tag-Nr	

Current borders

Conductivity current min.	2,4	mA
Conductivity current max.	21,6	mA
Temperature current min.	2,4	mA
Temperature current max.	21,6	mA
Fault current	2,4	mA

Parameter set	Parameter set 1

Parameter set 1

Reference temperature	25,0	℃
Correction factor	100,0	%
Damping	0	
TC-Value	2,00	%/K
Conductivity 4 mA	0,000	mS / cm
Conductivity 20 mA	200,000	mS / cm
Temperature 4 mA	0,0	℃
Temperature 20 mA	150,0	℃
Curve	Not selected	
Measure display	Conductivity / Tem	

Read   Send

The SLI04 conductivity meter has the option of being prefixed for up to 4 different products. For this purpose, 4 "parameter sets" can be stored in the measuring device, which can be selected via the external control at the digital inputs of the measuring device.
This means you can always choose the ideal setting for the respective product. This usually concerns the appropriate scaling of the output signal for the conductivity, temperature or the appropriate TK value for the respective product-specific temperature compensation.

For parameterizing the concentration display

Now first select the "Curves" tab.

Up to 4 concentration curves for 4 different products can now be freely stored here.
When delivered there is already a concentration curve for HNO3 0...5%

• The name of the product is entered in the "Description" field. A maximum of 8 positions are available for this.

• In the "Number of value pairs" field you can select how many measuring points should be used. A maximum of 30 points are available for this.

Your laboratory acts as a master to determine the concentration of the respective product.
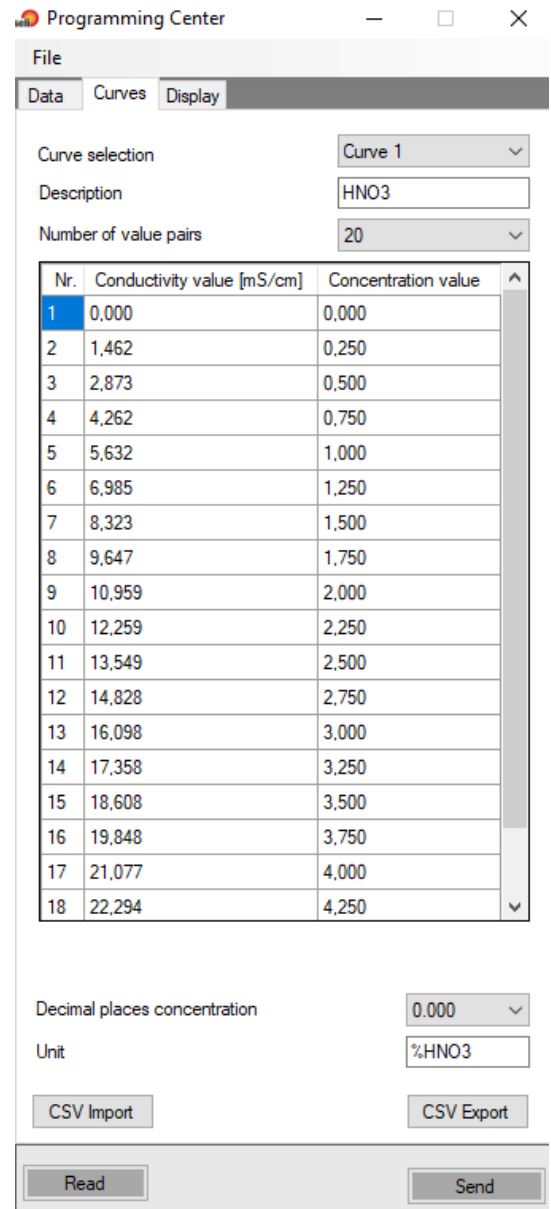Only there can the conductivity value of the product be assigned to a concentration.

The values determined by the laboratory can then simply be read from an Excel file and transferred to the sensor. The two buttons "CSV Import" and "CSV Export" are available for this purpose.

Alternatively, the values can also be entered directly and manually into the SeliSoft table.

In the "Unit" field, please enter what should be shown as a unit on the device display.
A maximum of 5 positions are available for this
e.g. a percent sign "%" or as in this figure "%HNO3"

Then please send all values to the sensor using the "Send" button

Programming Center — □ ×

File

Data | Curves | Display

Curve selection — Curve 1
Description — HNO3
Number of value pairs — 20

Nr.	Conductivity value [mS/cm]	Concentration value
1	0,000	0,000
2	1,462	0,250
3	2,873	0,500
4	4,262	0,750
5	5,632	1,000
6	6,985	1,250
7	8,323	1,500
8	9,647	1,750
9	10,959	2,000
10	12,259	2,250
11	13,549	2,500
12	14,828	2,750
13	16,098	3,000
14	17,358	3,250
15	18,608	3,500
16	19,848	3,750
17	21,077	4,000
18	22,294	4,250

Decimal places concentration — 0.000
Unit — %HNO3

CSV Import   CSV Export

Read   Send

Now select the "Data" tab.

It is important to enter the corresponding reference temperature of the laboratory device here. This means that the SLI04 uses the same reference temperature as the laboratory device.

It is also important to determine the TK value of the product and enter this value.
To do this, use the "Determine TK value…" tab.
This is the only way to ensure that the correct measured value is still output if the product's temperature changes.
!!! (Please note that you do not enter the TK value of the laboratory device, as the laboratory device certainly has a different measuring cell and therefore a different cell constant. This would lead to different measurement results.

Next you can set the scaling of the output signal. The 4..20mA scaling is available for both the conductivity value and the temperature measurement.

On the "Curve" tab you can now select which of the up to 4 concentration curves you have stored should be used for the respective parameter set.

Note: When selecting a concentration curve, the conductivity signal output 4…20mA is scaled according to the selected concentration table!
The settings under "Conductivity 4 mA" and "Conductivity 20 mA" are therefore no longer valid.
If the concentration display is not needed, please leave it set to "Not Selected" and thus deactivated!

Use the "Measured value display" tab to select which values should be shown on the display.
- Conductivity & Temperature
- Conductivity
- Concentration curve & temperature
- Concentration curve & conductivity)

Then please send all values to the sensor using the "Send" button
You can save all the settings made here and transfer them to the next device if necessary.
This means that this preparatory work would only be necessary once.