Conductive Conductance Sensor

Manual

SLK

seli GmbH

Automatisierungstechnik

Installation Notes

In the choice of the conductive material, during the installation, at the fuse protection and the electrical connection of the device the appropriate technical regulations or the respective local regulations are to be considered.

- Protect the device during the installation and operation from electrostatic discharge.
- The device is not suitable for the installation in explosion-prone areas.
- The device must be installed with a process adapter closure provided therefore.
- The connected load circuit must be fused on the maximal output current to prevent a defect of the output in case of a short circuit there. Don't connect any additional loads to the terminals for the voltage supply of the device.
- Disconnect the device 2-pole from the net if live parts may be contacted at works.
- The supply is not galvanically isolated from the sensor ground.
- An incorrect installation as well as incorrectly set parameters of the device may affect your application in the proper function or cause damage. Independent safety devices should therefore always be in place. Settings must be performed only by qualified personnel.

The DIN 61000-4-Part 5: surge is not entirely fulfilled due to the product geometry, we therefore recommend an additional protective element (e.g. varistor) for connection lines larger than 10m or the supply by a protected 24V/DC power adaptor.

Start-UP

The electrical connection is via the built M12-plug. The 24DC supply voltage is connected according to the wiring diagram. The active PNP output can, for example, be connected to a processing control.

Note: the output voltage is proportional to the input voltage!
Example: at a supply voltage of 20 VDC the output voltage has a voltage <20 VDC.
It should be noted that the output can only switch the positive side of the supply voltage (max. 35mA). To switch a load to ground is not possible.

Settings

The switching behaviour of the PNP or analogous outpput can be defined via a downloadable PC-software. (On the download section of our website www.seli.de/downloads...)
It is possible to set up the logic, a time delay and the switching thresholds. Measured values of the process can be pursued “online”. (Process monitoring/ documentation).

This has the advantage that the switching thresholds can be adapted to the respective process conditions individually.

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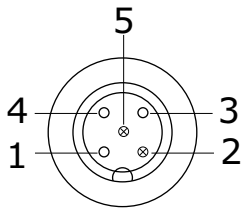
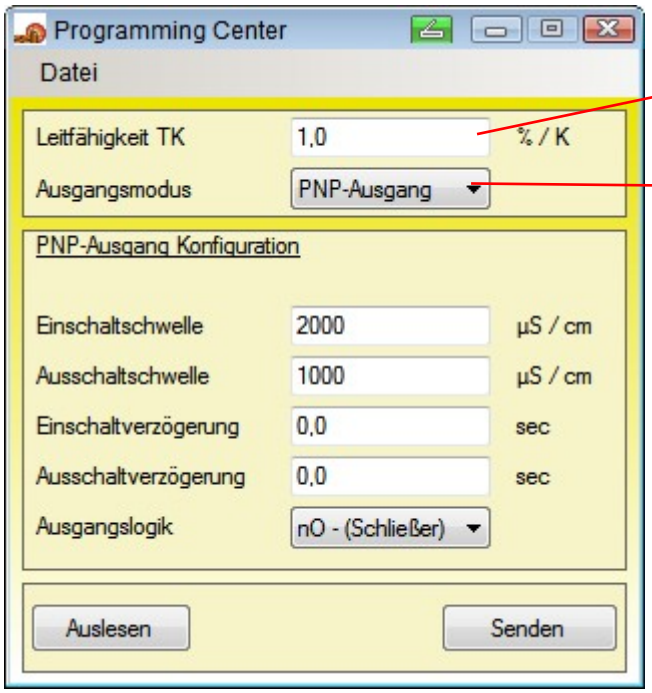
1 +VDC
2 Tx (to contact only with progr.-adapter)
3 GND
4 OUT PNP oder 4-20mA
5 Rx (to contact only with progr.-adapter)



Parameterization of the Sensor

Readout existing settings and make any new parameterizations of the sensor.

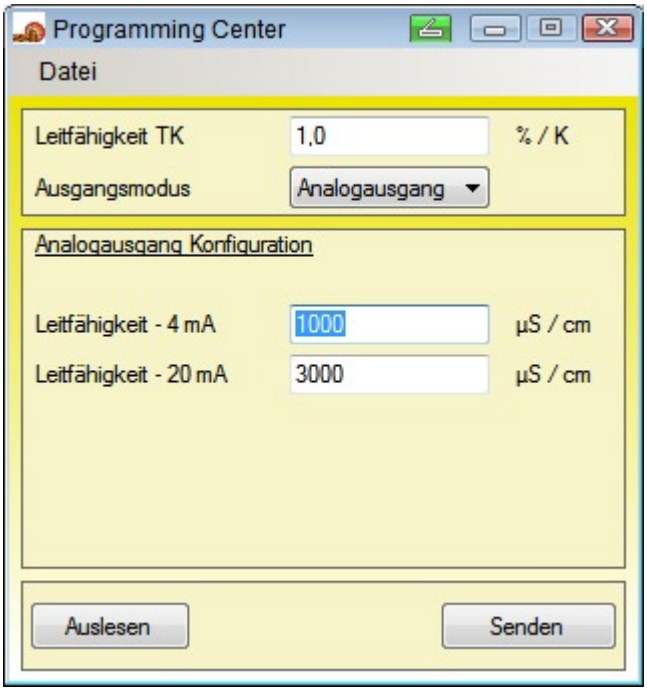
Analogue-Output



Adjustment of the Temperature Coefficient

Switchover Analogue-/ Digital-output

Digital-Output



Parameterization overview

- Output logic of the analogue output switchable
- Scaling of the output signal in the analogue mode freely adjustable
- Temperature coefficient of 0-10%/K to be set up freely
- PNP switching thresholds “on” and “off” freely adjustable
- Delay in powering up and down of 0,1sec to 100sec freely adjustable
- Output between digital and analogue mode freely selectable
- PNP-output logic NC and NO adjustable

Calibration of the sensor

This method enables the simple determination of the
Temperature coefficient (TC) of a medium.

1. Dip the probe into the test medium inclusive the process adapter, and make sure that the tip is completely covered with the medium and bubble free.

2. Heat the medium 25°C.

3. Secure an adequate circulation in the medium.

4. Notieren Sie die angezeigte Leitfähigkeit.

5. Heat the medium at least to 60°C.

6. Set the TC in the setting so, that the same conductivity as at 25 ° C is displayed.

ATTENTION!

1. A major TC-value gives less conductivity display.
2. Do not use the TC-value to perform a measurement adjustment.

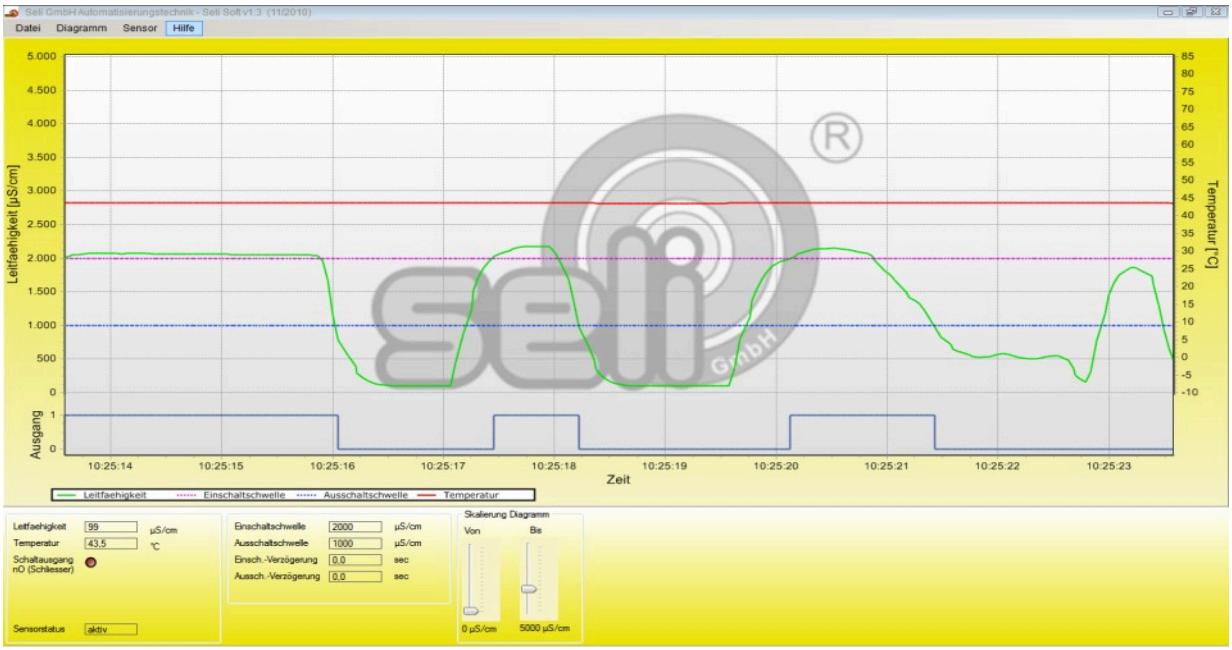
The instrument was calibrated at the factory.

Please Note!

The temperature coefficent (a)
The conductivity of a solution depends on the temperature; therefore, for a proper measurement, both the temperature and the temperature coefficient of the solution must be known.

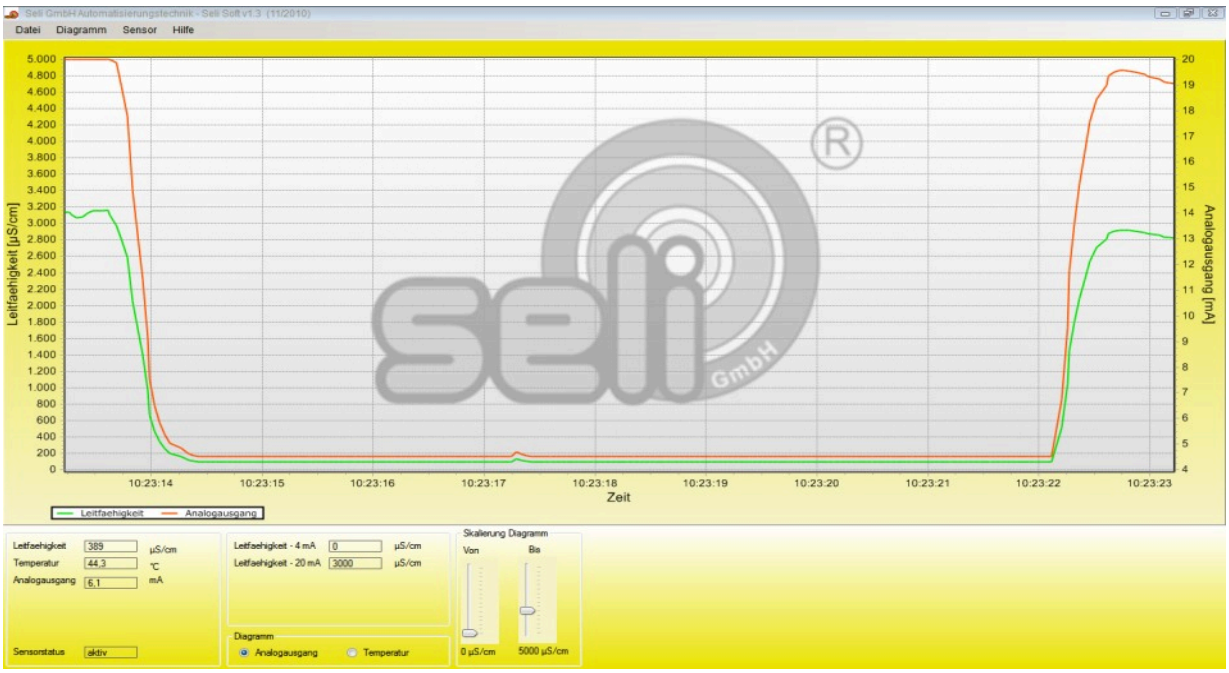
Digital-Output

When using the digital output the switching thresholds “on” and “off” as well as delay times can be set up individually. The display area of the diagram can be set up via two faders under “scale diagram”.



Analogous-Output

When using the analogue mode the output signal can be scaled freely. This means that you can set up and document the measurement range for your application optimally to your requirements.



Order Code SLK

SLK-11-☐

High-Grade-Steel Connecting Head		
Plug M12	11	
Version		
Standard	Standard	S
Neck pipe	Neck pipe	H

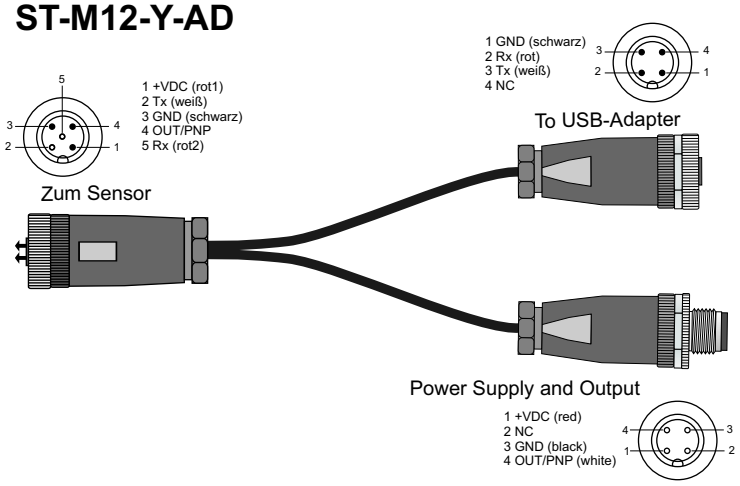
Accessories (Parameterization)

For parameterization, both the PC USB interface SMW-PA-M12 and the programming adapter ST-M12-Y-AD is required.

SMW-PA-M12

PC-USB-Interface incl. Software for readinging out and parameterizing

ST-M12-Y-AD



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