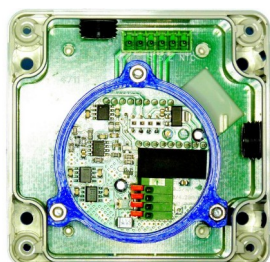


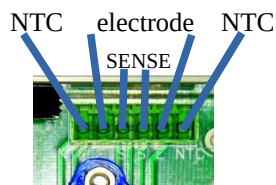
Measuring range selection of the LFTR 4E-VO conductivity transmitter



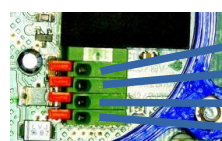
LFTR 4E- VO



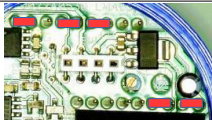
Measuring cell connection

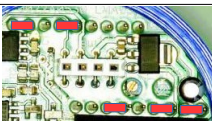


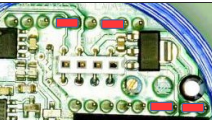
Connection to PLC

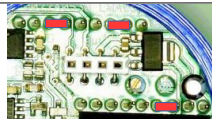


- Output: 0(2)...10V
- Output: 0(4)...20mA max. 21,5mA
- supply voltage: 24VDC +-10%
- GND ground

Jumper Sel. 1	Measuring range	Resolution
		
Cell constant CC 0.5	4...20 (4+16) mA \cong 0...100 μ S	6.25 μ S/mA
Cell constant CC 1	4...20 (4+16) mA \cong 0...200 μ S	12.5 μ S/mA
Cell constant CC 2	4...20 (4+16) mA \cong 0...400 μ S	25 μ S/mA
Cell constant CC 3	4...20 (4+16) mA \cong 0...600 μ S	37.5 μ S/mA

Jumper Sel. 2	Measuring range	Resolution
		
Cell constant CC 0.5	4...20 (4+16) mA \cong 0...1000 μ S	62.5 μ S/mA
Cell constant CC 1	4...20 (4+16) mA \cong 0...2000 μ S	125 μ S/mA
Cell constant CC 2	4...20 (4+16) mA \cong 0...4000 μ S	250 μ S/mA
Cell constant CC 3	4...20 (4+16) mA \cong 0...6000 μ S	375 μ S/mA

Jumper Sel. 3	Measuring range	Resolution
		
Cell constant CC 0.5	4...20 (4+16) mA \cong 0...10mS	625 μ S/mA
Cell constant CC 1	4...20 (4+16) mA \cong 0...20mS	1250 μ S/mA
Cell constant CC 2	4...20 (4+16) mA \cong 0...40mS	2500 μ S/mA
Cell constant CC 3	4...20 (4+16) mA \cong 0...60mS	3750 μ S/mA

Jumper Sel. 4	Measuring range	Resolution
		
Cell constant CC 0.5	4...20 (4+16) mA \cong 0...100mS	6.25mS/mA
Cell constant CC 1	4...20 (4+16) mA \cong 0...200mS	12.5mS/mA
Cell constant CC 2	4...20 (4+16) mA \cong 0...400mS	25mS/mA
Cell constant CC 3	4...20 (4+16) mA \cong 0...600mS	37.50mS/mA

Since a temperature compensation is integrated in the measuring system (measuring cell and transmitter), only the conductance at 25°C is relevant. $T_{Cref} = 25^\circ C$
 The measured value is always output for the solution at 25°C. T_{Cnat} .

Calibration of the measuring system

If a higher accuracy than the standard tolerance of the measuring cell (3 / 5%) is required for the conductivity to be measured, we recommend our **KCL calibration solutions** for fine adjustment.

The following calibration solutions are available:

1,413 mS 12,88 mS 50 mS 111,8 mS 212 mS 298 mS

All conductivity values are /cm based on 25°C.

Although the measuring device has automatic temperature compensation, calibration should be performed at a calibration solution temperature of 25°C +- 1°.

We recommend to perform the calibration by means of the software module of the PLC by adjusting the slope.

Please note:

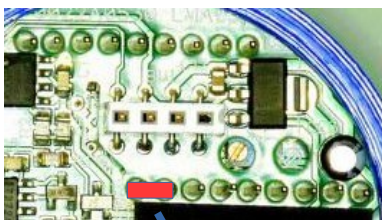
Only the 16mA are relevant for the slope. The 4mA offset must be subtracted from the 20mA.

Calibration example:

Desired measuring range: 20mS/cm
Conductivity measuring cell: 0022.4000NTC / LM4E 1-3NTC
Measuring cell sleeve 0022.4001H / LM4E Sleeve CC1
Calibration solution: 12,88 mS

Jumper Sel.3 CC1 0...20mS 1250µS Resolution.

$12880\mu\text{S} / 1250\mu\text{S}/\text{mA} = 10,3 \text{ mA} + 4 \text{ mA offset} = \text{output current of } 14.3\text{mA}.$



0(4)...20mA / 0(2)...10V

It is also possible to switch the output from 4...20mA / 2...10V to 0...20mA / 0...10V.