



## SCS Directory

Accreditation number: SCS 0128

International standard: ISO/IEC 17025:2017  
Swiss standard: SN EN ISO/IEC 17025:2018

Haefely AG  
Calibration laboratory  
Birsstrasse 300  
4052 Basel

Head: Markus Dinger  
Responsible for MS: Markus Dinger  
Telephone: +41 61 373 41 11  
E-Mail: [mdinger@haefely.com](mailto:mdinger@haefely.com)  
Internet: <http://www.haefely.com/>  
Initial accreditation: 14.05.2012  
Current accreditation: 14.05.2022 to 13.05.2027  
Scope of accreditation see: [www.sas.admin.ch](http://www.sas.admin.ch)  
(Accredited bodies)

## Scope of accreditation as of 26.11.2024

### Calibration laboratory for electrical quantities

#### Calibration and Measurement Capability (CMC)

| Measured Quantity / Instrument or Gauge | Measurement Range                                                                                                                           | Measurement Conditions | Best Measurement Capability $\pm$ <sup>1)</sup>                       | Remarks                                                                                                     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Direct voltage                          | 0,1 V to 1000 V<br><br>1 kV to 180 kV<br>5 kV to 300 kV<br>1 kV to 375 kV<br><br>300 kV to 900 kV<br>300 kV to 1500 kV<br>375 kV to 1875 kV |                        | 0,02 %<br><br>0,25 %<br>0,4 %<br>0,2 %<br><br>1,0 %<br>1,0 %<br>0,9 % | Measuring instruments calibration<br><br>Calibration of measuring systems<br><br>Also on site <sup>2)</sup> |
| Alternating voltage                     | 0,3 V to 1000 V                                                                                                                             | 10 Hz to 10 kHz        | 0,11 %                                                                | Measuring instruments calibration                                                                           |



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| Measured Quantity / Instrument or Gauge          | Measurement Range                                                    | Measurement Conditions                                             | Best Measurement Capability $\pm$ <sup>1)</sup> | Remarks                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alternating voltage<br>RMS- and peak<br>voltage  | 1 kV to 180 kV<br>1 kV to 250 kV<br>5 kV to 200 kV<br>5 kV to 200 kV | 50 Hz, 60 Hz<br>50 Hz, 60 Hz<br>50 Hz<br>16 2/3 Hz, 60 –<br>300 Hz | 0,25 %<br>0,2 %<br>0,2 %<br>0,9 %               | Calibration of<br>measuring sys-<br>tems<br><br>Also on site <sup>2)</sup>                                                                                                                                                                                                                                                    |
|                                                  | 180 kV to 900 kV<br>200 kV to 1000 kV<br>200 kV to 1000 kV           | 50 Hz, 60 Hz<br>50 Hz<br>16 2/3 Hz, 60 Hz<br>– 300 Hz              | 1,0 %<br>0,9 %<br>1,0 %                         |                                                                                                                                                                                                                                                                                                                               |
|                                                  | 250 kV to 1250 kV                                                    | 50 Hz, 60 Hz                                                       | 1,0 %                                           |                                                                                                                                                                                                                                                                                                                               |
| Impulse voltage (LI)                             | 80 V to 1600 V                                                       | Load:<br><br>>250 k $\Omega$<br>100 pF to 300 pF                   | 0,6 %                                           | Measuring instru-<br>ments calibration<br>Also on site <sup>2)</sup><br>LI = Lightning im-<br>pulse full wave<br>LIC = Lightning<br>impulse chopped<br>SI = Switching im-<br>pulse<br>T <sub>1</sub> = Front time<br>T <sub>2</sub> = Time to half<br>value<br>T <sub>c</sub> = Time to chop<br>T <sub>p</sub> = Time to peak |
| Time parameters T <sub>1</sub><br>T <sub>2</sub> | 0,84 $\mu$ s<br>60 $\mu$ s                                           |                                                                    | 1,7 %<br>1,7 %                                  |                                                                                                                                                                                                                                                                                                                               |
| Impulse voltage<br>(LIC)                         | 400 V to 1250 V                                                      |                                                                    | 0,7 %                                           |                                                                                                                                                                                                                                                                                                                               |
| Time parameters T <sub>c</sub>                   | 0,50 $\mu$ s                                                         |                                                                    | 1,7 %                                           |                                                                                                                                                                                                                                                                                                                               |
| Impulse voltage (SI)                             | 80 V to 1000 V                                                       |                                                                    | 0,6 %                                           |                                                                                                                                                                                                                                                                                                                               |
| Time parameters T <sub>p</sub><br>T <sub>2</sub> | 20 $\mu$ s<br>4000 $\mu$ s                                           |                                                                    | 1,7 %<br>1,7 %                                  | According to IEC<br>61083-2:2001                                                                                                                                                                                                                                                                                              |



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| Measured Quantity / Instrument or Gauge          | Measurement Range                                                                                    | Measurement Conditions | Best Measurement Capability $\pm$ <sup>1)</sup>                                                           | Remarks                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impulse voltage (LI)                             | 200 kV to 250 kV<br>20 kV to 500 kV<br>20 kV to 800 kV<br>500 kV to 2500 kV<br>800 kV to 4000 kV     |                        | 0,5 %<br>0,6 %<br>0,6 %<br>1,0 %<br>1,0 %                                                                 | Calibration of measuring systems<br>Also on site <sup>2)</sup><br>LI = Lightning impulse full wave<br>LIC = Lightning impulse chopped<br>SI = Switching impulse<br>T <sub>1</sub> = Front time<br>T <sub>2</sub> = Time to half value<br>T <sub>c</sub> = Time to chop<br>T <sub>p</sub> = Time to peak |
| Time parameters T <sub>1</sub><br>T <sub>2</sub> | 0,8 $\mu$ s to 1,6 $\mu$ s<br>40 $\mu$ s to 60 $\mu$ s                                               |                        | 2,1 %<br>2,1 %                                                                                            |                                                                                                                                                                                                                                                                                                         |
| Impulse voltage (LIC)                            | 20 kV to 800 kV                                                                                      |                        | 0,6 %                                                                                                     | Also on site <sup>2)</sup>                                                                                                                                                                                                                                                                              |
| Time parameters T <sub>c</sub>                   | 0,5 $\mu$ s to 6,0 $\mu$ s                                                                           |                        | 2,1 %                                                                                                     |                                                                                                                                                                                                                                                                                                         |
| Impulse voltage (SI)                             | 200 kV to 250 kV<br>50 kV to 500 kV<br>50 kV to 600 kV                                               |                        | 0,5 %<br>0,6 %<br>0,6 %                                                                                   |                                                                                                                                                                                                                                                                                                         |
| Time parameters T <sub>p</sub><br>T <sub>2</sub> | 500 kV to 2500 kV<br>600 kV to 3000 kV<br>200 $\mu$ s to 300 $\mu$ s<br>1000 $\mu$ s to 4000 $\mu$ s |                        | 1,0 %<br>1,0 %<br>2,1 %<br>2,1 %                                                                          |                                                                                                                                                                                                                                                                                                         |
| Apparent charge q <sub>0</sub>                   | 1 pC to 20 pC<br>20 pC to 5 nC<br>5 nC to 50 nC                                                      |                        | 0,04[q <sub>0</sub> ]-0,001 pC<br>0,04[q <sub>0</sub> ]-0,1 pC<br>0,029[q <sub>0</sub> ]+45 pC            | Calibration of partial discharge calibrators<br>(IEC60270: 2015 Ed. 3.1)                                                                                                                                                                                                                                |
| Pulse rise time t <sub>r</sub>                   | 5 ns to 100ns<br>1 pC to 2000 pC<br>2000 pC to 50000 pC                                              |                        | -3,08•10 <sup>-05</sup> [q <sub>0</sub> ]+0,76 ns<br>1,46•10 <sup>-01</sup> [q <sub>0</sub> ]+1,16 ns     |                                                                                                                                                                                                                                                                                                         |
| Pulse repetition frequency N                     | 0,1 Hz to 50 Hz<br>50 Hz to 600 Hz                                                                   |                        | -2,5•10 <sup>-06</sup> [N]+2,7•10 <sup>-05</sup> Hz<br>7,3•10 <sup>-08</sup> [N]-2,6•10 <sup>-06</sup> Hz |                                                                                                                                                                                                                                                                                                         |



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| Measured Quantity / Instrument or Gauge                | Measurement Range      | Measurement Conditions               | Best Measurement Capability $\pm$ <sup>1)</sup> | Remarks                          |
|--------------------------------------------------------|------------------------|--------------------------------------|-------------------------------------------------|----------------------------------|
| <b>Capacitance</b><br>Calibration of capacitors        | 10 pF bis 146 nF       | 0,5 kV to 2 kV<br>50 Hz, 60 Hz       | 0,02 %                                          |                                  |
|                                                        | 10 pF to 146 nF        | 5 kV to 100 kV<br>50 Hz, 60 Hz       | 0,02 %                                          | Also on site <sup>2)</sup>       |
|                                                        | 10 pF to 146 nF        | 5 kV to 500 kV<br>50 Hz, 60 Hz       | 0,2 %                                           | Also on site <sup>2)</sup>       |
| Calibration of measuring bridges                       | 0,01 pF to 850 $\mu$ F | 50 Hz, 60 Hz<br>30 $\mu$ A bis 1,5 A | 0,02 %                                          |                                  |
| <b>Dissipation factor</b><br>Calibration of capacitors | 1E-05 to 1E-01         | 50 Hz, 60 Hz                         | 2,0 E-05                                        |                                  |
|                                                        | 1E-05 to 1E-01         | 50 Hz, 60 Hz                         | 2,0 E-05                                        | Calibration of measuring bridges |

<sup>2)</sup> on site calibrations might show higher uncertainties

In case of contradictions in the language versions of the directories, the German version shall apply.

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