

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV

Signatory to the Multilateral Agreement of EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the calibration laboratory

ZERA GmbH
Hauptstraße 392, 53639 Königswinter
Germany

is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out calibrations in the following fields:

Electrical quantities

DC and low frequency quantities

- DC voltage
- AC voltage
- AC current
- Electric power
- Electric energy
- Phase angle

The accreditation certificate shall only apply in connection with the notice of accreditation of 17.05.2017 with the accreditation number D-K-15103-01 and is valid until 16.05.2022. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 10 pages.

Registration number of the certificate: **D-K-15103-01-00**

Braunschweig, 17.05.2017

Dr. Michael Wolf
Abteilungsleiter

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

Annex to the accreditation certificate D-K-15103-01-00

Permanent Laboratory

| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks | |
|--------------------------------------|---|--|---|-----------------------------|-----------------------|
| DC voltage | 1,018 V | Compared to 1,018 V respectively 10 V standard | $3,2 \cdot 10^{-6}$ | | |
| | 10 V | | $3,3 \cdot 10^{-6}$ | | |
| | 2 V bis 100 V | Comparison with 10 V standard with Kelvin Varley divider to HP 3458A | $3,7 \cdot 10^{-6}$ | | |
| | 0,02 V bis 0,1 V | against DMM HP 3458A | $17 \cdot 10^{-6} \cdot U + 13 \mu\text{V}$ | | U = measuring voltage |
| | > 0,1 V bis < 1 V | | $17 \cdot 10^{-6} \cdot U + 12 \mu\text{V}$ | | |
| | 1 V bis 10 V | | $17 \cdot 10^{-6} \cdot U + 12 \mu\text{V}$ | | |
| | > 10 V bis 100 V | | $17 \cdot 10^{-6} \cdot U + 12 \mu\text{V}$ | | |
| > 100 V bis 1000 V | $18 \cdot 10^{-6} \cdot U + 11 \mu\text{V}$ | | | | |
| AC voltage three phase | 60 V; 120 V; 240 V | $40 \text{ Hz} \leq f \leq 60 \text{ Hz}$ | $20 \cdot 10^{-6}$ | with COM 303-3 | |
| | 30 V bis 240 V | | $50 \cdot 10^{-6}$ | | |
| | > 240 V bis 480 V | | $57 \cdot 10^{-6}$ | | |
| single phase | 0,002 V bis < 0,02 V | $40 \text{ Hz} \leq f \leq 60 \text{ Hz}$ | $2,5 \cdot 10^{-3}$ | with MT 3000 | |
| | 0,02 V bis < 0,2 V | | $0,6 \cdot 10^{-3}$ | | |
| | 0,2 V bis < 2 V | | $0,29 \cdot 10^{-3}$ | | |
| | 2 V bis < 30 V | | $0,11 \cdot 10^{-3}$ | | |
| | 0,005 V bis < 0,05 V | $47,5 \text{ Hz} \leq f \leq 62,5 \text{ Hz}$ | $50 \cdot 10^{-6}$ | with PPCS System, and RT-60 | |
| | 0,05 V bis < 0,5 V | | $25 \cdot 10^{-6}$ | | |
| | 0,5 V bis 6 V | | $13 \cdot 10^{-6}$ | with PPCS System | |
| | > 6 V bis < 30 V | | $20 \cdot 10^{-6}$ | | |
| | 30 V bis 240 V | | $13 \cdot 10^{-6}$ | | |
| | > 240 V bis 480 V | | $32 \cdot 10^{-6}$ | | |
| AC current three phase | 5 mA bis 20 mA | $40 \text{ Hz} \leq f \leq 60 \text{ Hz}$ | $50 \cdot 10^{-6}$ | with COM 303-3 | |
| | > 0,02 A bis 0,1 A | | $32 \cdot 10^{-6}$ | | |
| | > 0,1 A bis 10 A | | $22 \cdot 10^{-6}$ | | |
| | > 10 A bis 160 A | | $58 \cdot 10^{-6}$ | | |
| single phase | 0,05 A bis 10 A | $47,5 \text{ Hz} \leq f \leq 62,5 \text{ Hz}$ | $13 \cdot 10^{-6}$ | with PPCS System | |
| | > 10 A bis 100 A | | $28 \cdot 10^{-6}$ | | |

bis = up to

¹⁾ The best measurement capabilities are stated according to DKD-3 (EA-4/02). These are expanded uncertainties of measurement with a coverage of 95% and have a coverage factor of $k=2$ unless stated otherwise. Uncertainties without unit are relative uncertainties referring to the measurement value unless stated otherwise

Annex to the accreditation certificate D-K-15103-01-00

| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks |
|---|--------------------|--|---|--|
| Power and energy AC - active power single phase | 0 W bis 2,4 kW | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 30 V ≤ U ≤ 240 V 0,05 A ≤ I ≤ 10 A | 18 · 10 ⁻⁶ | With PPCS System relative measurement uncertainty related to the apparent power |
| | 0 W bis 24 kW | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 30 V ≤ U ≤ 240 V 10 A ≤ I ≤ 100 A | 45 · 10 ⁻⁶ | |
| | 0 W bis 4,8 kW | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 240 V < U ≤ 480 V 0,05 A ≤ I ≤ 10 A | 47 · 10 ⁻⁶ | |
| | 0 W bis 48 kW | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 240 V < U ≤ 480 V 10 A ≤ I ≤ 100 A | 50 · 10 ⁻⁶ | |
| AC reactive power single phase | 0 var bis 2,4 kvar | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 30 V ≤ U ≤ 240 V 0,05 A ≤ I ≤ 10 A | 18 · 10 ⁻⁶ | With PPCS System relative measurement uncertainty related to the apparent power |
| | 0 var bis 24 kvar | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 30 V ≤ U ≤ 240 V 10 A ≤ I ≤ 100 A | 45 · 10 ⁻⁶ | |
| | 0 var bis 4,8 kvar | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 240 V < U ≤ 480 V 0,05 A ≤ I ≤ 10 A | 47 · 10 ⁻⁶ | |
| | 0 var bis 48 kvar | 47,5 Hz ≤ f ≤ 62,5 Hz -90° ≤ φ _{U,I} ≤ 90° 240 V < U ≤ 480 V 10 A ≤ I ≤ 100 A | 50 · 10 ⁻⁶ | |

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| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks |
|--------------------------------------|--|---|---|---|
| AC - apparent power single phase | 1,5 VA bis 2,4 kVA | 47,5 Hz ≤ f ≤ 62,5 Hz 30 V ≤ U ≤ 240 V 0,05 A ≤ I ≤ 10 A | 18 · 10 ⁻⁶ | with PPCS System |
| | 300 VA bis 24 kVA | 47,5 Hz ≤ f ≤ 62,5 Hz 30 V ≤ U ≤ 240 V 10 A ≤ I ≤ 100 A | 45 · 10 ⁻⁶ | |
| | 12 VA bis 4,8 kVA | 47,5 Hz ≤ f ≤ 62,5 Hz 240 V < U ≤ 480 V 0,05 A ≤ I ≤ 10 A | 47 · 10 ⁻⁶ | |
| | 2,4 kVA bis 48 kVA | 47,5 Hz ≤ f ≤ 62,5 Hz 240 V < U ≤ 480 V 10 A ≤ I ≤ 100 A | 50 · 10 ⁻⁶ | |
| AC - active power three phase | 0,1125 W bis 115,2 kW | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 30 V ≤ U ≤ 240 V | | relative measurement uncertainty related to the apparent power with COM 303-3 |
| | | 5 mA ≤ I < 10 mA | 0,22 · 10 ⁻³ | |
| 0,01 A ≤ I < 0,02 A | | 0,17 · 10 ⁻³ | | |
| 0,02 A ≤ I < 0,05 A | | 0,13 · 10 ⁻³ | | |
| 0,05 A ≤ I < 0,1 A | | 0,10 · 10 ⁻³ | | |
| 0,1 A ≤ I < 20 A | | 54 · 10 ⁻⁶ | | |
| 20 A ≤ I ≤ 160 A | 72 · 10 ⁻⁶ | | | |
| 0,9 W bis 230,4 kW | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 240 V < U ≤ 480 V | | | |
| | 5 mA ≤ I < 10 mA | 0,22 · 10 ⁻³ | | |
| | 0,01 A ≤ I < 0,02 A | 0,17 · 10 ⁻³ | | |
| | 0,02 A ≤ I < 0,05 A | 0,13 · 10 ⁻³ | | |
| | 0,05 A ≤ I < 0,1 A | 0,16 · 10 ⁻³ | | |
| | 0,1 A ≤ I < 20 A | 71 · 10 ⁻⁶ | | |
| 20 A ≤ I ≤ 160 A | 86 · 10 ⁻⁶ | | | |

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| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks |
|--------------------------------------|---|--|--|--|
| AC - active power single phase | 7,5 mW bis 10,8 kW | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 2 V < U ≤ 30 V | | relative measurement uncertainty related to the apparent power with MT 3000 |
| | | 5 mA ≤ I < 50 mA 0,05 A ≤ I ≤ 120 A | 0,42 · 10 ⁻³ 0,30 · 10 ⁻³ | |
| | 0,75 mW bis 720 W | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 0,2 V < U ≤ 2 V | | |
| | | 5 mA ≤ I < 50 mA 0,05 A ≤ I ≤ 120 A | 0,7 · 10 ⁻³ 0,6 · 10 ⁻³ | |
| 75 μW bis 72 W | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 0,02 V < U ≤ 0,2 V | | | |
| | | 5 mA ≤ I < 50 mA 0,05 A ≤ I ≤ 120 A | 1,2 · 10 ⁻³ 1,1 · 10 ⁻³ | |
| 7,5 μW bis 7,2 W | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 0,002 V ≤ U ≤ 0,02 V | | 10 · 10 ⁻³ | |
| AC - active energy three phase | 11,25 Ws bis 3,2 kWh | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 30 V < U ≤ 240 V t = 100 s | | relative measurement uncertainty related to the apparent energy with COM 303-3 |
| | | 5 mA ≤ I < 10 mA | 0,22 · 10 ⁻³ | |
| | | 0,01 A ≤ I < 0,02 A | 0,17 · 10 ⁻³ | |
| | | 0,02 A ≤ I < 0,05 A | 0,13 · 10 ⁻³ | |
| | | 0,05 A ≤ I < 0,1 A | 0,10 · 10 ⁻³ | |
| | | 0,1 A ≤ I < 20 A | 54 · 10 ⁻⁶ | |
| | | 20 A ≤ I ≤ 160 A | 72 · 10 ⁻⁶ | |

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| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks |
|--------------------------------------|----------------------------------|---|---|--|
| AC - active energy three phase | 90 Ws bis 6,4 kWh | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ cos φ ≤ 1 240 V < U ≤ 480 V t = 100 s | | relative measurement uncertainty related to the apparent energy with COM 303-3 |
| | | 5 mA ≤ I < 10 mA | 0,22 · 10 ⁻³ | |
| | | 0,01 A ≤ I < 0,02 A | 0,17 · 10 ⁻³ | |
| | | 0,02 A ≤ I < 0,05 A | 0,13 · 10 ⁻³ | |
| | | 0,05 A ≤ I < 0,1 A | 0,16 · 10 ⁻³ | |
| | | 0,1 A ≤ I < 20 A | 71 · 10 ⁻⁶ | |
| | | 20 A ≤ I ≤ 160 A | 86 · 10 ⁻⁶ | |
| AC - reactive power three phase | 112,5 mvar bis 115,2 kvar | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ sin φ ≤ 1 30 V < U ≤ 240 V | | relative measurement uncertainty related to the apparent power with COM 303-3 |
| | | 5 mA ≤ I < 10 mA | 0,22 · 10 ⁻³ | |
| | | 0,01 A ≤ I < 0,02 A | 0,17 · 10 ⁻³ | |
| | | 0,02 A ≤ I < 0,05 A | 0,13 · 10 ⁻³ | |
| | | 0,05 A ≤ I < 0,1 A | 99 · 10 ⁻⁶ | |
| | | 0,1 A ≤ I < 20 A | 54 · 10 ⁻⁶ | |
| | 0,9 var bis 230,4 kvar | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ sin φ ≤ 1 240 V < U ≤ 480 V | | |
| | | 5 mA ≤ I < 10 mA | 0,22 · 10 ⁻³ | |
| | | 0,01 A ≤ I < 0,02 A | 0,17 · 10 ⁻³ | |
| | | 0,02 A ≤ I < 0,05 A | 0,13 · 10 ⁻³ | |
| | 0,05 A ≤ I < 0,1 A | 0,16 · 10 ⁻³ | | |
| | 0,1 A ≤ I < 20 A | 71 · 10 ⁻⁶ | | |
| | 20 A ≤ I ≤ 160 A | 91 · 10 ⁻⁶ | | |
| | AC - reactive power single phase | 7,5 mvar bis 10,8 kvar | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ sin φ ≤ 1 2 V < U ≤ 30 V | |
| 5 mA ≤ I < 50 mA | | | 0,42 · 10 ⁻³ | |
| 0,05 A ≤ I ≤ 120 A | | | 0,30 · 10 ⁻³ | |

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| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks |
|--------------------------------------|--------------------------|--|--|--|
| AC - reavtive power single phase | 0,75 mvar bis 720 var | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ sin φ ≤ 1 0,2 V < U ≤ 2 V | | relative measurement uncertainty related to the apparent power with MT 3000 |
| | | 5 mA ≤ I < 50 mA 0,05 A ≤ I ≤ 120 A | 0,7 · 10 ⁻³ 0,6 · 10 ⁻³ | |
| | 75 μvar bis 72 var | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ sin φ ≤ 1 0,02 V < U ≤ 0,2 V | 5 mA ≤ I < 50 mA 0,05 A ≤ I ≤ 120 A | |
| | 7,5 μvar bis 7,2 var | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ sin φ ≤ 1 0,002 V ≤ U ≤ 0,02 V | 5 mA ≤ I < 120 A | 10 · 10 ⁻³ |
| AC - reavtive energy three phase | 11,25 vars bis 3,2 kvarh | 40 Hz ≤ f ≤ 60 Hz 0,25 ≤ sin φ ≤ 1 30 V < U ≤ 240 V t = 100 s | | relative measurement uncertainty related to the apparent energy with COM 303-3 |
| | | 5 mA ≤ I < 10 mA | 0,22 · 10 ⁻³ | |
| | | 0,01 A ≤ I < 0,02 A | 0,17 · 10 ⁻³ | |
| | | 0,02 A ≤ I < 0,05 A | 0,13 · 10 ⁻³ | |
| | | 0,05 A ≤ I < 0,1 A | 99 · 10 ⁻⁶ | |
| | | 0,1 A ≤ I < 20 A | 54 · 10 ⁻⁶ | |
| | | 20 A ≤ I ≤ 160 A | 76 · 10 ⁻⁶ | |

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| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks | |
|---------------------------------------|--|--|---|--|----------------------|
| AC - reavtive energy three phase | 90 vars bis 6,4 kvarh | 40 Hz $\leq f \leq$ 60 Hz | | relative measurement uncertainty related to the apparent energy with COM 303-3 | |
| | | $0,25 \leq \sin \varphi \leq 1$ | | | |
| | | 240 V $< U \leq$ 480 V | | | |
| | | $t = 100$ s | | | |
| | | $5 \text{ mA} \leq I < 10 \text{ mA}$ | $0,22 \cdot 10^{-3}$ | | |
| | | $0,01 \text{ A} \leq I < 0,02 \text{ A}$ | $0,17 \cdot 10^{-3}$ | | |
| | | $0,02 \text{ A} \leq I < 0,05 \text{ A}$ | $0,13 \cdot 10^{-3}$ | | |
| | $0,05 \text{ A} \leq I < 0,1 \text{ A}$ | $0,16 \cdot 10^{-3}$ | | | |
| | $0,1 \text{ A} \leq I < 20 \text{ A}$ | $71 \cdot 10^{-6}$ | | | |
| | $20 \text{ A} \leq I \leq 160 \text{ A}$ | $91 \cdot 10^{-6}$ | | | |
| AC - apparent power three phase | 0,45 VA bis 115,2 kVA | 40 Hz $\leq f \leq$ 60 Hz | | with COM 303-3 | |
| | | 30 V $< U \leq$ 240 V | | | |
| | | $5 \text{ mA} \leq I < 10 \text{ mA}$ | $0,22 \cdot 10^{-3}$ | | |
| | | $0,01 \text{ A} \leq I < 0,02 \text{ A}$ | $0,17 \cdot 10^{-3}$ | | |
| | | $0,02 \text{ A} \leq I < 0,05 \text{ A}$ | $0,13 \cdot 10^{-3}$ | | |
| | | $0,05 \text{ A} \leq I < 0,1 \text{ A}$ | $99 \cdot 10^{-6}$ | | |
| | | $0,1 \text{ A} \leq I < 20 \text{ A}$ | $54 \cdot 10^{-6}$ | | |
| | $20 \text{ A} \leq I < 160 \text{ A}$ | $68 \cdot 10^{-6}$ | | | |
| | 3,6 VA bis 230,4 kVA | 40 Hz $\leq f \leq$ 60 Hz | | | $0,22 \cdot 10^{-3}$ |
| | | 240 V $< U \leq$ 480 V | | | |
| | | $5 \text{ mA} \leq I < 10 \text{ mA}$ | | | |
| | | $0,01 \text{ A} \leq I < 0,02 \text{ A}$ | $0,17 \cdot 10^{-3}$ | | |
| | | $0,02 \text{ A} \leq I < 0,05 \text{ A}$ | $0,13 \cdot 10^{-3}$ | | |
| | | $0,05 \text{ A} \leq I < 0,1 \text{ A}$ | $99 \cdot 10^{-6}$ | | |
| $0,1 \text{ A} \leq I < 20 \text{ A}$ | | $69 \cdot 10^{-6}$ | | | |
| $20 \text{ A} \leq I < 160 \text{ A}$ | $84 \cdot 10^{-6}$ | | | | |
| AC - apparent power single phase | 30 mVA bis 10,8 kVA | 40 Hz $\leq f \leq$ 60 Hz | | with MT 3000 | |
| | | 2 V $< U \leq$ 30 V | | | |
| | | $5 \text{ mA} \leq I < 50 \text{ mA}$ | $0,42 \cdot 10^{-3}$ | | |
| | | $0,05 \text{ A} \leq I \leq 120 \text{ A}$ | $0,30 \cdot 10^{-3}$ | | |

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|--------------------------------------|---|--|--|----------------|
| AC - apparent power single phase | 3 mVA bis 720 VA | 40 Hz ≤ f ≤ 60 Hz 0,2 V < U ≤ 2 V | | with MT 3000 |
| | | 5 mA ≤ I < 50 mA 0,05 A ≤ I ≤ 120 A | 0,7 · 10 ⁻³ 0,6 · 10 ⁻³ | |
| | 0,3 mVA bis 72 VA | 40 Hz ≤ f ≤ 60 Hz 0,02 V < U ≤ 0,2 V | | |
| | | 5 mA ≤ I < 50 mA 0,05 A ≤ I ≤ 120 A | 1,2 · 10 ⁻³ 1,1 · 10 ⁻³ | |
| 30 μVA bis 7,2 VA | 40 Hz ≤ f ≤ 60 Hz 0,002 V < U ≤ 0,02 V | | 10 · 10 ⁻³ | |
| AC - apparent energy three phase | 45 VAs bis 3,2 kVAh | 40 Hz ≤ f ≤ 60 Hz 30 V < U ≤ 240 V t = 100 s | | with COM 303-3 |
| | | 5 mA ≤ I < 10 mA 0,01 A ≤ I < 0,02 A 0,02 A ≤ I < 0,05 A 0,05 A ≤ I < 0,1 A 0,1 A ≤ I < 20 A 20 A ≤ I < 160 A | 0,22 · 10 ⁻³ 0,17 · 10 ⁻³ 0,13 · 10 ⁻³ 99 · 10 ⁻⁶ 54 · 10 ⁻⁶ 68 · 10 ⁻⁶ | |
| | 360 VAs bis 6,4 kVAh | 40 Hz ≤ f ≤ 60 Hz 240 V < U ≤ 480 V t = 100 s | | |
| | | 5 mA ≤ I < 10 mA 0,01 A ≤ I < 0,02 A 0,02 A ≤ I < 0,05 A 0,05 A ≤ I < 0,1 A 0,1 A ≤ I < 20 A 20 A ≤ I < 160 A | 0,22 · 10 ⁻³ 0,17 · 10 ⁻³ 0,13 · 10 ⁻³ 99 · 10 ⁻⁶ 69 · 10 ⁻⁶ 84 · 10 ⁻⁶ | |

bis = up to

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| Measured quantity / Calibration item | Range | Measurement conditions / procedure | Best measurement capability ¹⁾ | Remarks |
|--------------------------------------|---|---|---|---------------------|
| AC voltage phase angle | $-180^\circ \leq \delta_{U,U} \leq 180^\circ$ | 40 Hz $\leq f \leq$ 60 Hz 10 V $\leq U \leq$ 480 V | 0,4' | with COM 303-3 |
| | | 47,5 Hz $\leq f \leq$ 62,5 Hz 6 V $\leq U <$ 10 V 0,5 V $\leq U <$ 6 V | 0,1' 0,1' | with PPCS |
| | | 47,5 Hz $\leq f \leq$ 62,5 Hz 0,05 V $\leq U <$ 0,5 V 0,005 V $\leq U <$ 0,05 V | 0,2' 0,3' | with PPCS and RT-60 |
| AC current phase angle | $-180^\circ \leq \delta_{I,I} \leq 180^\circ$ | 40 Hz $\leq f \leq$ 60 Hz 5 mA $\leq I <$ 50 mA 0,05 A $\leq I \leq$ 120 A | 0,2' 0,1' | with COM 303-3 |

Used abbreviations:

| | |
|-----------|--|
| COM 303-3 | Reference standard (Comparator) |
| PPCS | Precision Power Calibration System |
| MT 3000 | Laboratory standard for small measuring ranges |
| RT-60 | Inductive voltage divider |

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