

Kalibrierlaboratorium

Rechtsperson TEST-FUCHS GmbH
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Ident Nr. 0628
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Test-Fuchs-Straße 1-5, 3812 Groß-Siegharts

Datum der Erstakkreditierung 2013-07-02

Level 3 Akkreditierungsnorm EN ISO/IEC 17025:2017
gemäß EA-1/06

Gemäß § 7 AkkG 2012 ist die der Akkreditierung zu Grunde liegende harmonisierte Level 3 Akkreditierungsnorm sowie die von der EA - European co-operation for Accreditation, des IAF — International Accreditation Forum und der Akkreditierung Austria zutreffenden Anleitungsdokumente/Leitfäden bzw. verpflichtend erklärten zusätzlichen normativen Dokumente in der geltenden Fassung zu beachten und einzuhalten.

Die Akkreditierung erfolgt zusätzlich nach folgenden Bestimmungen, welche ebenso verbindlich in der jeweils geltenden Fassung einzuhalten sind.

sonstige Anforderungen EA-3/01:2012
EA-4/02:2013
ILAC-P9:2014
ILAC-P10:2013
ILAC-P14:2013

Geltungsbereich des Kalibrierlaboratoriums (EN ISO/IEC 17025:2017)
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gültig ab: 22.01.2020

Dokumentnummer (Ausgabe)	Kalibriergröße	1)	Messbereich/ zusätzliche Parameter	Messunsicherheit	Kalibrier- oder Mess-Methode oder -Verfahren/ Art des Kalibriergegenstands/ Materials	Messgrößen/ Bemerkungen
ARV-EF01-01 (2015-11)	Frequency	✓	$\geq 1 \text{ Hz to } < 10 \text{ Hz}$	$2,0 \cdot 10^{-5} \cdot f$	Generate frequency / Electrical frequency measurements	Time and Frequency (Frequency)
ARV-EF01-02 (2015-11)	Frequency	✓	$\geq 10 \text{ Hz to } \leq 1 \text{ MHz}$	$1,0 \cdot 10^{-5} \cdot f$	Generate frequency / Electrical frequency measurements	Time and Frequency (Frequency)
ARV-I01-01 (2013-05)	DC current		$10 \mu\text{A to } 100 \mu\text{A}$	22 nA	Generate DC current / DC current meters	Electricity (DC & LF) Current
ARV-I01-02 (2013-05)	DC current		$> 100 \mu\text{A to } 1 \text{ mA}$	63 nA	Generate DC current / DC current meters	Electricity (DC & LF) Current
ARV-I01-03 (2013-05)	DC current		$> 1 \text{ mA to } 10 \text{ mA}$	0,61 μA	Generate DC current / DC current meters	Electricity (DC & LF) Current
ARV-I01-04 (2013-05)	DC current		$> 10 \text{ mA to } 100 \text{ mA}$	6,1 μA	Generate DC current / DC current meters	Electricity (DC & LF) Current
ARV-I01-05 (2013-05)	DC current		$> 100 \text{ mA to } 1 \text{ A}$	0,14 mA	Generate DC current / DC current meters	Electricity (DC & LF) Current
ARV-I02-01 (2013-05)	DC current		$> 1 \text{ A to } 10 \text{ A}$	2,1 mA	Generate DC current / DC current meter	Electricity (DC & LF) Current
ARV-I03-01 (2014-07)	AC current	✓	$\geq 33 \text{ mA to } < 330 \text{ mA} /$ $> 45 \text{ Hz to } \leq 1 \text{ kHz}$	$5,0 \cdot 10^{-4} \cdot I + 20 \mu\text{A}$	Generate AC current / AC current meters	Electricity (DC & LF) Current
ARV-I03-02 (2014-07)	AC current	✓	$\geq 33 \text{ mA to } < 330 \text{ mA} /$ $> 1 \text{ kHz to } \leq 5 \text{ kHz}$	$1,5 \cdot 10^{-3} \cdot I + 60 \mu\text{A}$	Generate AC current / AC current meters	Electricity (DC & LF) Current
ARV-I03-03 (2014-07)	AC current	✓	$\geq 0,33 \text{ A to } < 1,1 \text{ A} /$ $> 45 \text{ Hz to } \leq 1 \text{ kHz}$	$6,0 \cdot 10^{-4} \cdot I + 120 \mu\text{A}$	Generate AC current / AC current meters	Electricity (DC & LF) Current
ARV-I03-04 (2014-07)	AC current	✓	$\geq 0,33 \text{ A to } < 1,1 \text{ A} /$ $> 1 \text{ kHz to } \leq 5 \text{ kHz}$	$5,5 \cdot 10^{-3} \cdot I + 4 \text{ mA}$	Generate AC current / AC current meters	Electricity (DC & LF) Current
ARV-I03-05 (2014-07)	AC current	✓	$\geq 1,1 \text{ A to } < 3 \text{ A} /$ $> 45 \text{ Hz to } \leq 1 \text{ kHz}$	$7,0 \cdot 10^{-4} \cdot I + 120 \mu\text{A}$	Generate AC current / AC current meters	Electricity (DC & LF) Current
ARV-I03-06 (2014-07)	AC current	✓	$\geq 1,1 \text{ A to } < 3 \text{ A} /$ $> 1 \text{ kHz to } \leq 5 \text{ kHz}$	$7,0 \cdot 10^{-3} \cdot I + 2,7 \text{ mA}$	Generate AC current / AC current meters	Electricity (DC & LF) Current
ARV-I04-01 (2014-10)	DC current	✓	$\geq 3 \text{ mA to } < 33 \text{ mA}$	$1,5 \cdot 10^{-4} \cdot I + 0,5 \mu\text{A}$	Generate DC current / DC current meter	Electricity (DC & LF) Current

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ARV-I04-02 (2014-10)	DC current	✓	≥ 33 mA to < 330 mA	$1,5 \cdot 10^{-4} \cdot I + 5,0 \mu\text{A}$	Generate DC current / DC current meter	Electricity (DC & LF) Current
ARV-I04-03 (2014-10)	DC current	✓	≥ 0,33 A to < 1,1 A	$3,0 \cdot 10^{-4} \cdot I + 60 \mu\text{A}$	Generate DC current / DC current meter	Electricity (DC & LF) Current
ARV-I04-04 (2014-10)	DC current	✓	≥ 1,1 A to < 3 A	$6,0 \cdot 10^{-4} \cdot I + 60 \mu\text{A}$	Generate DC current / DC current meter	Electricity (DC & LF) Current
ARV-P01-01 (2017-08)	Positive gauge pressure		0,014 bar to 1,9 bar including measuring point: 0 bar Media: Air, Nitrogen	$4,5 \cdot 10^{-5} \cdot p_e + 12 \mu\text{bar}$ (p_e : measured value)	EN 837 DAkkS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Gauge pressure Gas medium
ARV-P01-02 (2017-08)	Positive gauge pressure		0,12 bar to 7,9 bar Media: Air, Nitrogen	$4 \cdot 10^{-5} \cdot p_e + 60 \mu\text{bar}$ (p_e : measured value)	EN 837 DAkkS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Gauge pressure Gas medium
ARV-P01-03 (2017-08)	Positive gauge pressure		0,14 bar to 70 bar Media: Air, Nitrogen	$4 \cdot 10^{-5} \cdot p_e + 2,0 \text{ mbar}$ (p_e : measured value)	EN 837 DAkkS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Gauge pressure Gas medium
ARV-P02-01 (2014-07)	Positive gauge pressure		2 bar to 100 bar including measuring point: 0 bar Media: Oil	$7 \cdot 10^{-5} \cdot p_e$, but not less than 0,7 mbar (p_e : measured value)	EN 837 DAkkS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Gauge pressure Liquid medium
ARV-P02-02 (2014-07)	Positive gauge pressure		> 100 bar to 1000 bar Media: Oil	$7 \cdot 10^{-5} \cdot p_e$ (p_e : measured value)	EN 837 DAkkS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Gauge pressure Liquid medium
ARV-P03-01 (2017-08)	Absolute pressure		0,014 bar to 1,9 bar Media: Air, Nitrogen	$4,5 \cdot 10^{-5} \cdot p_{\text{Abs}} + 20 \mu\text{bar}$ (p_{Abs} : measured value)	EN 837 DAkkS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Absolute pressure Gas medium

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ARV-P03-02 (2017-08)	Absolute pressure		0,12 bar to 7,9 bar Media: Air, Nitrogen	$4 \cdot 10^{-5} \cdot p_{\text{Abs}} + 60 \mu\text{bar}$ (pAbs: measured value)	EN 837 DAkKS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Absolute pressure Gas medium
ARV-P03-03 (2017-08)	Absolute pressure		0,14 bar to 70 bar Media: Air, Nitrogen	$4 \cdot 10^{-5} \cdot p_{\text{Abs}} + 2,0 \text{ mbar}$ (pAbs: measured value)	EN 837 DAkKS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Absolute pressure Gas medium
ARV-P04-01 (2014-07)	Absolute pressure		Ambient pressure / pAmbient: about 0,95 bar Media: Oil	0,5 mbar	EN 837 DAkKS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Absolute pressure Liquid medium
ARV-P04-02 (2014-07)	Absolute pressure		3 bar to 101 bar Media: Oil	$7 \cdot 10^{-5} \cdot p_{\text{Abs}}$, but not less than 0,8 mbar (pAbs: measured value)	EN 837 DAkKS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Absolute pressure Liquid medium
ARV-P04-03 (2014-07)	Absolute pressure		> 101 bar to 1001 bar Media: Oil	$7 \cdot 10^{-5} \cdot p_{\text{Abs}}$ (pAbs: measured value)	EN 837 DAkKS-DKD-R 6-1 EURAMET/cg-17 / Pressure measurements	Mechanical quantities / Absolute pressure Liquid medium
ARV-P05-01 (2014-07)	Positive gauge pressure	✓	1 bar to 70 bar Media: Skydrol	$2,5 \cdot 10^{-4} \cdot p_e$, but not less than 1,8 mbar (p _e : measured value)	EN 837 DAkKS-DKD-R 6-1 / Pressure measurements	Mechanical quantities / Gauge pressure Liquid medium
ARV-P05-02 (2014-07)	Positive gauge pressure	✓	> 70 bar to 700 bar Media: Skydrol	$2,5 \cdot 10^{-4} \cdot p_e$ (p _e : measured values)	EN 837 DAkKS-DKD-R 6-1 / Pressure measurements	Mechanical quantities / Gauge pressure Liquid medium
ARV-R01-01 (2013-05)	DC resistance		10 Ω	0,31 mΩ	Represent DC resistance / DC resistance meters	Electricity (DC & LF) Resistance
ARV-R01-02 (2013-05)	DC resistance		100 Ω	1,1 mΩ	Represent DC resistance / DC resistance meters	Electricity (DC & LF) Resistance
ARV-R01-03 (2013-05)	DC resistance		1 kΩ	11 mΩ	Represent DC resistance / DC resistance meters	Electricity (DC & LF) Resistance

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ARV-R01-04 (2013-05)	DC resistance		10 k Ω	0,11 Ω	Represent DC resistance / DC resistance meters	Electricity (DC & LF) Resistance
ARV-R01-05 (2013-05)	DC resistance		100 k Ω	1,2 Ω	Represent DC resistance / DC resistance meters	Electricity (DC & LF) Resistance
ARV-R01-06 (2013-05)	DC resistance		1 M Ω	29 Ω	Represent DC resistance / DC resistance meters	Electricity (DC & LF) Resistance
ARV-R01-07 (2013-05)	DC resistance		10 M Ω	0,59 k Ω	Represent DC resistance / DC resistance meters	Electricity (DC & LF) Resistance
ARV-R02-01 (2019-10)	DC resistance	✓	$\geq 0,07$ m Ω to ≤ 10 Ω / DC Current 100 mA - 10 A	4,2 $\mu\Omega$ ($\geq 0,07$ to $\leq 1,2$ m Ω) 0,35 % $\cdot R$ ($> 1,2$ to ≤ 5 m Ω) 0,2 % $\cdot R$ (> 5 m Ω to ≤ 10 Ω)	Measure DC resistance / Low Ohm Resistance Standards Loop Resistance Standards	Electricity (DC & LF) Resistance
ARV-T01-01 (2017-03)	Temperature	✓	-20 $^{\circ}$ C to 120 $^{\circ}$ C / short stem	150 mK	Generate & measure temperature / Temperature measurement devices with immersion depth > 25 mm	Temperature, humidity and thermophysical quantities / Temperature
ARV-T02_01 (2017-03)	Temperature	✓	-20 $^{\circ}$ C to 120 $^{\circ}$ C / long stem	50 mK	Generate & measure temperature / Temperature measurement devices with immersion depth > 90 mm	Temperature, humidity and thermophysical quantities / Temperature
ARV-U01-01 (2013-05)	DC voltage		10 mV to 100 mV	1,6 μ V	Generate DC voltage / DC voltage meters	Electricity (DC & LF) Voltage
ARV-U02-01 (2013-05)	DC voltage		> 100 mV to 1 V	8,8 μ V	Generate DC voltage / DC voltage meters	Electricity (DC & LF) Voltage
ARV-U02-02 (2013-05)	DC voltage		> 1 V to 10 V	43 μ V	Generate DC voltage / DC voltage meters	Electricity (DC & LF) Voltage
ARV-U02-03 (2013-05)	DC voltage		> 10 V to 100 V	0,75 mV	Generate DC voltage / DC voltage meters	Electricity (DC & LF) Voltage
ARV-U02-04 (2013-05)	DC voltage		> 100 V to 1000 V	9,3 mV	Generate DC voltage / DC voltage meters	Electricity (DC & LF) Voltage
ARV-U03-01 (2015-11)	AC voltage	✓	> 0,012 V to $\leq 0,12$ V / > 40 Hz to ≤ 1 kHz	$2,0 \cdot 10^{-4} \cdot U + 15$ μ V	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage

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ARV-U03-02 (2015-11)	AC voltage	✓	> 0,012 V to ≤ 0,12V / > 1 kHz to ≤ 20 kHz	$3,0 \cdot 10^{-4} \cdot U + 15 \mu\text{V}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-03 (2015-11)	AC voltage	✓	> 0,12 V to ≤ 1,2 V / > 40 Hz to ≤ 1 kHz	$2,5 \cdot 10^{-4} \cdot U + 30 \mu\text{V}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-04 (2015-11)	AC voltage	✓	> 0,12 V to ≤ 1,2 V / > 1 kHz to ≤ 20 kHz	$3,0 \cdot 10^{-4} \cdot U + 35 \mu\text{V}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-05 (2015-11)	AC voltage	✓	> 1,2 V to ≤ 12 V / > 40 Hz to ≤ 1 kHz	$2,5 \cdot 10^{-4} \cdot U + 300 \mu\text{V}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-06 (2015-11)	AC voltage	✓	> 1,2 V to ≤ 12 V / > 1 kHz to ≤ 20 kHz	$3,0 \cdot 10^{-4} \cdot U + 300 \mu\text{V}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-07 (2015-11)	AC voltage	✓	> 12 V to ≤ 120 V / > 40 Hz to ≤ 1 kHz	$4,0 \cdot 10^{-4} \cdot U + 3 \text{ mV}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-08 (2015-11)	AC voltage	✓	> 12 V to ≤ 120 V / > 1 kHz to ≤ 20 kHz	$4,0 \cdot 10^{-4} \cdot U + 3 \text{ mV}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-09 (2015-11)	AC voltage	✓	> 120 V to ≤ 700 V / > 40 Hz to ≤ 1 kHz	$6,5 \cdot 10^{-4} \cdot U + 35 \text{ mV}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U03-10 (2015-11)	AC voltage	✓	> 120 V to ≤ 700 V / > 1 kHz to ≤ 20 kHz	$10 \cdot 10^{-4} \cdot U + 35 \text{ mV}$	Generate & measure AC voltage / AC voltage meters AC voltage sources	Electricity (DC & LF) Voltage
ARV-U04-01 (2015-11)	DC voltage	✓	> 12 mV to ≤ 120 mV	$5 \cdot 10^{-6} \cdot U + 6 \mu\text{V}$	Generate & measure DC voltage / DC voltage meters DC voltage sources	Electricity (DC & LF) Voltage

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ARV-U04-02 (2015-11)	DC voltage	✓	> 0,12 V to ≤ 1,2 V	$15 \cdot 10^{-6} \cdot U + 5 \mu\text{V}$	Generate & measure DC voltage / DC voltage meters DC voltage sources	Electricity (DC & LF) Voltage
ARV-U04-03 (2015-11)	DC voltage	✓	> 1,2 V to ≤ 12 V	$15 \cdot 10^{-6} \cdot U + 5 \mu\text{V}$	Generate & measure DC voltage / DC voltage meters DC voltage sources	Electricity (DC & LF) Voltage
ARV-U04-04 (2015-11)	DC voltage	✓	> 12 V to ≤ 120 V	$20 \cdot 10^{-6} \cdot U + 70 \mu\text{V}$	Generate & measure DC voltage / DC voltage meters DC voltage sources	Electricity (DC & LF) Voltage
ARV-U04-05 (2015-11)	DC voltage	✓	> 120 V to ≤ 1000 V	$40 \cdot 10^{-6} \cdot U + 250 \mu\text{V}$	Generate & measure DC voltage / DC voltage meters DC voltage sources	Electricity (DC & LF) Voltage
ARV-Z01-01 (2019-10)	AC resistance	✓	≥ 0,07 mΩ to ≤ 12 mΩ / 1 kHz Modulus of Impedance AC Current 0,3 A - 10 A	0,1 mΩ (≥ 0,07 to ≤ 1,2 mΩ) 0,2 mΩ (> 1,2 to ≤ 12 mΩ)	Measure modulus of impedance / Low Ohm Impedance Standards Loop-Impedance-Standards	Electricity (DC & LF) Resistance
ARV-Z01-02 (2019-10)	AC resistance	✓	> 12 mΩ to ≤ 1,2 Ω / ≥ 45 Hz to ≤ 1 kHz Modulus of Impedance AC Current 0,3 A - 10 A	0,5 % · Z, but ≥ 0,2 mΩ	Measure modulus of impedance / Low Ohm Impedance Standards Loop-Impedance-Standards	Electricity (DC & LF) Resistance
ARV-Z01-03 (2019-10)	AC resistance	✓	≥ 40 mΩ to ≤ 4 Ω / ≥ 45 Hz to ≤ 2 kHz Modulus of Impedance AC Current 0,3 A - 10 A	0,5 % · Z, but ≥ 0,2 mΩ	Measure modulus of impedance / Low Ohm Impedance Standards Loop-Impedance-Standards	Electricity (DC & LF) Resistance

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1) Konformitätsbewertungsverfahren kann - wenn markiert - auch vor Ort durchgeführt werden.