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Český institut pro akreditaci, o.p.s.
Olšanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

CERTIFICATE OF ACCREDITATION

No. 251/2022

PRIMA BILAVČÍK, s.r.o.
with registered office 9. května 1182, 688 01 Uherský Brod, Company Registration No. 26227631

to the Calibration Laboratory No. 2318
Calibration Laboratory

Scope of accreditation:

Calibration of meters of geometric quantities, temperature, pressure, humidity, force, torque, weight, electrical quantities, frequency and time to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2018

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 623/2021 of 1. 12. 2021, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: 1. 12. 2026

Prague: 26. 5. 2022



-3-


Lukáš Burda
Director of the Department
of Testing and Calibration Laboratories
Czech Accreditation Institute
Public Service Company

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

PRIMA BILAVČÍK s.r.o.
Calibration Laboratory
9. května 1182, 688 01 Uherský Brod

Calibration laboratory locations:

1. Uherský Brod 9. května 1182, 688 01 Uherský Brod
2. Atómové elektrárne Mochovce Metrological Centre building, 935 39 Mochovce
3. Mladá Boleslav Komenského náměstí 90/10, 293 01 Mladá Boleslav
5. Uherský Brod II Antonína Dvořáka 1274, 688 01 Uherský Brod

CMC for the field of measured quantity: Length

Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Slide gauges	0 mm 1,000 mm	to to	2,000 mm 2,000 mm	(15·L +15) µm (15·L +30) µm	Comparison with parallel gauge blocks	KP-PB-01	1,2,3
2*	Micrometers	0 mm	to	1,000 mm	(15·L +1.5) µm	Comparison with parallel gauge blocks	KP-PB-02	1,2,3
3*	Length gauges	0 mm	to	1,040 mm	(1.2·L +0.15) µm	Direct or comparative measurement by a distance meter	KP-PB-04	1,2,3
4	Parallel gauge blocks - 3rd order - 4th order	0.5 mm 0.5 mm 100 mm 100 mm	to to to to	100 mm 100 mm 500 mm 1,000 mm	(1·L +0.1) µm (2·L +0.2) µm (2·L +0.2) µm (1.2·L +0.17) µm	Comparison with parallel gauge blocks	KP-PB-07	1 1,2,3 1,3 1
5*	Height gauges	0 mm	to	1,000 mm	(1.2·L +0.8) µm	Comparison with parallel gauge blocks	KP-PB-12	1
6*	Graduated scales, tape measures, measuring tapes	0 mm	to	50 m	(0.2·n) mm	Direct measurement on a measuring track, comparative	KP-PB-14	1, 2



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Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
7*	Length gauges	0 mm	to 300 mm		(0.8 · L + 0.07) μm	measurement with reference tape measure and ruler	KP-PB-16	1
8*	Gauges of length and geometric shapes by a laser interferometer	0 m	to 20 m		(0.8 · L + 0.03) μm	Direct measurement by a laser interferometer	KP-PB-19	1
9*	Gauges of length, shape, geometric positions, angles with a laser interferometer and laser tracker	0.2 m	to 15 m		(0.3 · L + 0.2) μm	Direct measurement by a LaserTracker laser interferometer	KP-PB-19	1
10	Angles	0 mm	to 1,000 mm		4 μm	Direct measurement using a coordinate measuring machine or a height gauge	KP-PB-26	1,2,3
					6 μm	Comparison with a perpendicularity standard and parallel gauge blocks		
11*	Internal gauges	0 mm	to 300 mm		(3 · L + 2) μm	Comparison with setting rings	KP-PB-20	1,2,3
12*	Contact, optical, multisensor coordinate measuring machines	0 mm	to 1,600 mm		(1 · L + 0.2) μm	Comparison with steel parallels and graduated scale	KP-PB-21	1
13*	Coordinate measuring machines – manual mobile hinged arms	0 mm	to 3,700 mm		(2 · L + 20) μm	Comparison using step gauges	KP-PB-21	1,4
14*	Coordinate measuring machines – proximity scanners	0 mm	to 200 mm		3 μm	Comparison with a measuring gauge	KP-PB-21	1
					20 μm			
15*	Coordinate measuring machines	0 mm	to 30 mm		50 μm	Direct measurement by a LaserTracker laser interferometer	KP-PB-21	1
16*	Coordinate measuring machines – tomographs	0 mm	to 500 mm		3 μm	Comparison with a spherical standard	KP-PB-21	1



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Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
17	Surface roughness standards	0 µm	to 100 µm		(0.06·L) µm	Direct measurement by a roughness meter	KP-PB-23	1
18*	Roughness meters	0 µm	to 100 µm		(0.035·L) µm	Comparison with a roughness standard	KP-PB-24	1
21*	Profilometers	0 mm	to 600 mm		(1.2·L + 1.2) µm	Comparison with a contour standard	KP-PB-25	1
22	Gauges of length and geometric quantities	0 mm	to 1,000 mm		(3·L + 2) µm	Direct measurement by a coordinate measuring machine	KP-PB-27	1,2,3
	Gauges of length, diameter and geometric quantities	0 mm	to 1,000 mm		0.3 µm	Direct measurement by a ring gauge		
23*	3D length gauges	0 mm	to 3,200 mm		43 µm	Direct measurement by a mobile hinged arm	KP-PB-27	1
23*	Ring gauges	0 µm	to 2,000 µm	roundness	0.1 µm	Comparison with a reference sphere	KP-PB-31	1
					0.11 µm			
24	Laser distance meters	0 m	to 20 m		0.9 mm	Direct measurement by a LaserTracker laser interferometer, comparison with a length standard	KP-PB-28	1
25	Surface layer thickness gauges	0 mm	to 2.0 mm		(20·L + 1.3) µm	Comparative measurement by a thickness standard	KP-PB-29	1

¹ Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

² The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02, part of CMC, and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %.

³ If the document identifying the calibration procedure is dated, only these specific procedures are used; if the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

L dimension in meters

n number of two-metre sections along the whole length



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CMC for the field of measured quantity: Plane angle

Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Angle gauges	0 °	to 360 °		3'	Comparison with angle gauges	KP-PB-15	1,2,3
2	Builder's levels	-3 °	to 3 °		0.7 mm/m	Direct measurement on an index head, comparison with an angle gauge	KP-PB-36	1
	Clinometers	-180 °	to 180 °		0.15°			
3	Rotation angle of torque wrench	0 °	to 270 °		0.32°	Direct measurement by an angle sensor	KP-PB-40 (ČSN EN ISO 6789, VDI/VDE 2648 1, STN EN ISO 6789)	1.3

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CMC for the field of measured quantity: Mass

Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Balances with non-automatic function ⁴	0 kg	to 5 kg		5 · 10 ⁻⁷	Loading using a class E2 reference weight class F1 class F2 class M1	KP-PB-71	1
		5 kg	to 55 kg		1.6 · 10 ⁻⁶			
		55 kg	to 150 kg		5 · 10 ⁻⁶			
		150 kg	to 1,000 kg		1.7 · 10 ⁻⁵			
2	Weights					Comparison using a reference weight	KP-PB-75	1
		1 mg			0.026 mg			
		2 mg			0.026 mg			
		5 mg			0.022 mg			
		10 mg			0.022 mg			
		20 mg			0.019 mg			
		50 mg			0.017 mg			
		100 mg			0.020 mg			
		200 mg			0.022 mg			
		500 mg			0.028 mg			
		1 g			0.028 mg			
		2 g			0.034 mg			
		5 g			0.041 mg			
		10 g			0.055 mg			
		20 g			0.058 mg			
		50 g			0.063 mg			
		100 g			0.15 mg			
		200 g			0.23 mg			
		500 g			6.4 mg			



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Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
		1 kg			7.9 mg			
		2 kg			9.1 mg			
		5 kg			18 mg			
		10 kg			69 mg			
		20 kg			79 mg			

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⁴ The lowest calibration uncertainty for balances is stated without accounting for the effect of the calibrated meter.



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CMC for the field of measured quantity: Force

Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Torque / torque wrenches	0.2 N·m	to 1,000 N·m		0.4 %	Direct measurement by a torque sensor	KP-PB-40 (ČSN EN ISO 6789, VDI/VDE 2648-1, STN EN ISO 6789)	1, 2, 3
2*	Force / Working force-proving instruments	50 N	to 2,500 N	Tension, pressure	0.13 % FS	Direct measurement by a force-proving instrument	KP-PB-41	5
		10 N	to 1,000 N		0.07 %	Direct measurement by a force sensor		

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FS full scale



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CMC for the field of measured quantity: Pressure

Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Mechanical pressure gauges and electromechanical manometers	-100 kPa	to -1.5 kPa	negative gauge pressure	0.031 % + 1.16 Pa	Comparison with a reference pressure gauge	KP-PB-55 KP-PB-56	1,2
		-1.5 kPa	to 0 kPa	positive gauge pressure	0.025 % + 10 Pa			
		0 kPa	to 1.5 kPa	positive gauge pressure	0.025 % + 1 Pa			
		1.5 kPa	to 10 kPa	positive gauge pressure	0.023 % + 1.16 Pa			
1*	Mechanical pressure gauges and electromechanical manometers	10 kPa	to 700 kPa	positive gauge pressure	0.017 % + 1.16 Pa	Comparison with a reference pressure gauge	KP-PB-55 KP-PB-56	1,2
		0.7 MPa	to 2 MPa	positive gauge pressure	0.025 % + 0.2 kPa			
		2 MPa	to 2.4 MPa	positive gauge pressure	0.7 kPa			
		2.4 MPa	to 10 MPa	positive gauge pressure	3.01 kPa			
1*	Mechanical pressure gauges and electromechanical manometers	0 MPa	to 0.1 MPa	positive gauge pressure	0.025 % + 0.6 kPa	Comparison with a reference pressure gauge	KP-PB-55 KP-PB-56	1,2
		0.1 MPa	to 70 MPa	positive gauge pressure	0.023 % + 0.23 kPa			
1*	Mechanical pressure gauges and electromechanical manometers	70 MPa	to 100 MPa	positive gauge pressure	29 kPa	Comparison with a reference pressure gauge	KP-PB-55 KP-PB-56	1,2
		100 MPa	to 250 MPa	positive gauge pressure	125 kPa			
1*	Mechanical pressure gauges and electromechanical manometers	0 kPa	to 115 kPa	absolute pressure	0.05 kPa	Comparison with a reference pressure gauge	KP-PB-55 KP-PB-56	1,2
		115 kPa	to 600 kPa	absolute pressure	0.18 kPa			

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CMC for the field of measured quantity: Temperature

Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Direct-indicating thermometers	-100 °C	to -60 °C		0.04 °C	Comparison using a reference resistance thermometer	KP-PB-51	5
		-60 °C	to 0 °C		0.04 °C			
		0 °C	to 50 °C		0.03 °C			
		50 °C	to 230 °C		0.03 °C			
		230 °C	to 660 °C		0.04 °C			
2*	Direct indicating thermometers – temperature measuring chains – externally	660 °C	to 700 °C		1.1 °C	Comparison with a reference thermocouple	KP-PB-51	5
		700 °C	to 1,000 °C		1.2 °C			
		1,000 °C	to 1,100 °C		1.2 °C			
		1,100 °C	to 1,200 °C		1.4 °C			
		1,200 °C	to 1,500 °C		2.4 °C			
		1,500 °C	to 1,600 °C	2.9 °C				
		-100 °C	to 230 °C		0.2 °C	Comparison using a reference resistance thermometer	KP-PB-51	5
		230 °C	to 660 °C		0.3 °C			
		660 °C	to 700 °C		1.1 °C			
		700 °C	to 1,000 °C		2.1 °C			
		1,000 °C	to 1,100 °C		2.2 °C			
		1,100 °C	to 1,200 °C		2.3 °C			



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		min. unit	max. unit					
3*	Temperature – contactless thermometers	1,200 °C	to 1,500 °C		2.9 °C	Comparison with a reference black body	KP-PB-53	5
		1,500 °C	to 1,600 °C		3.4 °C			
		-20 °C	to 0 °C	TC-J	1.2 °C			
		0 °C	to 50 °C		1.3 °C			
		50 °C	to 100 °C		1.4 °C			
		100 °C	to 200 °C		1.9 °C			
		200 °C	to 300 °C		2.8 °C			
		300 °C	to 400 °C		3.4 °C			
		400 °C	to 500 °C		3.6 °C			
		500 °C	to 600 °C		3.9 °C			
		600 °C	to 800 °C		5.0 °C			
800 °C	to 1,000 °C	6.1 °C						
1,000 °C	to 1,200 °C	7.3 °C						
4*	Temperature calibrators, temperature indicators	-210 °C	to 0 °C	TC-J	0.15 °C	Direct generation of equivalent DC voltage for TC – without cold junction compensation	KP-PB-122	5
		0 °C	to 1,200 °C		0.08 °C			
		-270 °C	to 0 °C	TC-K	0.18 °C			
		0 °C	to 500 °C		0.09 °C			
		500 °C	to 1,372 °C	TC-T	0.12 °C			
		-270 °C	to 0 °C		0.17 °C			
0 °C	to 400 °C	0.05 °C						
-50 °C	to 250 °C	TC-R	0.70 °C					
250 °C	to 1,768 °C		0.24 °C					



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		min. unit	max. unit					
		-50 °C	to 250 °C	TC-S	0.64 °C	Direct measurement of equivalent DC voltage for TC – without cold junction compensation	KP-PB-122	5
		250 °C	to 1,768 °C		0.24 °C			
		250 °C	to 1,820 °C	TC-B	0.41 °C			
		-270 °C	to 0 °C	TC-N	0.27 °C			
		0 °C	to 1,300 °C		0.10 °C			
		-270 °C	to 0 °C	TC-E	0.12 °C			
		0 °C	to 1,000 °C		0.07 °C			
		-210 °C	to 0 °C	TC-J	0.08 °C			
		0 °C	to 1,200 °C		0.07 °C			
		-270 °C	to 0 °C	TC-K	0.09 °C			
		0 °C	to 500 °C		0.06 °C			
		500 °C	to 1,372 °C		0.07 °C			
		-270 °C	to 0 °C	TC-T	0.09 °C			
		0 °C	to 400 °C		0.03 °C			
		-50 °C	to 250 °C	TC-R	0.32 °C			
		250 °C	to 1,064 °C		0.09 °C			
		1,064 °C	to 1,768 °C		0.10 °C			
		-50 °C	to 250 °C	TC-S	0.29 °C			
		250 °C	to 1,064 °C		0.10 °C			
		1,064 °C	to 1,768 °C		0.12 °C			
		250 °C	to 700 °C	TC-B	0.18 °C			
		700 °C	to 1,820 °C		0.11 °C			
		-270 °C	to 0 °C	TC-N	0.12 °C			



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		min. unit	max. unit					
		0 °C	to 600 °C		0.04 °C			
		600 °C	to 1,300 °C		0.04 °C			
		-270 °C	to 0 °C	TC-E	0.05 °C			
		0 °C	to 1,000 °C		0.03 °C			
		-100 °C		Pt 100 (3850)	0.03 °C	Direct generation of equivalent resistance for RTD	KP-PB-122	5
		0 °C			0.03 °C			
		30 °C			0.04 °C			
		60 °C			0.04 °C			
		100 °C			0.04 °C			
		200 °C			0.05 °C			
		400 °C			0.07 °C			
		800 °C			0.13 °C			
		-200 °C	to 0 °C	Pt 100 (3850)	0.15 °C			
		0 °C	to 800 °C		0.43 °C			
		-200 °C	to 260 °C	Pt 500 (3850)	0.12 °C			
		260 °C	to 800 °C		0.45 °C			
		-200 °C	to 0 °C	Pt 1000 (3850)	0.05 °C			
		0 °C	to 800 °C		0.45 °C			
		-60 °C	to 0 °C	Ni 100 (6180)	0.12 °C			
		0 °C			0.02 °C			
		0 °C	to 250 °C		0.21 °C			



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		min. unit	max. unit					
5	Temperature calibrators, temperature indicators	-80 °C	to 0 °C	Ni 120 (6720)	0.08 °C	Direct measurement of equivalent resistance for RTD	KP-PB-122	5
		0 °C	to 260 °C		0.11 °C			
		-50 °C	to 0 °C	Ni 1000 (6180)	0.03 °C			
		0 °C	to 200 °C		0.15 °C			
		-200 °C	to 800 °C	Pt 100 (385)	0.03 °C			
		-200 °C	to 800 °C		0.10 °C			
		-200 °C	to 800 °C		0.16 °C			
		-60 °C	to 250 °C	Ni 100 (6180)	0.02 °C			
		-60 °C	to 250 °C		0.02 °C			
		-60 °C	to 200 °C	Ni 1000 (6180)	0.02 °C			
5	Temperature calibrators, temperature indicators	-210 °C	to 0 °C	TC-J	0.073 °C	Direct generation of equivalent DC voltage for TC – without cold junction compensation	KP-PB-122	2
		0 °C	to 760 °C		0.064 °C			
		760 °C	to 1,200 °C		0.071 °C			
		-200 °C	to 0 °C	TC-K	0.077 °C			
		0 °C	to 760 °C		0.081 °C			
		760 °C	to 1,372 °C		0.093 °C			
		-250 °C	to 0 °C	TC-T	0.076 °C			
		0 °C	to 400 °C		0.068 °C			
		-50 °C	to 1,604 °C		0.45 °C			
		1,604 °C	to 1,664 °C		0.48 °C			
1,664 °C	to 1,768 °C		0.49 °C					



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PRIMA BILAVČÍK s.r.o.

Calibration Laboratory

9. května 1182, 688 01 Uherský Brod

Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
		-50 °C	to 1,604 °C	TC-S	0.45 °C	Direct measurement of equivalent DC voltage for TC – without cold junction compensation	KP-PB-122	2
		1,604 °C	to 1,664 °C		0.46 °C			
		1,664 °C	to 1,768 °C		0.48 °C			
		0 °C	to 630 °C	TC-B	0.40 °C			
		630 °C	to 1,820 °C		0.25 °C			
		-270 °C	to 0 °C	TC-N	0.098 °C			
		0 °C	to 1,300 °C		0.10 °C			
		-270 °C	to 0 °C	TC-E	0.048 °C			
		0 °C	to 1,000 °C		0.045 °C			
		-210 °C	to 0 °C	TC-J	0.072 °C			
		0 °C	to 760 °C		0.063 °C			
		760 °C	to 1,200 °C		0.071 °C			
		-200 °C	to 760 °C	TC-K	0.075 °C			
		760 °C	to 1,372 °C		0.093 °C			
		-250 °C	to 0 °C	TC-T	0.074 °C			
		0 °C	to 400 °C		0.066 °C			
		-50 °C	to 1,604 °C	TC-R	0.44 °C			
		1,604 °C	to 1,664 °C		0.47 °C			
		1,664 °C	to 1,768 °C		0.49 °C			
		-50 °C	to 1,604 °C	TC-S	0.43 °C			
		1,604 °C	to 1,664 °C		0.45 °C			
		1,664 °C	to 1,768 °C		0.47 °C			



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		min. unit	max. unit					
		0 °C	to 630 °C	TC-B	0.39 °C			
		630 °C	to 1,820 °C		0.21 °C			
		-270 °C	to 0 °C	TC-N	0.089 °C			
		0 °C	to 1,300 °C		0.10 °C			
		-270 °C	to 0 °C	TC-E	0.047 °C			
		0 °C	to 1,000 °C		0.043 °C			
		-200 °C	to 0 °C	Pt 25	0.31 °C	Direct generation of equivalent resistance for RTD	KP-PB-122	2
		0 °C	to 850 °C		0.42 °C			
		-200 °C	to 0 °C	Pt 50	0.16 °C			
		0 °C	to 850 °C		0.19 °C			
		-200 °C	to 0 °C	Pt 100	0.082 °C			
		0 °C	to 850 °C		0.12 °C			
		-200 °C	to 0 °C	Pt 200	0.054 °C			
		0 °C	to 850 °C		0.094 °C			
		-200 °C	to 0 °C	Pt 500	0.038 °C			
		0 °C	to 850 °C		0.11 °C			
		-200 °C	to 0 °C	Pt 1000	0.050 °C			
		0 °C	to 850 °C		0.090 °C			
		-60 °C	to 180 °C	Ni 100	0.073 °C			
		-60 °C	to 180 °C	Ni 1000	0.046 °C			



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Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
		-200 °C 0 °C	to 850 °C	Pt 25	0.064 °C 0.092 °C	Direct measurement of equivalent resistance for RTD	KP-PB-122	2
		-200 °C 0 °C	to 850 °C	Pt 50	0.040 °C 0.068 °C			
		-200 °C 0 °C	to 850 °C	Pt 100	0.029 °C 0.072 °C			
		-200 °C 0 °C	to 850 °C	Pt 200	0.033 °C 0.058 °C			
		-200 °C 0 °C	to 850 °C	Pt 500	0.023 °C 0.048 °C			
		-200 °C 0 °C	to 850 °C	Pt 1000	0.023 °C 0.076 °C			
		-60 °C -60 °C	to 180 °C	Ni 100	0.028 °C			
		-60 °C -60 °C	to 180 °C	Ni 1000	0.021 °C			

¹ Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

² The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02, part of CMC, and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %.

³ If not stated otherwise, the uncertainty values stated without a unit are relative to the value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected. If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).



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CMC for the field of measured quantity: Electrical quantities

Ord. number i	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	DC voltage / DC voltage sources	0 mV	to 120 mV		8.0 $\mu\text{V/V} + 0.2 \mu\text{V}$	Direct measurement by a reference multimeter	KP-PB-110	5, 2
		0.12 V	to 1.2 V		5.7 $\mu\text{V/V} + 0.61 \mu\text{V}$			
		1.2 V	to 12 V		5.5 $\mu\text{V/V} + 6.1 \mu\text{V}$			
		12 V	to 120 V		8.1 $\mu\text{V/V} + 81 \mu\text{V}$			
		120 V	to 1,050 V		8.1 $\mu\text{V/V} + 1.2 \text{ mV}$			
	DC voltage / DC voltage meters	1.05 kV	to 10 kV		1.2 %	Measurement with a HV adapter or measurement with a reference multimeter with HV probe	KP-PB-120	2
		0 mV	to 200 mV			Direct measurement on a reference calibrator or comparison with a reference multimeter	KP-PB-110	5, 2
		0.2 V	to 2 V		12 $\mu\text{V/V} + 2.1 \mu\text{V}$			
		2 V	to 20 V		7 $\mu\text{V/V} + 2.3 \mu\text{V}$			
		20 V	to 200 V		5 $\mu\text{V/V} + 7 \mu\text{V}$			
		200 V	to 1,100 V		8 $\mu\text{V/V} + 78 \mu\text{V}$			
		1.1 kV	to 5 kV		10 $\mu\text{V/V} + 0.71 \text{ mV}$			
2*	DC current / DC current sources	0 μA	to 120 μA		1.1 %	Direct measurement on a HV source or comparison with a reference multimeter with a HV probe	KP-PB-110	2
		0.12 mA	to 1.2 mA		23 $\mu\text{A/A} + 0.42 \text{ nA}$	Direct measurement by a reference multimeter	KP-PB-111	5, 2
		1.2 mA	to 12 mA		14 $\mu\text{A/A} + 4.1 \text{ nA}$			
					16 $\mu\text{A/A} + 41 \text{ nA}$			



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Ord. number i	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
		12 mA 0.12 A 1.2 A 10 A	to to to to		42 $\mu\text{A/A} + 0.61 \mu\text{A}$ 0.020 % + 13 μA 0.048 % + 0.35 mA 0.064 % + 4.4 mA			
		30 A 100 A 200	to to to		0.011 % 0.064 % 0.069 %	Indirect measurement using a reference shunt and multimeter.	KP-PB-111	5
		300 A	to 1,000 A		2.0 % + 2,3 A	Direct measurement by a reference clamp multimeter.	KP-PB-111	5
	DC current / DC current meters	0 μA 0.2 mA 2 mA 20 mA 0.2 A 2 A 20 A 30 A	to to to to to to to to		0.011 % + 2 nA 51 $\mu\text{A/A} + 11 \text{nA}$ 46 $\mu\text{A/A} + 0.21 \mu\text{A}$ 51 $\mu\text{A/A} + 2.2 \mu\text{A}$ 87 $\mu\text{A/A} + 32 \mu\text{A}$ 0.023 % + 0.30 mA 0.034 % + 0.94 mA 0.15 % + 0.12 A	Direct measurement on a reference calibrator or comparison with a reference multimeter	KP-PB-111	5, 2
		30 A	to 1,500 A		0.60 % + 0.42 A	Measurement of a current simulated by a calibrator with current coil	KP-PB-111	2 5, 2



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Ord. number ₁	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ₃	Work-place
		min. unit	max. unit					
3*	AC voltage / AC voltage sources	0 mV	to 200 mV	10 Hz to 40 Hz	0.061 % + 19 μ V	Direct measurement by a reference multimeter	KP-PB-112	5, 2
				40 Hz to 10 kHz	0.026 % + 16 μ V			
				10 kHz to 30 kHz	0.058 % + 17 μ V			
				30 kHz to 100 kHz	0.13 % + 66 μ V			
		0.2 V	to 2 V	10 Hz to 40 Hz	0.048 % + 0.24 mV			
				40 Hz to 10 kHz	0.019 % + 57 μ V			
				10 kHz to 30 kHz	0.029 % + 67 μ V			
				30 kHz to 100 kHz	0.058 % + 0.24 mV			
		100 kHz to 300 kHz		100 kHz to 300 kHz	0.32 % + 2.1 mV			
				300 kHz to 1 MHz	1.1 % + 20 mV			
2 V	to 20 V	10 Hz to 40 Hz	0.048 % + 2.3 mV					
		40 Hz to 10 kHz	0.018 % + 0.54 mV					
		10 kHz to 30 kHz	0.029 % + 0.64 mV					
		30 kHz to 100 kHz	0.058 % + 2.3 mV					
100 kHz to 300 kHz		100 kHz to 300 kHz	0.32 % + 20 mV					
		300 kHz to 1 MHz	1.0 % + 0.20 V					
20 V	to 200 V	10 Hz to 40 Hz	0.060 % + 23 mV					
		40 Hz to 10 kHz	0.017 % + 6.1 mV					
		10 kHz to 30 kHz	0.029 % + 7.1 mV					
		30 kHz to 100 kHz	0.059 % + 27 mV					
100 kHz to 300 kHz		10 Hz to 40 Hz	0.060 % + 0.16 V					
		40 Hz to 10 kHz	0.027 % + 0.10 V					
200 V	to 1,100 V	10 kHz to 30 kHz	0.039 % + 0.18 V					
		30 kHz to 100 kHz						



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Ord. number i	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
		1 kV	to 10 kV	50 Hz	1.4 %	Measurement with a HV adapter or measurement with a reference multimeter with HV probe	KP-PB-120	2
	AC voltage / AC voltage meters	0 mV	to 200 mV	10 Hz to 30 Hz 30 Hz to 10 kHz 10 kHz to 33 kHz 33 kHz to 100 kHz 100 kHz to 330 kHz 330 kHz to 1 MHz	0.018 % + 15 μV 0.013 % + 14 μV 0.03 % + 22 μV 0.074 % + 38 μV 0.16 % + 63 μV 0.26 % + 0.16 mV	Direct measurement on a reference calibrator or comparison with a reference multimeter	KP-PB-112	5, 2
		0.2 V	to 2 V	10 Hz to 30 Hz 30 Hz to 330 Hz 330 Hz to 33 kHz 33 kHz to 100 kHz 100 kHz to 330 kHz 330 kHz to 1 MHz	0.014 % + 91 μV 0.0074 % + 33 μV 0.0065 % + 28 μV 0.014 % + 54 μV 0.037 % + 0.16 mV 0.20 % + 0.92 mV			
		2 V	to 20 V	10 Hz to 30 Hz 30 Hz to 330 Hz 330 Hz to 10 kHz 10 kHz to 33 kHz 33 kHz to 100 kHz 100 kHz to 330 kHz 330 kHz to 1 MHz	0.014 % + 0.90 mV 0.0075 % + 0.34 mV 0.0066 % + 0.11 mV 0.0067 % + 0.33 mV 0.014 % + 0.68 mV 0.038 % + 1.7 mV 0.21 % + 12 mV			



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Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work place	
		min. unit	max. unit						
4*	AC current / AC current sources	20 V	to 200 V	10 Hz to 30 Hz	0.016 % + 10 mV	Direct measurement on a HV source or comparison with a reference multimeter with a HV probe	KP-PB-112	2	
					30 Hz to 330 Hz				0.0086 % + 3.8 mV
					330 Hz to 10 kHz				0.0076 % + 3.4 mV
				10 kHz to 33 kHz	0.0088 % + 4.3 mV				
				33 kHz to 100 kHz	0.019 % + 8.5 mV				
				100 kHz to 200 kHz	0.061 % + 27 mV				
			200 V	to 750 V	45 Hz to 330 Hz				0.018 % + 38 mV
					330 Hz to 10 kHz				0.014 % + 32 mV
					10 kHz to 33 kHz				0.022 % + 60 mV
					33 kHz to 100 kHz				0.11 % + 0.20 V
			750 V	to 1,100 V	45 Hz to 330 Hz				0.018 % + 38 mV
					330 Hz to 10 kHz				0.014 % + 32 mV
			10 kHz to 33 kHz	0.020 % + 60 mV					
	1.1 kV	to 5 kV	50 Hz	1.1 %					
	0 μA	to 100 μA	10 Hz to 40 Hz	0.061 % + 24 nA	Direct measurement by a reference multimeter	KP-PB-113	5, 2		
			40 Hz to 1 kHz	0.039 % + 16 nA					
			1 kHz to 10 kHz	0.083 % + 32 nA					
	100 μA	to 200 μA	10 Hz to 5 kHz	0.062 % + 45 nA					
	0.2 mA	to 1 mA	10 Hz to 40 Hz	0.058 % + 0.21 μA					
			40 Hz to 1 kHz	0.037 % + 0.19 μA					
			1 kHz to 10 kHz	0.082 % + 0.31 μA					
	1 mA	to 2 mA	10 Hz to 5 kHz	0.050 % + 0.37 μA					



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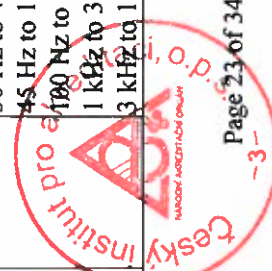
Ord. number _i	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ₃	Work-place
		min. unit	max. unit					
		2 mA	to 10 mA	10 Hz to 40 Hz 40 Hz to 1 kHz 1 kHz to 10 kHz	0.058 % + 3.1 μA 0.037 % + 1.9 μA 0.081 % + 3.1 μA			
		10 mA	to 20 mA	10 Hz to 5 kHz	0.050 % + 3.3 μA			
		20 mA	to 100 mA	10 Hz to 40 Hz 40 Hz to 1 kHz	0.059 % + 27 μA 0.035 % + 12 μA			
		100 mA	to 200 mA	1 kHz to 10 kHz	0.082 % + 30 μA			
		0.2 A	to 1 A	10 Hz to 5 kHz	0.050 % + 31 μA			
		1 A	to 2 A	10 Hz to 40 Hz 40 Hz to 1 kHz 1 kHz to 10 kHz	0.074 % + 0.34 mA 0.054 % + 0.17 mA 0.081 % + 0.5 mA			
		2 A	to 10 A	10 Hz to 1 kHz	0.078 % + 0.49 mA			
		10 A	to 30 A	10 Hz to 40 Hz 40 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz	0.10 % + 5.8 mA 0.091 % + 3.2 mA 0.18 % + 12 mA 0.51 % + 79 mA			
		30 A	to 100 A	10 Hz to 40 Hz 40 Hz to 1 kHz	0.093 % + 13 mA 0.082 % + 9.1 mA			
		30 A	to 1,000 A	50 Hz	0.14 %	Indirect measurement using a reference shunt and multimeter.	KP-PB-113	2
		30 A	to 1,000 A	30 Hz to 60 Hz	2.1 % + 1.2 A	Direct measurement by a reference clamp multimeter.	KP-PB-113	5



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Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
	AC current / AC current meters	9 μ A	to 200 μ A	10 Hz to 1 kHz	0.030 % + 25 nA	Direct measurement on a reference calibrator or comparison with a reference multimeter	KP-PB-113	5, 2
				1 kHz to 5 kHz	0.054 % + 49 nA			
				5 kHz to 10 kHz	0.96 % + 0.20 μ A			
		0.2 mA	to 2 mA	10 Hz to 1 kHz	0.026 % + 0.25 μ A			
				1 kHz to 5 kHz	0.035 % + 0.25 μ A			
				5 kHz to 10 kHz	0.50 % + 0.35 μ A			
		2 mA	to 20 mA	10 Hz to 1 kHz	0.026 % + 1.6 μ A			
				1 kHz to 5 kHz	0.035 % + 2.5 μ A			
				5 kHz to 10 kHz	0.25 % + 3.4 μ A			
		20 mA	to 200 mA	10 Hz to 1 kHz	0.026 % + 25 μ A			
				1 kHz to 5 kHz	0.035 % + 25 μ A			
				5 kHz to 10 kHz	0.50 % + 43 μ A			
0.2 A	to 2 A	10 Hz to 1 kHz	0.052 % + 0.42 mA					
		1 kHz to 5 kHz	0.068 % + 0.48 mA					
		5 kHz to 10 kHz	0.050 % + 3.4 mA					
2 A	to 11 A	1 kHz to 5 kHz	0.098 % + 4.4 mA					
		5 kHz to 10 kHz	0.23 % + 10 mA					
		10 kHz to 20 kHz	0.77 % + 40 mA					
11 A	to 30 A	30 Hz to 45 Hz	0.19 % + 3.5 mA					
		45 Hz to 100 Hz	0.059 % + 2.5 mA					
		100 Hz to 1 kHz	0.50 % + 4.3 mA					
				1 kHz to 3 kHz	0.20 % + 7.3 mA			
				3 kHz to 10 kHz	0.50 % + 5.9 mA			



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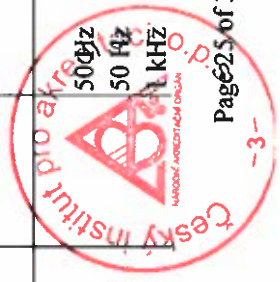
Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification 3	Work-place
		min. unit	max. unit					
5*	DC resistance / Resistors and resistance boxes	30 A	to 100 A	40 Hz to 120 Hz	0.20 % + 0.13 A	Measurement of a current simulated by a calibrator with current coil	KP-PB-113	2
		30 A	to 1,500 A	30 to 60 Hz	0.48 % + 0.080 A			
		0 Ω	to 1 Ω		20 μΩ/Ω + 6.1 μΩ			
		1 Ω	to 10 Ω		11 μΩ/Ω + 31 μΩ			
		10 Ω	to 100 Ω		10 μΩ/Ω + 0.10 mΩ			
		100 Ω	to 1 kΩ		9.1 μΩ/Ω + 0.81 mΩ			
		1 kΩ	to 10 kΩ		11 μΩ/Ω + 8.1 mΩ			
		10 kΩ	to 100 kΩ		12 μΩ/Ω + 81 mΩ			
		0.1 MΩ	to 1 MΩ		13 μΩ/Ω + 2 Ω			
		1 MΩ	to 10 MΩ		18 μΩ/Ω + 80 Ω			
		10 MΩ	to 90 MΩ		0.019 %			
		90 MΩ	to 900 MΩ		0.051 %			
		0.9 GΩ	to 9 GΩ		0.20 %			
9 GΩ	to 2000 GΩ		2.5 %					
DC resistance / DC resistance meters				Direct measurement of fixed resistance standards or direct measurement on a calibrator or comparison with a reference multimeter	KP-PB-114	5, 2		
				0.4 mΩ				
				0.0073 %				
				0.0029 %				
				0.0022 %				
				0.0020 %				



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		min. unit	max. unit					
		1 Ω			0.0020 %			
		10 Ω			0.0038 %			
		100 Ω			0.0013 %			
		1 kΩ			0.0013 %			
		10 kΩ			0.0013 %			
		100 kΩ			0.0013 %			
		1 MΩ			0.0033 %			
		10 MΩ			0.0064 %			
		100 MΩ			0.014 %			
		1 GΩ			1.0 %			
		0 Ω to 120 Ω			32 μΩ/Ω + 4 mΩ	Direct measurement on a reference resistance box	KP-PB-114	5, 2
		0.12 kΩ to 1.2 kΩ			33 μΩ/Ω			
		1.2 kΩ to 12 kΩ			33 μΩ/Ω			
		12 kΩ to 120 kΩ			34 μΩ/Ω			
		0.12 MΩ to 1.2 MΩ			37 μΩ/Ω			
		1.2 MΩ to 12 MΩ			49 μΩ/Ω			
		12 MΩ to 120 MΩ			0.073 %			
		0.12 GΩ to 1 GΩ			0.055 %			
		1 GΩ to 10 GΩ			0.15 %			
		10 GΩ to 100 GΩ			0.21 %			
		100 GΩ to 500 GΩ			0.90 %			
6*	AC resistance / AC resistance meters	0.01 Ω			0.60 %	Direct measurement on resistance standards	KP-PB-115	5, 2
		1 Ω			0.011 %			
		10 Ω			0.013 %			



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Ord. number ₁	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ₃	Work-place
		min. unit	max. unit					
7*	DC Power / DC Power Meters (for voltage from 1 V to 1,000 V and current from 0.5 mA to 30 A)	10 Ω		100 kHz	0.043 %	Direct measurement on a reference calibrator	KP-PB-123	5
		50 Ω		1 kHz	0.013 %			
		100 Ω		1 kHz	0.013 %			
		50 Ω		100 kHz	0.021 %			
		100 Ω		100 kHz	0.021 %			
		1 kΩ		1 kHz	0.011 %			
		1 kΩ		100 kHz	0.021 %			
		10 kΩ		1 kHz	0.011 %			
		10 kΩ		100 kHz	0.041 %			
		100 kΩ		1 kHz	0.03 %			
		100 kΩ		100 kHz	0.12 %			
		1 MΩ		1 kHz	0.03 %			
		1 MΩ		100 kHz	0.38 %			
8*	AC active power single phase/ AC active power meters (for voltage from 1 V to 1,000 V and current from 0.5 mA to 30 A, frequency from 40 Hz to 400 Hz), capacitive and inductive	0.5 mW	to 30 kW		0.072 %	Direct measurement on a reference calibrator	KP-PB-123	5
		0.5 mW	to 30 kW	cos φ	0.13 %			
		0.5 mW	to 30 kW	0.8 to 0.9 0.7 to 0.8	0.32 % 0.46 %			



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Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification 3	Work-place
		min. unit	max. unit					
9	AC active power single phase/ AC active power meters (for voltage from 0.9 V to 750 V and current from 9 mA to 10 A, frequency from 40 Hz to 400 Hz), capacitive and inductive	1 W	to 7,500 W	cos φ	0.62 % 0.8 % 1.0 % 1.4 % 1.9 % 2.9 % 5.9 %	Direct measurement on a reference calibrator	KP-PB-123	2
10*	Capacity / Capacity meters				0.14 %	Direct measurement on a reference calibrator or direct measurement on capacity standards	KP-PB-115	5



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Ord. number i	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place		
		min. unit	max. unit							
11	Capacity / Capacity meters	0.5 nF	to 4 nF	up to 350 Hz 350 Hz to 1.5 kHz	0.68 % 1.4 %	Direct measurement on a reference calibrator or direct measurement on capacity standards	KP-PB-115	2		
			4 nF						to 40 nF	up to 350 Hz 350 Hz to 1.5 kHz
		40 nF	to 400 nF	up to 350 Hz 350 Hz to 1.5 kHz	0.34 % 0.68 %					
		400 nF	to 4 μF	up to 350 Hz 350 Hz to 1.5 kHz	0.44 % 0.88 %					
		4 μF	to 4 mF	up to 350 Hz 350 Hz to 1.5 kHz	0.54 % 1.1 %					
		4 mF	to 40 mF	up to 350 Hz 350 Hz to 1.5 kHz	1.2 % 2.3 %					
12*	Inductance / Inductance meters	1 mH		1 kHz	0.61 %	Direct measurement on a reference calibrator	KP-PB-115	5		
		10 mH							1 kHz	0.61 %
13	Inductance / Inductance meters	20 mH		1 kHz	0.61 %	Direct measurement on a reference induction box	KP-PB-115	2		
		30 mH							1 kHz	0.61 %
		50 mH							1 kHz	0.61 %
		100 mH							1 kHz	0.61 %
		1 H							1 kHz	0.67 %
		10 H							1 kHz	0.78 %
1 mH	to 10 mH	1 kHz	0.71 %							
1 mH	to 10 mH	1 kHz	0.71 %							



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Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
14*	Inspection equipment / Insulation resistance	10 mH	to 100 mH	1 kHz	1.4 %	Direct measurement on a calibrator of inspection instruments	KP-PB-120	5
		100 mH	to 1000 mH	1 kHz	0.10 %			
14*	Impedance at 50 Hz	0.01 MΩ	to 5 MΩ	Measuring voltage up to 1,000 V	0.12 %	Direct measurement on a calibrator of inspection instruments	KP-PB-120	5
		5.01 MΩ	to 2,000 MΩ					
		Z ₀ -0 Ω	to 2 Ω					
		50 mΩ	+ Z ₀					
		100 mΩ	+ Z ₀					
		220 mΩ	+ Z ₀					
		330 mΩ	+ Z ₀					
		500 mΩ	+ Z ₀					
		1 Ω	+ Z ₀					
		5 Ω	+ Z ₀					
		10 Ω	+ Z ₀					
100 Ω	+ Z ₀							
Leakage current		1 kΩ	+ Z ₀		0.12 %	Direct measurement on a calibrator of inspection instruments	KP-PB-120	5
		2 mA						
		4.7 mA						
		7.7 mA			1.7 %	Direct measurement on a calibrator of inspection instruments or direct measurement with a multimeter		
					1.7 %			
					1.7 %			



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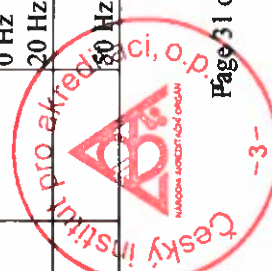
Ord. number _i	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ₃	Work-place
		min. unit	max. unit					
	Tripping current of residual current circuit breakers	2 mA	to 3,000 mA		1.4 %	Direct measurement on a calibrator of inspection instruments		
	Tripping time of residual current circuit breakers	10 ms	to 400 ms		0.40 ms	Direct measurement on a calibrator of inspection instruments		
15	Inspection equipment / Insulation resistance	10 kΩ	to 10 MΩ	Measuring voltage up to 1,500 V	0.30 % 0.70 %	Direct measurement on a calibrator of inspection instruments or direct measurement on a reference resistance box	KP-PB-120	2
		10 MΩ	to 1,000 MΩ					
		1 GΩ	to 500 GΩ	Measuring voltage up to 5,000 V	1.5 %			
		350 MΩ	to 100 GΩ	With an adapter (× 1,000) with measuring voltage up to 10 kV	1.7 %			
		100 GΩ	to 1,000 GΩ		3.5 %			
1 TΩ	to 9 TΩ	5.0 %						
	Impedance of a protective loop, mains internal resistance, earth resistance	25 mΩ	50 mΩ		7.0 mΩ 7.0 mΩ 7.9 mΩ 8.0 mΩ 9.6 mΩ	Direct measurement on a calibrator of inspection instruments		



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Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification 3	Work-place
		min. unit	max. unit					
		1 Ω			13 mΩ			
		1.8 Ω			22 mΩ			
		5 Ω			40 mΩ			
		10 Ω			78 mΩ			
		18 Ω			0.13 Ω			
		50 Ω			0.4 Ω			
		100 Ω			0.65 Ω			
		180 Ω			1.3 Ω			
		500 Ω			3.3 Ω			
		1 kΩ			6.5 Ω			
		1.8 kΩ			13 Ω			
	Contact resistance	100 mΩ to 200 Ω			0.45 %	Direct measurement on a calibrator of inspection instruments		
		200 Ω to 10 kΩ			0.20 %			
	/Leakage current passive	0.1 mA to 30 mA		50 Hz	0.34 % + 2 μA	Direct measurement on a calibrator of inspection instruments		
	/Leakage current differential	0.1 mA to 30 mA		50 Hz	0.34 % + 2 μA			
	/Leakage current substitution	0.1 mA to 30 mA		50 Hz	0.34 % + 2 μA			
	Leakage current active	0.1 mA to 30 mA		50 Hz	0.34 % + 2 μA			
	Leakage current active	0.1 mA to 300 mA		0 Hz	0.34 % + 2 μA			
		0.1 mA to 300 mA		20 Hz to 400 Hz	0.34 % + 2 μA			
	Tripping current of residual current circuit breakers	3 mA to 3,000 mA		50 Hz	1.0 %			



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Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
16	Tripping time of residual current circuit breakers /Oscilloscope / Vertical amplifier	10 ms	to 5,000 ms		0.020 % + 0.7 ms	Direct measurement on an oscilloscope calibrator	KP-PB-121	5
		2 mV	to 50 V	0 Hz	0.012 % + 20 μ V			
		2 mV	to 50 V	1 kHz	0.13 % + 40 μ V			
17	/Time base /Limit frequency /Oscilloscope / Vertical amplifier	2 ns	to 5 s		0.010 %	Direct measurement on an oscilloscope calibrator	KP-PB-121	2
		5 MHz	to 600 MHz	50 Ω / 600 mV ₅₋₅	15 %			
		1 mV	to 20 V	50 Ω / 1 M Ω	0.25 % + 40 μ V			
		1 mV	to 20 V	0 Hz	0.30 %			
		5 ns	to 5 s	Square wave 1 kHz	0.0030 %			
	/Limit frequency, bandwidth	10 Hz	to 250 MHz		6.0 %			

¹ Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

² The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02, part of CMC, and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected.

³ If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).



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CMC for the field of measured quantity: Time and frequency quantities

Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Frequency / Frequency generators	0.001 Hz	to 20 GHz		9.3 · 10 ⁻⁴	Direct measurement by a reference counter	KP-PB-100	5
	Frequency / frequency meters	1 Hz	to 10 MHz	sine wave signal	20 · 10 ⁻⁶	Direct measurement on a reference calibrator		
2*	Time interval / Manually operated time meters	0:00:00 h:min:s	23:59:59 h:min:s		0.10 s	Comparison with a time interval standard	KP-PB-100	5, 2
	Time base of digital stopwatch	10 Hz	to 10 MHz		1.0 · 10 ⁻⁶	Indirect measurement by a reference counter		
4	Frequency / frequency generators	10 Hz	to 350 MHz		2.2 · 10 ⁻¹⁰	Direct measurement by a reference counter	KP-PB-100	2
	Frequency / frequency meters	10 Hz	to 1.2 GHz		2.2 · 10 ⁻¹⁰	Direct measurement on a reference generator		

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CMC for the field of measured quantity: Physicochemical quantities

Ord. number ¹	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work-place
		min. unit	max. unit					
1*	Relative humidity	10 % RH	to 20 % RH		1.7 % RH	Comparison with a humidity standard	KP-PB-99	5
		20 % RH	to 30 % RH		1.5 % RH			
		30 % RH	to 40 % RH		1.2 % RH			
		40 % RH	to 50 % RH		1.0 % RH			
		50 % RH	to 60 % RH		1.1 % RH			
		60 % RH	to 70 % RH		1.3 % RH			
		70 % RH	to 80 % RH		1.9 % RH			
		80 % RH	to 90 % RH		2.0 % RH			
		90 % RH	to 95 % RH		2.3 % RH			

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