Schweizerische Eidgenossenschaft
Confédération suisse
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Dipartimento federale dell'economia,
della formazione e della ricerca DEFR

Segreteria di Stato dell'economia SECO
Servizio di accreditamento svizzero SAS

SCS Directory — Accreditation number: SCS 0115

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

METRON Measurement SA
Calibration Laboratory
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Initial accreditation:	02.06.2009
Current accreditation:	02.06.2019 to 01.06.2024
Scope of accreditation see:	www.sas.admin.ch (Accredited bodies)

Scope of accreditation as of 09.12.2022

Calibration laboratory for length, form, torque, force and electrical quantities

Calibration and Measurement Capability (CMC)

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Length				Also on-site calibration
Callipers		Scale interval		
	0 mm…2000 mm	0,1 mm	58 µm + $2 \cdot 10^{-6} \cdot L$	Analog indication
		0,02 mm	12 µm + $12 \cdot 10^{-6} \cdot L$	
		0,01 mm	8 µm + $7 \cdot 10^{-6} \cdot L$	
		0,05 mm	29 µm + $3 \cdot 10^{-6} \cdot L$	
		0,01 mm	13 µm + $5 \cdot 10^{-6} \cdot L$	Digital indication
		0,001 mm	6 µm + $8 \cdot 10^{-6} \cdot L$	

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Dial gauges		Scale interval		Also on-site calibration
	0 mm…10 mm	0,001 mm	0,6 µm	Analog indication
	0 mm…20 mm	0,002 mm	1,2 µm	
	0 mm…100 mm	0,01 mm	5,8 µm	
	0 mm…100 mm	0,1 mm	58,1 µm	
	0 mm…2 mm	0,0001 mm	0,2 µm	Digital indication
	0 mm…10 mm	0,001 mm	1,2 µm	
	0 mm…100 mm	0,01 mm	11,9 µm	
Dial Gauges (Lever-Type)		Scale interval		Also on-site calibration
		0,002 mm	1,2 µm	Analog indication
		0,01 mm	6,5 µm	
		0,001 mm	1,2 µm	Digital indication
		0,01 mm	11,9 µm	
Electronic length indicators		Scale interval		Also on-site calibration
	0 mm…2 mm 0 mm…10 mm 0 mm…30 mm	0,0001 mm 0,0001 mm 0,0001 mm	0,2 µm 0,6 µm 1,2 µm	
External Micrometres		Scale interval		Also on-site calibration
	0 mm…25 mm	0,001 mm	$0{,}6\ \mu m + 0.5 \cdot 10^{-6} \cdot L$	Analog indication
		0,010 mm	5,8 µm	
	0 mm…25 mm	0,001 mm	$1{,}2\ \mu m + 0{,}5 \cdot 10^{-6} \cdot L$	Digital indication
		0,010 mm	11,6 µm	
	>25 mm…125 mm	0,001 mm	$0{,}6\ \mu m + 1{,}2 \cdot 10^{-6} \cdot L$	Analog indication
		0,010 mm	5,8 µm	
	>25 mm…125 mm	0,001 mm	$1{,}2\ \mu m + 7{,}0 \cdot 10^{-6} \cdot L$	Digital indication
		0,010 mm	11,6 µm	
	>125 mm…200 mm	0,001 mm	$0{,}6\ \mu m + 11{,}0 \cdot 10^{-6} \cdot L$	Analog indication
		0,010 mm	$5{,}8\ \mu m + 2{,}0 \cdot 10^{-6} \cdot L$	

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
	>125 mm…200 mm	0,001 mm	1,2 µm + 9,0·10^{-6}·L	Digital indication
		0,010 mm	11,6 µm	
	>200 mm…300 mm	0,001 mm	0,3 µm + 4,0·10^{-6}·L	Analog indication
		0,010 mm	1,1 µm + 2,0·10^{-6}·L	
	>200 mm…300 mm	0,001 mm	1,2 µm + 11,0·10^{-6}·L	Digital indication
		0,010 mm	11,5 µm + 0,5·10^{-6}·L	
Internal Micrometres 3-line contact		Scale interval		Also on-site calibration
	2 mm…300 mm	0,001 mm	2,5 µm + 1,5·10^{-6}·L	Analog indication
		0,002 mm	2,6 µm+ 2,0*10^{-6} L	
		0.005 mm	3,8 µm+ 1,0*10^{-6} L	
		0,01 mm	6,3 µm + 0,5·10^{-6}·L	
	2 mm…300 mm	0,001 mm	2,7 µm + 1,0·10^{-6}·L	Digital indication
		0,01 mm	11,8 µm + 0,5·10^{-6}·L	
Depth Micrometres		Scale interval		Also on-site calibration
	0 mm…25 mm	0,001 mm	0,6 µm + 4,0·10^{-6}·L	Analog indication
		0,010 mm	5,8 µm	
	0 mm…25 mm	0,001 mm	1,2 µm + 0,5·10^{-6}·L	Digital indication
		0,010 mm	11,6 µm	
	>25 mm…100 mm	0,001 mm	0,6 µm + 1,2·10^{-6}·L	Analog indication
		0,010 mm	5,8 µm	
	>25 mm…100 mm	0,001 mm	1,2 µm + 1,0·10^{-6}·L	Digital indication
		0,010 mm	11,6 µm	
	>100 - 150 mm	0,001 mm	0,5 µm + 3,0·10^{-6}·L	Analog indication
		0,010 mm	5,8 µm 0,5·10^{-6}·L	
	>100 mm…150 mm	0,001 mm	1,1 µm + 2,0·10^{-6}·L	Digital indication
		0,010 mm	11,6 µm	

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Height measuring instrument		Scale interval		Also on-site calibration
	0 mm…1000 m	0,1 µm	$0{,}3\ \mu m + 3{,}5 \cdot 10^{-6} \cdot L$	Calibration with angular Laser interferometer
	0 mm…1000 mm	0,1 µm	$1{,}2\ \mu m + 4{,}6 \cdot 10^{-6} \cdot L$	Calibration with step gauge
Setting gauge for probe constant	5 mm…45 mm		$0{,}5\ \mu m + 2{,}0 \cdot 10^{-6} \cdot L$	Calibration with horizontal length measuring Machine
Straightness standards				Also on-site calibration
	0 mm…3000 mm		$0{,}6\ \mu m + (0{,}2+B/2000) \cdot 10^{-6} \cdot L$	With angular Laser interferometer
	0 mm…5000 mm		$0{,}6\ \mu m + (0{,}2+B/2000) \cdot 10^{-6} \cdot L$	with electronic levels B = base length in mm
Plug gauges	20 mm…400 mm		$0{,}35\ \mu m + 1{,}5 \cdot 10^{-6} \cdot L$	Also on-site calibration
Pin gauges and plugs	0.05 mm…20 mm		0,3 µm	Also on-site calibration
Gap gauges	1 mm…150 mm		$0{,}30\ \mu m + 1{,}5 \cdot 10^{-6} \cdot L$	Also on-site calibration
Ring gauges	0.4 mm…400 mm		$0{,}30\ \mu m + 1{,}5 \cdot 10^{-6} \cdot L$	Also on-site calibration
Thread ring gauges	1.2 mm…350 mm		$2{,}2\ \mu m + 1{,}0 \cdot 10^{-6} \cdot L$	Also on-site calibration
	Pitch 0.25 mm… 6 mm			Simple pitch diameter
Thread plug gauges	0.3 mm…300 mm		$2{,}1\ \mu m + 0{,}5 \cdot 10^{-6} \cdot L$	Also on-site calibration
	Pitch 0.08 mm… 6 mm			Simple pitch diameter
Gauge blocks		**Material**		
Central length	0.5 mm…100 mm	Steel	$0{,}07\ \mu m + 0{,}4 \cdot 10^{-6} \cdot L$	
		Ceramic	$0{,}08\ \mu m + 0{,}4 \cdot 10^{-6} \cdot L$	
		Tungsten carbide	$0{,}1\ \mu m + 0{,}4 \cdot 10^{-6} \cdot L$	

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Variation in length V with f_o and f_u			0,05 µm	
Central length	100 mm…1100 mm		0,25 µm + $1 \cdot 10^{-6} \cdot L$	Measure with horizontal machine one coordinate
Variation in length V with f_o and f_u			0,25 µm + $1 \cdot 10^{-6} \cdot L$	
2-Point Internal Micrometers	25 mm…1100 mm		0,25 µm + $1 \cdot 10^{-6} \cdot L$	Measure with horizontal machine one coordinate
Form measurement				
Roundness	External 0.3 mm…300 mm		0.10 µm	
	Internal 0.5 mm…360 mm		0.10 µm	
Machine Tools & EDM Machines				Evaluation according to VDI/DGQ 3441, ISO 230-2/4
Positioning error of linear axes	0 m…30 m	*Calibration on-site*	0,2 µm + $3 \cdot 10^{-6} \cdot L$	With Laser interferometer
Horizontal length measuring machine	0 m…1 m	*Calibration on-site*	0,1 µm + $0.4 \cdot 10^{-6} \cdot L$	With Laser interferometer + Slip Gauge Block
Vertical length measuring machine - 1D	0 mm…100 mm	*Also on-site calibration*	0,1 µm + $0.3 \cdot 10^{-6} \cdot L$ *(L in meter)*	With Laser interferometer
Coordinate measuring machine	0 m…1m	*Calibration on-site*	Uncertainty of the used standard (step gauge) 0,2 µm + $0,5 \cdot 10^{-6} \cdot L$	Calibration in according to ISO 10360-2 or VDI 2617
Laser distance measuring instrument	0 m…5.0 m		≥ 1 digit	Comparison with Laser interferometer
Perpendicularity of linear axes	Reference length 600 mm	*Calibration on-site*	Straightness: 1,7 µm / 600mm Squareness: 1,2 µm / 400 mm	Granite square

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Positional deviation of rotary axes	Every 30°		0,4"	With optical polygon and autocollimator
Flatness of surface plate	Lmin, Bmin : 0.2 m Base ≥ 50 mm	*Calibration on-site*	0.5 µm + 0,5·10^{-6}·*L* *L*: Length of surface plate	With electronic level meters, according to DIN 876 and ISO 8512
Granite square / Beveled precision square	0 m…1 m	Squareness	1,0 µm + 1,3·10^{-6}·*L*	Square Inspect
		Straightness	0,5 µm + 1,6·10^{-6}·*L*	Square Inspect
		Straightness	0,25 µm + 0,6·10^{-6}·*L*	With autocollimator
Flat and stop square	0 m…1 m	Squareness	0,9 µm + 1,6·10^{-6}·*L*	Square Inspect
		Straightness	0,7 µm + 1,6·10^{-6}·*L*	Square Inspect
Beveled straight edge	0 m…0,5 m	Straightness	0,9 µm + 1,6·10^{-6}·*L*	Square Inspect
Measuring cylinder	Up to 1 m	Squareness	1,0 µm + 1,3·10^{-6}·*L*	Square Inspect
		Straightness	0,5 µm + 1,6·10^{-6}·*L*	Square Inspect
Direct voltage				
Voltmeters	0 mV ... <330 mV		1.2 µV + 29·10^{-6} U	*Also on-site calibration*
	0,33 V ... <3,3 V		2 µV + 13·10^{-6} U	
	3,3 V ... <33 V		24 µV + 14·10^{-6} U	
	33 V ... <330 V		0.1 mV + 21·10^{-6} U	
	330 V ... 1000 V		1.8 mV + 21·10^{-6} U	
Calibration of voltage probes	32 V … <320 V 320 V … 1050 V		22 mV + 405·10^{-6} U 66 mV + 410·10^{-6} U	*Also on-site calibration*
Calibration of high voltage measurement instruments	1kV … ≤ 10 kV > 10 kV … 20 kV		0,11% + 0,1 V 0,14% + 0,4 V	*Also on-site calibration*
	0 mV … 200 mV		0,6 µV + 5.1·10^{-6} U	*Also on-site calibration*
	>0,2 V … 2 V		6 µV + 3.5·10^{-6} U	
	>2 V … 20 V		58 µV + 3.5·10^{-6} U	
	>20 V … 200 V		0.6 mV + 5.5·10^{-6} U	
	>200 V … 1000 V		5.8 mV + 5.5·10^{-6} U	

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Calibration of high voltage generators	1 kV … ≤ 10 kV > 10 kV … 50 kV		0,11% + 0,6 V 0,14% + 1 V	*Also on-site calibration*
Direct current				
Current meters	0 ... <330 µA		62.2 nA + 208·10^{-6} I	*Also on-site calibration*
	0.33 ... <3.3 mA		81.6 nA + 163·10^{-6} I	
	3.3 ... <33 mA		0.6 µA + 119·10^{-6} I	
	33 ... <330 mA		6.5 µA + 129·10^{-6} I	
	0,33 ... <1.1 A		46.2 µA + 258·10^{-6} I	
	1.1 ... <3 A		46.2 µA + 440·10^{-6} I	
	3 ... <11 A		577.4 µA + 580·10^{-6} I	
	11 ... 20.5 A		866 µA + 1,16·10^{-3} I	
Calibrators	0 µA … 200 µA		0.7 nA + 12·10^{-6} I	*Also on-site calibration*
	>200 µA … 2 mA		5.8 nA + 12·10^{-6} I	
	>2 mA … 20 mA		58 nA + 14·10^{-6} I	
	>20 mA … 200 mA		0.6 uA + 48·10^{-6} I	
	>20 mA … 2 A		5.8 uA + 185·10^{-6} I	
	>2 A … 20 A		57.7 uA + 400·10^{-6} I	
Clamp meters and current transducers	1 mA … <33 mA 33 mA … <330 mA 0.33 A … <1.1 A 1.1 A … <2 A 2 A … <20 A 20 A … <120 A 120 A … <205 A 205 A … <550 A 550 A … <1025 A 1025 A … < 2500 A 2500 A … 5000A		0.2 µA + 28·10^{-4} I 1.5 µA + 28·10^{-4} I 20 µA + 28·10^{-4} I 20 µA + 29·10^{-4} I 0.8 mA + 20·10^{-4} I 3.9 mA + 20·10^{-4} I 4.4 mA + 38·10^{-4} I 14.5 mA + 37·10^{-4} I 21.7 mA + 38·10^{-4} I 0.65 A + 54·10^{-4} I 0.65 A + 54·10^{-4} I	*Also on-site calibration*
Alternate voltage				
Voltmeters	1 mV … <32 mV	10 Hz … 45 Hz	7 µV + 924·10^{-6} U	*Also on-site calibration*
		>45 Hz … 10 kHz	7 µV + 175·10^{-6} U	
		>10 kHz … 20 kHz	7 µV + 232·10^{-6} U	
		>20 kHz … 50 kHz	7 µV + 1.2·10^{-3} U	
		>50 kHz…100 kHz	14 µV + 4.1·10^{-3} U	
		>100kHz…500kHz	58 µV + 9.2·10^{-3} U	

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
	33 mV … <330 mV	10 Hz … 45 Hz	10.9 µV + 347·10^{-6} U	
		>45 Hz … 10 kHz	9.3 µV + 169·10^{-6} U	
		>10 kHz … 20 kHz	19.3 µV + 86·10^{-6} U	
		>20 kHz … 50 kHz	9.3 µV + 408·10^{-6} U	
		>50 kHz…100 kHz	37 µV + 926·10^{-6} U	
		>100kHz…500kHz	81 µV + 2.31·10^{-3} U	
	0.33 mV … <3.3 V	10 Hz … 45 Hz	58 µV + 347·10^{-6} U	
		>45 Hz … 10 kHz	70 µV + 175·10^{-6} U	
		>10 kHz … 20 kHz	70 µV + 221·10^{-6} U	
		>20 kHz … 50 kHz	58 µV + 347·10^{-6} U	
		>50 kHz…100 kHz	145 µV + 810·10^{-6} U	
		>100kHz…500kHz	693 µV + 2.8·10^{-3} U	
	3.3 V … <33 V	10 Hz … 45 Hz	753 µV + 347·10^{-6} U	
		>45 Hz … 10 kHz	695 µV + 175·10^{-6} U	
		>10 kHz … 20 kHz	695 µV + 278·10^{-6} U	
		>20 kHz … 50 kHz	695 µV + 405·10^{-6} U	
		>50 kHz…100 kHz	1.8 mV + 1041·10^{-6}U	
	33 V … <330 V	45 Hz … 1 kHz	2.4 mV + 221·10^{-6} U	
		>1 kHz … 10 kHz	7 mV + 232·10^{-6} U	
		>10 kHz … 20 kHz	7 mV + 290·10^{-6} U	
		>20 kHz … 50 kHz	7 mV + 347·10^{-6} U	
		>50 kHz…100 kHz	58 mV + 2.31·10^{-3} U	
	330 V … 1020 V	45 Hz … 1 kHz	12.9 mV + 347·10^{-6} U	
		>1 kHz … 5 kHz	12.9 mV + 290·10^{-6} U	
		>5 kHz … 10 kHz	12.9 mV + 347·10^{-6} U	
Calibration of voltage probes	32 V … <320 V 320 V … 1050 V	Max 60 Hz Max 60 Hz	44 mV + 695·10^{-6} U 258 mV + 700·10^{-6} U	*Also on-site calibration*
Calibration of high voltage measurement instruments	1 kV … ≤ 10 kV 10 kV … ≤ 50 kV	50 Hz 50 Hz	0,32 % + 0,6 V 0,32% + 1V	*Possibile anche On-Site*

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Calibrators	0 mV … 200 mV	1 Hz ... 10 Hz	14 µV + 167·10^{-6} U	*Also on-site calibration*
		>10 Hz ... 40 Hz	4 µV + 143·10^{-6} U	
		>40 Hz ... 100 Hz	4 µV + 118·10^{-6} U	
		>100 Hz ... 2 kHz	2.1 µV + 113·10^{-6} U	
		>2 kHz ... 10 kHz	4 µV + 138·10^{-6} U	
		>10 kHz ... 30kHz	8 µV + 341·10^{-6} U	
		>30 kHz ... 100 kHz	20 µV + 766·10^{-6} U	
	>200 mV ... 2V	1 Hz ... 10 Hz	120 µV + 151·10^{-6} U	
		>10 Hz ... 40 Hz	21 µV + 117·10^{-6} U	
		>40 Hz ... 100 Hz	21 µV + 92·10^{-6} U	
		>100 Hz ... 2 kHz	21 µV + 77·10^{-6} U	
		>2 kHz ... 10 kHz	21 µV + 112·10^{-6} U	
		>10 kHz ... 30kHz	40 µV + 221·10^{-6} U	
		>30 kHz ... 100 kHz	200 µV + 571·10^{-6} U	
	>2V ... 20 V	1 Hz ... 10 Hz	58 µV + 9·10^{-6} U	
		>10 Hz ... 40 Hz	208 µV + 116·10^{-6} U	
		>40 Hz ... 100 Hz	208 µV + 91·10^{-6} U	
		>100 Hz ... 2 kHz	208 µV + 76·10^{-6} U	
		>2 kHz ... 10 kHz	208 µV + 111·10^{-6} U	
		>10 kHz ... 30kHz	404 µV + 220·10^{-6} U	
		>30 kHz ... 100 kHz	2001 µV + 570·10^{-6}U	
	>20V ... 200 V	1 Hz ... 10 Hz	1 mV + 6.8·10^{-6} U	
		>10 Hz ... 40 Hz	2 mV + 115·10^{-6} U	
		>40 Hz ... 100 Hz	2 mV + 90·10^{-6} U	
		>100 Hz ... 2 kHz	2 mV + 75·10^{-6} U	
		>2 kHz ... 10 kHz	2 mV + 110·10^{-6} U	
		>10 kHz ... 30kHz	4 mV + 220·10^{-6} U	
		>30 kHz ... 100 kHz	20 mV + 570·10^{-6} U	
	>200 V ... 1000 V	1 Hz ... 10 Hz	80 mV + 190·10^{-6} U	
		>10 Hz ... 40 Hz	26 mV + 145·10^{-6} U	
		>40 Hz ... 10 kHz	26 mV + 140·10^{-6} U	
		>10 kHz ... 30kHz	50 mV + 265·10^{-6} U	
		>30 kHz ... 100 kHz	250 mV + 700·10^{-6} U	
Calibration of high voltage measurement instruments	1 kV … ≤ 10 kV	50 Hz	0,23% + 0,6V	*Also on-site calibration*
	10 kV … ≤ 50 kV	50 Hz	0,22% + 1 V	
Alternate current				
Current meters	29 µA … <330 µA	10 Hz … 20 Hz	0.3 µA + 2,4·10^{-3} I	*Also on-site calibration*
		>20 Hz … 45 Hz	0.3 µA + 1,8·10^{-3} I	
		>45 Hz … 1 kHz	0.3 µA + 1,5·10^{-3} I	
		>1 kHz … 5 kHz	0.3 µA + 3,5·10^{-3} I	
		>5 kHz … 10 kHz	0.4 µA + 9,3·10^{-3} I	

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		>10 kHz … 30 kHz	0.6 µA + 18,5·10^{-3} I	
	0.33 mA …<3.3mA	10 Hz … 20 Hz	0.3 µA + 2,4·10^{-3} I	
		>20 Hz … 45 Hz	0.3 µA + 1,5·10^{-3} I	
		>45 Hz … 1 kHz	0.3 µA + 1,2·10^{-3} I	
		>1 kHz … 5 kHz	0.4 µA + 2,4·10^{-3} I	
		>5 kHz … 10 kHz	0.5 µA + 5,8·10^{-3} I	
		>10 kHz … 30 kHz	0.8 µA + 11,6·10^{-3} I	
	3.3 mA … <33 mA	10 Hz … 20 Hz	3.3 µA + 2,1·10^{-3} I	
		>20 Hz … 45 Hz	3.3 µA + 1,1·10^{-3} I	
		>45 Hz … 1 kHz	3.3 µA + 462·10^{-6} I	
		>1 kHz … 5 kHz	3.3 µA + 924·10^{-6} I	
		>5 kHz … 10 kHz	4.2 µA + 2,4·10^{-3} I	
		>10 kHz … 30 kHz	5.2 µA + 4,6·10^{-3} I	
	33 mA … <330 mA	10 Hz … 20 Hz	23.9 µA + 2,1·10^{-3} I	
		>20 Hz … 45 Hz	23.9 µA + 1,1·10^{-3} I	
		>45 Hz … 1 kHz	23.9 µA + 462·10^{-6} I	
		>1 kHz … 5 kHz	58.1 µA + 1,2·10^{-3} I	
		>5 kHz … 10 kHz	116 µA + 2,4·10^{-3} I	
		>10 kHz … 30 kHz	231 µA + 4,7·10^{-3} I	
	0.33 A … <1.1 A	10 Hz … 45 Hz	116 µA + 2,1·10^{-3} I	
		>45 Hz … 1 kHz	116 µA + 577·10^{-6} I	
		>1 kHz … 5 kHz	12 mA + 7,0·10^{-3} I	
		>5 kHz … 10 kHz	58 mA + 28,9·10^{-3} I	
	1.1 A … <3 A	10 Hz … 45 Hz	147 µA + 2,1·10^{-3} I	
		>45 Hz … 1 kHz	147 µA + 693·10^{-6} I	
		>1 kHz … 5 kHz	1.2 mA + 7,0·10^{-3} I	
		>5 kHz … 10 kHz	5.8 mA + 28,9·10^{-3} I	
	3 A … <11 A	45 Hz … 100 Hz	2.3 mA + 693·10^{-6} I	
		>100 Hz … 1 kHz	2.3 mA + 1,2·10^{-3} I	
		>1 kHz … 5 kHz	2.3 mA + 34,7·10^{-3} I	
		>5 kHz … 10 kHz	5.8 mA + 28,9·10^{-3} I	

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	11 A … 20.5 A	45 Hz … 100 Hz	5.8 mA + 1,4·10^{-3} I	
		>100 Hz … 1 kHz	5.8 mA + 1,8·10^{-3} I	
		>1 kHz … 5 kHz	5.8 mA + 34,7·10^{-3} I	
Calibrators	0 … 200 uA	1 Hz ... 10 Hz > 10 Hz ... 10 kHz > 10 kHz ... 30 kHz > 30 kHz ...100 kHz	0.6 µA + 0.3·10^{-3} I 0.6 µA + 0.3·10^{-3} I 0.6 µA + 0.7·10^{-3} I 0.6 µA + 4·10^{-3} I	*Also on-site calibration*
	>200 uA ... 2 mA	1 Hz ... 10 Hz > 10 Hz ... 10 kHz > 10 kHz ... 30 kHz > 30 kHz ...100 kHz	0.6 µA + 0.3·10^{-3} I 0.6 µA + 0.3·10^{-3} I 0.6 µA + 0.7·10^{-3} I 0.6 µA + 4·10^{-3} I	
	>2 mA ... 20 mA	1 Hz ... 10 Hz > 10 Hz ... 10 kHz > 10 kHz ... 30 kHz > 30 kHz ...100 kHz	6.1 µA + 0.3·10^{-3} I 6.1 µA + 0.3·10^{-3} I 6.1 µA + 0.7·10^{-3} I 6.1 µA + 4·10^{-3} I	
	>20 mA ... 200 mA	1 Hz ... 10 Hz > 10 Hz ... 10 kHz > 10 kHz ... 30 kHz	20 µA + 0.4·10^{-3} I 20 µA + 0.3·10^{-3} I 20 µA + 0.7·10^{-3} I	
	>200 mA ... 2 A	10 Hz ... 2 kHz > 2 kHz ... 10 kHz > 10 kHz ... 30 kHz	0.2 mA + 0.7·10^{-3} I 0.2 mA + 0.8·10^{-3} I 0.2 mA + 3·10^{-3} I	
	>2 A ... 20 A	10 Hz ... 2 kHz > 2 kHz ... 10 kHz	2 mA + 0.9·10^{-3} I 2 mA + 2.5·10^{-3} I	
Clamp meters and current transducers	1 mA ... < 3.3 mA 3.3 mA ... < 33 mA 33 mA ... < 330 mA 0.33 A ... < 1.1 A 1.1 A ... < 2 A	45 Hz ... 1 kHz 45 Hz ... 1 kHz 45 Hz ... 1 kHz 45 Hz ... 1 kHz 45 Hz ... 1 kHz	0.1 uA + 30·10^{-4} I 1.2 uA + 29·10^{-4} I 11.6 uA + 29·10^{-4} I 60 uA + 29·10^{-4} I 60 uA + 29·10^{-4} I	*Also on-site calibration*
	2 A ... < 20 A 2 A ... < 20 A 2 A ... < 20 A 2 A ... < 20 A 2 A ... < 20 A 2 A ... < 20 A	10 Hz ... 65 Hz > 65 Hz ... 300 Hz > 300 Hz ... 1 kHz > 1 kHz ... 3 kHz > 3 kHz ... 6 kHz > 6 kHz ... 10 kHz	0.93 mA + 20·10^{-4} I 0.93 mA + 20·10^{-4} I 0.93 mA + 21·10^{-4} I 3.1 mA + 31·10^{-4} I 6.2 mA + 80·10^{-4} I 9.3 mA + 156·10^{-4} I	
	20 A ... < 120 A 20 A ... < 120 A 20 A ... < 120 A 20 A ... < 120 A	50 Hz ... 65 Hz > 65 Hz ... 300 Hz > 300 Hz ... 1 kHz > 1 kHz ... 3 kHz	0.3 mA + 20·10^{-4} I 0.5 mA + 20·10^{-4} I 1.6 mA + 22·10^{-4} I 3.9 mA + 31·10^{-4} I	
	120 A ... < 205 A 120 A ... < 205 A 120 A ... < 205 A 120 A ... < 205 A	50 Hz ... 45 Hz > 45 Hz ... 400 Hz > 400 Hz ... 1 kHz > 1 kHz ... 3 kHz	0.65 A + 54·10^{-4} I 0.03 A + 39·10^{-4} I 0.65 A + 54·10^{-4} I 0.93 A + 62·10^{-4} I	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

SCS Directory

Accreditation number: SCS 0115

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
	205 A ... < 550 A	50 Hz ... 65 Hz	0.65 A + v54·10^{-4} I	
	205 A ... < 550 A	> 65 Hz ... 300 Hz	0.06 A + 38·10^{-4} I	
	205 A ... < 550 A	> 300 Hz ... 1 kHz	0.65 A + 54·10^{-4} I	
	205 A ... < 550 A	> 1 kHz ... 3 kHz	0.93 A + 62·10^{-4} I	
	550 A ... < 1000 A	50 Hz ... 45 Hz	0.65 A + 54·10^{-4} I	
	550 A ... < 1000 A	> 45 Hz ... 400 Hz	0.14 A + 39·10^{-4} I	
	550 A ... < 1000 A	> 400 Hz ... 1 kHz	0.65 A + 54·10^{-4} I	
	550 A ... < 1000 A	> 1 kHz ... 3 kHz	0.93 A + 62·10^{-4} I	
	1000 A ... < 3000A	50 Hz ... 300 Hz	0.65 A + 54·10^{-4} I	
	1000 A ... < 3000A	300 Hz ... 1 kHz	0.65 A + 54·10^{-4} I	
	1000 A ... < 3000A	1 kHz ... 3 kHz	0.93 A + 62·10^{-4} I	
	3000 A ... 6000 A	50 Hz ... 1 kHz	0.65 A + 54·10^{-4} I	
	3000 A ... 6000 A	1 kHz ... 3 kHz	0.93 A + 62·10^{-4} I	
Resistance				
Ohm-meters	0 Ω … <11 Ω		0.6 mΩ + 52·10^{-6} R	*Also on-site calibration*
	11 Ω … <33 Ω		0.6 mΩ + 42·10^{-6} R	
	33 Ω … <110 Ω		0.6 mΩ + 40·10^{-6} R	
	110 Ω … <330 Ω		5.8 mΩ + 33·10^{-6} R	
	330 Ω … <1.1 kΩ		5.8 mΩ + 33·10^{-6} R	
	1.1 kΩ … <3.3 kΩ		57.7 mΩ + 33·10^{-6} R	
	3.3 kΩ … <11 kΩ		57.7 mΩ + 33·10^{-6} R	
	11 kΩ … <33 kΩ		0.6 Ω + 33·10^{-6} R	
	33 kΩ … <110 kΩ		0.6 Ω + 33·10^{-6} R	
	110 kΩ … <330 kΩ		5.8 Ω + 37·10^{-6} R	
	330 kΩ … <1.1 MΩ		5.8 Ω + 37·10^{-6} R	
	1.1 MΩ … <3.3 MΩ		58 Ω + 70·10^{-6} R	
	3.3 MΩ … <11 MΩ		58 Ω + 150·10^{-6} R	
	11 MΩ … <33 MΩ		0.6 kΩ + 294·10^{-6} R	
	33 MΩ … <110 MΩ		0.6 kΩ + 580·10^{-6} R	
	110 MΩ … <330 MΩ		5.8 kΩ + 3.6·10^{-3} R	
	330 MΩ … 1.1 GΩ		5.8 kΩ + 17.4·10^{-3} R	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

SCS Directory

Accreditation number: SCS 0115

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
Resistance	0 Ω … 2 Ω		4 μΩ + 17·10^{-6} R	*Also on-site calibration*
	>2 Ω … 20 Ω		14 μΩ + 10·10^{-6} R	
	>20 Ω … 200 Ω		50 μΩ + 8·10^{-6} R	
	>0.2 kΩ … 2 kΩ		0.5 mΩ + 8·10^{-6} R	
	>2 kΩ … 20 kΩ		5 mΩ + 8·10^{-6} R	
	>20 kΩ … 200 kΩ		50 mΩ + 8·10^{-6} R	
	>0.2 MΩ … 2 MΩ		1 Ω + 9·10^{-6} R	
	>2 MΩ … 20 MΩ		100 Ω + 20·10^{-6} R	
	>20 MΩ … 200 MΩ		10 kΩ + 120·10^{-6} R	
	>0.2 GΩ … 2 GΩ		1 MΩ + 1510·10^{-6} R	
Calibration of oscilloscopes				*Also on-site calibration*
Square wave signal amplitude	1 mV … 6.6 V		48 μV 59 ·10^{-4} U	50 Ohm
	1 mV … 130 V		6 μV + 13 ·10^{-4} U	1 MOhm
Time marker	500 ps … <2 ns 2 ns … <5 ns 5 ns … <20 ns 20 ns … <100 ns 100 ns … <50 ms 50 ms … <5 s		13 μs + 12·10^{-6} t 130 μs + 12·10^{-6} t 1.3 ns + 12·10^{-6} t 1.3 ns + 12·10^{-6} t 13 ns + 12·10^{-6} t 130 ns + 29·10^{-6} t	
Risetime	750 ps … 1000 ns		29,8 ps - 28,3 ns	
Temperature				
Measurement and electrical simulation of thermocouples and calibrators	600 ... < 800 °C 800 ... 1820 °C	Type B	0,44 °C 0,34 °C	*Also on-site calibration*
	0 ... < 150 °C 150 ... 2316 °C	Type C	0,50 °C 0,21 °C	
	-250 ... < -100 °C -100 ... 1000 °C	Type E	0,50 °C 0,21 °C	
	-210 ... < -100 °C -100 ...< -30 °C -30 ... < 150 °C 150 ... < 760 °C 760 ... 1200 °C	Type J	0,27 °C 0,23 °C 0,14 °C 0,17 °C 0,23 °C	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

SCS Directory — Accreditation number: SCS 0115

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
	-200 ... < -100 °C -100 ...< -25 °C -25 ... < 120 °C 120 ... < 1000 °C 1000 ... 1372 °C	Type K	0,33 °C 0,18 °C 0,16 °C 0,26 °C 0,40 °C	
	-200 ... < -100 °C -100 ... 900 °C	Type L	0,37 °C 0,26 °C	
	-200 ... < -100 °C -100 ...< -25 °C -25 ... < 410 °C 410 ... 1300 °C	Type N	0,40 °C 0,22 °C 0,19 °C 0,27 °C	
	0 ... < 250 °C 250 ... < 1400 °C 1400 ... 1767 °C	Type R	0,57 °C 0,35 °C 0,40 °C	
	0 ... < 250 °C 250 ... < 1400 °C 1400 ... 1767 °C	Type S	0,47 °C 0,37 °C 0,46 °C	
	-250 ... < -150 °C -150 ... 400 °C	Type T	0,63 °C 0,24 °C	
	-200 ... < 0 °C 0 … 600 °C	Type U	0,56 °C 0,27 °C	
Torque				
Torque wrench and screwdriver	0.1 cNm ... 3000 Nm	ISO 6789:2003	1 %	*Also on-site calibration*
	0.1 cNm ... 3000 Nm	ISO 6789:2017	1 %	
Torque wrench calibrators	0.05 cN·m…1 cN·m 0.01 N·m ... 0.1 N·m 0.1 N·m ... 15 N·m	Using calibration beams BS 7882	0,22 % 0,12 % 0,1 %	
	1 … 3000 N·m	Using transfer torque wrenches BS 7882	0,14 %	*Also on-site calibration*
Force				
Force gauges and load cells				
Tension and Compression	0,01 cN … <500 N 500 N … 50 kN	ISO 376	0,1% 0,025%	*Also on-site calibration*

Higher measurement uncertainty possible with on-site calibration

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

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The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.