Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK



Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details		Activity	Location code
Address L Units 1 & 2The Old Mill Chapel Iane Warmley Bristol BS15 4 NQ	.ocal contact Ashley Pedley	Dimensional Electrical Pressure Temperature Torque	A A A A

Site activities performed away from the locations listed above:

Location details		Activity	Location code
At customers premises	Ashley Pedley	Dimensional Pressure Temperature Electrical	B B B B

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
	RANGE IN MILLIMETRES AND UNLESS OT	D UNCERTAINTY IN MICROMET HERWISE STATED	IRES	
LENGTH				
Gauge blocks		Class (see Notes)		
Millimetre (steel, tungsten carbide, ceramic)	As BS EN ISO 3650:1999 0.1 to 10 10 to 25 Sizes 30, 40, 50, 60, 70, 75, 80, 90, 100 100 to 1000 Flatness 0.05 to 100 100 to 1000 Variation in length 0.05 to 10 10 to 100 100 to 1000	A B C D 0.030 0.050 0.080 0.10 0.040 0.060 0.10 0.13 0.060 0.090 0.12 0.17 0.070 0.11 0.15 0.21 0.090 0.13 0.18 0.25 0.20 + (.0.70 x length in m) 0.050 0.17 0.050 0.060 0.41		A
Inch (steel, tungsten carbide, ceramic)	As BS 4311:Part 1:2007 0.010 in to 0.4 in 0.4 in to 1 in Size 2 in Size 3 in Size 4 in Flatness 0.01 to 4 in 4 to 40 in Variation in length 0.01 to 0.4 0.4 to 4.0 in 4.0 to 40 in	0.41 microinches A B C D 1.0 2.0 3.0 4.0 1.5 2.5 4.0 5.0 2.5 3.5 5.0 7.0 3.0 4.5 6.0 8.0 3.5 5.0 7.0 10.0 2.0 2.5 16.0		A

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)

UKAS CALIBRATION 0199 Accredited to ISO/IEC 17025:2017	So United M 2 Pine Trees, Che Av Issue M	chedule of Accree issued by Kingdom Accredit rtsey Lane, Staines-upo von-Dynamic Calibratic No: 068 Issue date: 18	ditation tation Servi n-Thames, TW18 on Limited December 2024	Ce 3 3HR, UK
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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
Class A uncertainties apply to the 3650:1999 when they are measure measurements stated. Class B uncertainties apply to the 3650:1999 when they are measure Comparison	 Class A uncertainties apply to the measurement of length by interferometry of grade K standards of length to BS 4311:2007 and BS EN ISO 3650:1999 when they are measured twice, wrung to a platen by each of the two measuring faces in turn, and the mean of these two measurements stated. Class B uncertainties apply to the measurement of length by interferometry of grade K standards of length to BS 4311:2007 and BS EN ISO 3650:1999 when they are measurement of length by interferometry of grade K standards of length to BS 4311:2007 and BS EN ISO 3650:1999 when they are measured once, wrung to a platen by, if not otherwise specified, the left hand (unmarked) measuring face. 			
Class C uncertainties apply to the Class C uncertainties apply to new Class D uncertainties represent the of a dissimilar material.	measurement of length of gauges and used grade 0, 1 and 2 gaug e best capability for the measurer	s by comparison with grade K sta es to BS 4311:2007 and BS EN I nent of length of gauges by comp	ndards of length of a s SO 3650:1999. varison with K grade st	similar material. andards of length
Length bars Grades 1 and 2 Inspection and workshop	BS 5317:1976 and BS 1790:1961 10 to 1000 Flatness Parallelism	0.20 + (1.0 x length in m) 0.17 0.30		A
Gauge blocks accessories	As BS 4311:Part 2: 2009 0.1 to 12.5	0.30		A
Length bar accessories	As BS 1790:1961 and BS 5317:1976 10 to 25	0.30		A
Precision pins See Note 10	0.05 to 10 diameter	0.50		
Thread measuring cylinders See Note 10 Plain plug gauges (parallel), cylindrical standards and rollers. See Note 10 Plain ring gauges (parallel) and setting standards See Note 10 Precision balls - Various materials See Note 10	As BS 5590:1978 and specials 0.1 to 5 1 to 50 diameter 50 to 100 diameter 100 to 150 diameter 200 to 300 diameter 200 to 300 diameter 1 to 50 50 to 100 100 to 275 1 to 50	0.50 on diameter 0.80 1.0 1.5 2.0 2.5 0.80 0.90 1.3 1.0		A

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
Plain gap gauges (parallel) See Note 10	0.5 to 100 100 to 200 200 to 300	3.0 5.0 8.0		A
Screw plug gauges (parallel) including check and setting plugs See Notes 3 and 10	1 to 100 diameter	3.0 on pitch diameter		A
Screw plug gauges (taper) including check plugs See Notes 2 and 10	1 to 100 diameter	4.0		
Screw ring gauges (parallel) See Notes 3, 4 and 10	1 to 100 diameter	5.0 on pitch diameter		
Screw ring gauges (taper) See Notes 2, 5 and 10	5 to 150 diameter	7.0 on pitch diameter		
Screw pitch See Note 10	0.2 to 8	1.5		
Screw flank angle See Note 11	0° to 52°	5.0 minutes of arc		
Screw thread adjustable calliper gauges (parallel) See Note 3	3 to 50 diameter	See Note 6		А
Length gauges, flat and spherical ended See Note 10	1 to 1000	1.0 + (8.0 x length in m)		А
Engineers parallels	As BS 906:1972 5 to 50 x 100 x 400	1.5 to 5.0		A
Vee blocks	As BS 3731:1987 20 to 150	2.5 to 5.0		A
Receiver, position and profile gauges, jigs and fixtures	0 to 1000 x 600 x 600 (using a coordinate measuring machine, when appropriate)	8.0 + 3.0 x length in m See also Note 7		А
ANGLE				•
Squares Blade type	As BS 939:2007 50 to 300 300 to 600	3.0 5.0		A
Cylindrical	As BS 939:2007 75 to 300 300 to 600	2.0 5.0		

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Block	As BS 939:2007 50 to 300 300 to 600	3.0 5.0 All on squareness See note 1		
Right angle and box angle plates	As BS 5535:1978 50 to 600	Squareness: 3.0 + (1.0 per 100 mm) Parallelism: 1.0 + (1.0 per 100 mm) See Note 1		A
Sine bars and tables	As BS 3064:1978 0 to 250 length	Linear dimensions 1.0 + (10 x length in m) Overall performance 3.0 seconds of arc		A
Electronic indicating levels	0 minutes of arc to 20 minutes of arc	1.0 % of range Minimum 0.50 seconds of arc	Calibrated using a small angle generator	A
Spirit levels	As BS 3509:1962 and BS 958:1968 5 seconds of arc to 60 minutes of arc nominal sensitivity	Mean sensitivity 10% of nominal Minimum 0.50 seconds of arc		A
Clinometers	0° to 360°	10 seconds of arc	Calibrated using a sine bar or table	A
Thread measuring vee pieces (prisms)	As NPL Schedule MOY/SCMI/60 0 to 4.5	0.50	and gauge blocks	А
FORM				
Surface plates Granite Cast iron	As BS 817:2008 160 x 100 to 4000 x 3000			А, В
	Flatness of working surface	1.5 + (0.80 x diagonal in m) See Note 1		
	Local variation of working surface	1.7		
Straightedges Cast iron Steel Granite	As BS 5204:Part 1:1975 As BS 5204:Part 2:1977 Up to1800	1.0 + (2.0 x length in m) See Note 1		Α
Optical flats	10 to 100 diameter	0.042 See Note 1		A
Optical parallels	10 to 100 diameter	0.042 on flatness and parallelism 0.10 on length See Note 1		A

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
MEASURING INSTRUMENTS AND MACHINES				
External micrometer	Based on BS 870:2008 0 to 600			А
	Heads: (Zero) Setting, 0 to 25: (Zero) Setting, 25 to 600: Spindle alignment:	2.0 between any two points 1.0 2.0 + (7.0 x length in m) 10		
Internal micrometer	Based on BS 959:2008 0 to 900	Heads: 2.0 Setting and Extension rods: 2.0 + (7.0 x length in m)		A
Depth micrometer	Based on BS 6468:2008 0 to 300	Heads: 2.0 Setting and Extension rods: 2.0 + (7.0 x length in m)		A
Micrometer heads	As BS 1734:1951 0 to 100	Traverse 1.0 Flatness 0.20 Squareness 0.60		A
Bore micrometers (three point)	0 to 150 diameter Heads: (Zero) Setting:	4.0 between any two points 3.0	By comparison with setting rings	A
Bench micrometers	As NPL MOY/SCMI 22 0 to 100	Overall performance 2.0		A
Height setting micrometer	0 to 300	Heads:1.2 Stepped column 2.0 Overall performance 2.5	By comparison with end standards.	A
Stepped column instrument checking artefacts	0 to 1000	1.0 + 3.0 x l in m		
Riser blocks for above	150 300	1.0 2.0	By comparison with end standards.	A
Calliper, height and depth gauges including vernier, dial and digital types	As BS 887:2008 0 to 1000 As BS 1643:2008 0 to 1000 As BS 6365:2008 0 to 600	Overall performance 10 + (30 x length in m)		A
Height gauges - (Simple) including vernier, dial and digital types (See note 8 and note 9)	As BS EN ISO 13225:2012 0 to 1000	Length measurement error (E): 10 + (30 x length in metres)		A

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MEASURING INSTRUMENTS AND MACHINES continued				
Comparators (external)	As BS 1054:1975 250 to 10 000 magnifications	1.0 % of range Minimum 0.20		A
Dial gauges and dial test indicators	As BS 907:2008 and BS 2795:1981 0 to 50 50 to 100	1.0 1.4		A
Bevel protractors	As BS 1685:2008 0° to 360°	6 0 minutes of arc		А
Thread diameter measuring	As NPL Schedules MOY/SCMI/1/ 9 and MOY/SCMI1 //12 0 to 200 capacity	Overall performance 1.5		A
Steel Rules	As BS 4372:1968 0 to 1000	16 + (15 x length in m)		А
Feeler Gauges	As BS 975:Part 1:1941 BS 957:Part 2:1969 0.025 to 1	2.0		A
Coating thickness shims	0 to 10	1.5	By comparison with end standards	A
Linear displacement transducers	0 to 20 20 to 100	0.40 + resolution 0.65 + resolution	By comparison with end standards	A
Electronic Height Gauges with microprocessor control	0 to 1000	1.0 + (8.0 x length in m)	By comparison with end standards	Α, Β
Performance verification of Cartesian co-ordinate measuring machines (CMM)	Length measurement: <i>E_L</i> 0 to 1500 mm (longest diagonal)	2.0 + (2.0 x length in m) µm	ISO 10360-2:2009 Using end standards.	В
	Single stylus probing test: <i>P</i> _{Form.Sph.1×25:SS:Tact} <i>P</i> _{Size.Sph.1×25:SS:Tact}	0.70 μm 0.70 μm	ISO 10360-5:2020 Using a 10 mm to 51 mm diameter test sphere.	
	Single stylus probing test: P _{FTU}	0.70 μm	ISO 10360-5:2010 (withdrawn) Using a 10 mm to 50 mm test sphere.	

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MEASURING INSTRUMENTS				
Articulated Arm Coordinate	As ISO 10360-12:2016			А, В
	Length measurement - <i>E</i> Bi <i>E</i> Uni 0 to 2750 (diameter using end standards)	2.2 + (1.7 x length in m) 3.6 + (1.7 x length in m)		
	Probing measurement - <i>P</i> Size.SPH.1x25 <i>P</i> Form.SPH.1x25 Using a 10 mm to 51 mm diameter test sphere	2.7 2.6		
	Articulated location measurement - L _{Dia.5x5:Art} Using a 10 mm to 51 mm diameter test sphere	2.6		
Profile projectors	10 to 100 magnification Linear 0 to 300 Angular 0° to 360°	125 at the screen 5.0 3.0 minutes of arc	By comparison with length and angle standards	В
ANCILLERY MEASUREMENTS (unless otherwise stated)			See Note 12	A
Flatness		0.2		
Parallelism		0.6		
Squareness		3.0		
Straightness		1.0 + (0.8 x length in m)		
Angular		5 second of arc		

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 The uncertainty quoted is for t consideration. Single start, symmetrical threa Single start symmetrical and a 	the departure from either flatness, d forms only. symmetrical thread forms only.	straightness, parallelism planes,	which just enclose the	e surface under
4. Includes use of check plugs for	screw rings from 1 mm to 6mm dia	ameter		
5. Includes use of check plugs for	screw rings (taper) from 5 mm to s	50 mm diameter		
6. Functional test of size using set	ting plugs calibrated.			
7. Features and associated parts of these gauges can be measured to the uncertainties given				
 8. Simple height gauges vernier, dial and digital instruments designed only for measuring distances parallel to the beam. 				
Notes cont.				
9. Conformance statements cannot be made against specifications whose magnitudes are smaller than the specified CMC values				
10. Calibrated using length measu	ring machine and/or end standard	ls.		
11. Calibrated using a projector				
12 Ancillery measurements made	12 Ancillery measurements made for completeness of calibration. Best CMC's are dependent on methodology and range.			

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ELECTRICAL : Electrical value instruments and for instruments unless otherwise stated in the re	s and uncertainties listed below are with an output. The method used is emarks column.	I applicable for the calibration by direct comparison agains	of both measuring st laboratory standards	
DC VOLTAGE Measurement and Generation	0 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1 kV	8.5 µV/V + 0.31 µV 3.1 µV/V + 0.38 µV 3.0 µV/V + 5.8 µV 5.0 µV/V + 65 µV 4.8 µV/V + 0.76 mV		A
AC VOLTAGE Measurement and Generation	1.1 kV to 30 kV 1 mV to 12 mV 10 Hz to 2 kHz 2 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	0.33 % 360 μV/V + 1.1 μV 430 μV/V + 1.1 μV 0.30 % 1.0 % 2 %		A
	10 mV to 120 mV 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	$\begin{array}{l} 94 \ \mu \text{V/V} + 0.5 \ \mu \text{V} \\ 130 \ \mu \text{V/V} + 0.5 \ \mu \text{V} \\ 230 \ \mu \text{V/V} + 1.0 \ \mu \text{V} \\ 530 \ \mu \text{V/V} + 5.0 \ \mu \text{V} \\ 0.21 \ \% + 30 \ \mu \text{V} \\ 1.1 \ \% + 100 \mu \text{V} \end{array}$		
	100 mV to 1.2 V 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	80 μV/V + 5 μV 120 μV/V + 5 μV 230 μV/V + 10 μV 550 μV/V +50 μV 0.22 % + 0.30 mV 1.0 % + 1.0 mV		
	1 V to 12 V 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	79 μV/V + 50 μV 120 μV/V + 50 μV 230 μV/V + 100 μV 540 μV/V + 500 μV 0.22% + 3.0 mV 1.0 % + 10 mV		
	10 V to 120 V 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz	95 μ V/V + 0.5 mV 110 μ V/V + 0.5 mV 250 μ V/V + 1.0 mV 620 μ V/V + 5mV 0.37 % + 50 mV		
	100 V to 1000 V 10 Hz to 10 kHz 10 kHz to 30 kHz 1 kV to 6 kV 50 Hz	110 μV/V + 25 mV 240 μV/V + 25 mV 0.9 %		

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DC CURRENT Measurement and Generation	0 μA to 20 μA 20 μA to 200 μA 200 μA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 10 A 10 A to 30 A	27 μA/A + 0.42 nA 12 μA/A + 0.41 nA 11 μA/A + 4.0 nA 15 μA/A + 40 nA 58 μA/A + 0.12 μA 130 μA/A + 100 μA 240 μA/A + 400 μA 560 μA/A + 3.0 mA		A
	10 A to 50 A 50 A to 200 A	420 μΑ/Α 0.4 %		
AC CURRENT Measurement and Generation	1 μΑ to 20 μΑ 10 Hz to 30 kHz	0.21 % + 2.5 nA		A
	20 μA to 200 μA 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30kHz	320 μΑ/Α + 5.0 nA 550 μΑ/Α + 5.0 nA 0.80 % + 5.0 nA		
	200 μA to 2 mA 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30kHz	290 μΑ/Α + 50 nA 540 μΑ/Α + 50 nA 0.75 % + 50 nA		
	2 mA to 20 mA 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30kHz	290 μΑ/Α + 500 nA 540 μΑ/Α + 500 nA 0.75 % + 500 nA		
	20 mA to 200 mA 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30kHz	290 μΑ/Α + 5.0 μΑ 530 μΑ/Α + 5.0 μΑ 0.75 % + 5.0 μΑ		
	200 mA to 2 A 10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30kHz	310 μΑ/Α + 100 μΑ 570 μΑ/Α + 100 μΑ 0.80 % + 100 μΑ		
	2 A to 10 A 10 Hz to 10 kHz	0.85 % + 500 µA		
	10 A to 30 A 10 Hz to 2 kHz	0.87% + 28 mA		

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RESISTANCE Measurement	$\begin{array}{l} 0 \ \Omega \ to \ 2 \ \Omega \\ 2 \ \Omega \ to \ 20 \ \Omega \\ 20 \ \Omega \ to \ 200 \ \Omega \\ 200 \ \Omega \ to \ 200 \ \Omega \\ 200 \ \Omega \ to \ 200 \ k\Omega \\ 2 \ k\Omega \ to \ 200 \ k\Omega \\ 200 \ k\Omega \ to \ 200 \ k\Omega \\ 200 \ k\Omega \ to \ 200 \ M\Omega \\ 200 \ M\Omega \ to \ 200 \ M\Omega \\ 400 \ M\Omega \ to \ 200 \ M\Omega \\ 400 \ M\Omega \ to \ 200 \ M\Omega \\ 400 \ M\Omega \ to \ 200 \ M\Omega \ to \ 200 \ M\Omega \\ 400 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to \ 200 \ M\Omega \ to \ 200 \ to $	18 μΩ/Ω + 4.0 μΩ 11 μΩ/Ω + 14 μΩ 9.4 μΩ/Ω + 50 μΩ 9.2 μΩ/Ω + 500 μΩ 9.4 μΩ/Ω + 5 mΩ 9.7 μΩ/Ω + 50 mΩ 12 μΩ/Ω + 1.0 Ω 21 μΩ/Ω + 10 Ω 76 μΩ/Ω + 1.0 kΩ 240 μΩ/Ω + 100 kΩ 0.27 % + 10 MΩ		A
Current Shunts Measurement and Generation	$\begin{array}{l} 100m\Omega - 1A \\ 100m\Omega - 10A \\ 10m\Omega - 1A \\ 10m\Omega - 10A \\ 10m\Omega - 20A \\ 1m\Omega - 20A \\ 1m\Omega - 10A \\ 1m\Omega - 20A \\ 5m\Omega @ 1A \\ 5m\Omega @ 10A \\ 3m\Omega @ 1A \\ 3m\Omega @ 10A \\ 100\mu\Omega @ 10A \\ 250\mu\Omega @ 10A \end{array}$	33 μΩ/Ω 27 μΩ/Ω 71 μΩ/Ω 33 μΩ/Ω 42 μΩ/Ω 380 μΩ/Ω 55 μΩ/Ω 45 μΩ/Ω 90 μΩ/Ω 80 μΩ/Ω 130 μΩ/Ω 35 μΩ/Ω 330 μΩ/Ω		A
Simulated Current	10 A to 100 A 100 A to 1000 A	500 μA/A + 12 mA 0.14% + 700 mA	For the Calibration of clamp meters only	
Simulated AC Current	10 A to 100 A 40 Hz to 100 Hz 100 Hz to 440 Hz 100 A to 1000 A	0.10 % 0.50 %	Multi turn coil For the calibration of clamp meters only	A
RESISTANCE Generation Spot Values	40 Hz to 100 Hz 0 Ω 1 Ω 1.9 Ω 10 Ω 19 Ω 100 Ω 190 Ω 1 kΩ 1.9 kΩ 10 kΩ 19 kΩ 100 kΩ 190 kΩ 190 kΩ 1.9 MΩ 100 MΩ 190 MΩ	$\begin{array}{c} 0.20 \ \% \\ \\ 50 \ \mu\Omega \\ 110 \ \mu\Omega \\ 213 \ \mu\Omega \\ 280 \ \mu\Omega \\ 551 \ \mu\Omega \\ 1.3 \ m\Omega \\ 2.7 \ m\Omega \\ 11 \ m\Omega \\ 2.1 \ m\Omega \\ 0.11 \ \Omega \\ 0.21 \ \Omega \\ 1.4 \ \Omega \\ 2.85 \ \Omega \\ 24 \ \Omega \\ 55 \ \Omega \\ 470 \ \Omega \\ 1.14 \ k\Omega \\ 12.4 \ k\Omega \end{array}$		A

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CAPACITANCE Measurement	0.2 nF to 2 nF 2 nF to 20 nF 20. nF to 200 nF	0.19 % + 1 pF 860 μF/F + 2.0 pF 520 μF/F + 10 pF		A
Measure and Generate	200 nF to 2 μF 2 μF to 20 μF 20 μF to 200 μF 200 μF to 2000 μF	420 μF/F + 100 pF 480 μF/F + 1.0 nF 660 μF/F + 10 nF 660 μF/F + 100 nF		
Simulation	1 pF to 1 μF @ <i>1 kHz</i>	54 μF/F		
	1 μF to 3.3 μF 3.3 μF to 11 μF	0.30 % + 4.1 nF 0.30 % + 14 nF		
Attenuation	1 kHz to 20 kHz Set ref nominal 5 V 0 dB to 80 dB	0.0067 dB		A
Distortion	20 Hz to 20 kHz 50 mV to 300 V	1.3 dB		A
Phase angle	20 kHz to 100 kHz 50 mV to 300 V	2.4 dB		
Voltage Voltage and Voltage				А
Current:	10 Hz to 65 Hz 65 Hz to 500 Hz 500 Hz to 1 kHz	0.13 ° 0.35 ° 0.60 °		
AC Power				A
Unity PF to 0.25 PF	45 Hz to 65 Hz 330 mV to 1 kV 3.3 mA to 2.2 A 2.2 A to 20.5 A	0.35 % + 1.2 mW 0.45 % + 1.2 mW		
DC Power	33 mV to 1 kV 330 μA to 3 A 3 A to 20.5 A	500 μΑ/Α 0.12 %		A

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
OSCILLOSCOPE BANDWIDTH AND FREQUENCY RESPONSE Set points at 1 kHz	20 µV to 1.1 mV 1.1 mV to 3 mV 3 mV to 11 mV 11 mV to 33 mV 33 mV to 110 mV 110 mV to 330 mV 330 mV to 1.1 V 1.1 V to 3.5 V	1.0 % + 2.4 μV 0.90 % + 3.5 μV 0.90 % + 9.3 μV 0.80 % + 19 μV 0.80 % + 46 μV 0.70 % + 120 μV 0.70 % + 460 μV 0.62 % + 580 μV		A
Frequency Response Including set point	1.1 V to 3.5 V 20 μ V to 1.1 mV 10 Hz to 30 Hz 30 Hz to 120 Hz 120 Hz to 1.2 kHz 1.2 kHz to 12 kHz 1.2 kHz to 12 kHz 1.2 kHz to 12 0 kHz 120 kHz to 2 MHz 2 MHz to 2 MHz 2 MHz to 2 0 MHz 10 M Hz to 20 MHz 10 M Hz to 30 MHz 1.1 mV to 3 mV 10 Hz to 30 Hz 30 Hz to 120 Hz 120 Hz to 1.2 kHz 1.2 kHz to 12 kHz 1.2 kHz to 12 kHz 1.2 kHz to 12 MHz 2 MHz to 2 0 MHz 2 MHz to 2 0 MHz 3 mV to 11 mV 10 Hz to 30 Hz 30 Hz to 120 Hz 20 MHz to 30 Hz 30 Hz to 120 Hz 120 kHz to 1.2 kHz 1.2 kHz to 120 Hz 20 MHz to 30 Hz 30 Hz to 120 Hz 120 Hz to 1.2 kHz 1.2 kHz to 120 Hz 120 kHz to 1.2 MHz 1.2 MHz to 2 MHz 2 MHz to 30 MHz 11 mV to 33 mV 10 Hz to 30 Hz 30 Hz to 120 Hz 120 Hz to 1.2 kHz 1.2 kHz to 120 Hz 120 Hz to 1.2 kHz 1.2 kHz to 120 Hz 20 MHz to 30 Hz 30 Hz to 120 Hz 10 M Hz to 20 MHz 12 kHz to 12 kHz 12 kHz to 10 kHz 13 kHz to 2 kHz 14 kHz to 2 kHz 15 kHz to 10 kHz 16 kHz to 10 kHz 17 kHz to 2 kHz 17 kHz to 2 kHz 18 kHz to 10 kHz 19 kHz to 2 kHz 20 kHz to 10 kHz 10 kHz to 2 kHz 20 kHz to 10 kHz 10 kHz to 2 kHz 10 kHz to 2 kHz 11 kHz to 2 kHz 11 kHz to 2 kHz 12 kHz to 10 kHz 12 kHz to 10 kHz 13 kHz to 2 kHz	0.62 % + 580 μ V 1.1 % + 2.4 μ V 1.1 % + 4.2 μ V 1.1 % + 4.2 μ V 1.3 % + 4.2 μ V 2.0% + 18 μ V 1.0 % + 3.5 μ V 0.95 % + 5.0 μ V 1.0 % + 5.0 μ V 1.0 % + 5.0 μ V 1.0 % + 5.0 μ V 2.0 % + 5.0 μ V 1.1 % + 5.0 μ V 0.95 % + 9.3 μ V 0.95 % + 9.9 μ V 1.1 % + 9.9 μ V 1.5 % + 9.9 μ V 1.5 % + 9.9 μ V 0.85 % + 19 μ V		A
	20 MHz to 30 MHz	0.95% + 19 μV 1.4 % + 19 μV		

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
Frequency Response Including set point (cont'd)	33 mV to 110 mV 10 Hz to 30 Hz 30 Hz to 120 Hz 120 Hz to 1.2 kHz 1.2 kHz to 12 kHz 12 kHz to 120 kHz 120 kHz to 1.2 MHz 120 kHz to 10 MHz 10 M Hz to 20 MHz 20 MHz to 30 Hz 30 Hz to 120 Hz 120 Hz to 1.2 kHz 1.2 kHz to 120 kHz 120 kHz to 1.2 kHz 1.2 kHz to 120 kHz 120 kHz to 1.2 MHz 2 MHz to 2 MHz 2 MHz to 2 MHz 2 MHz to 30 MHz 330 mV to 1.1 V 10 Hz to 30 Hz 30 Hz to 120 Hz 120 kZ to 1.2 kHz 1.2 kHz to 12 kHz 1.2 kHz to 12 kHz 1.2 kHz to 120 Hz 20 MHz to 30 Hz 30 Hz to 120 kHz 120 kHz to 1.2 kHz 1.2 kHz to 120 kHz 120 kHz to 1.2 kHz 1.2 kHz to 120 kHz 120 kHz to 1.2 MHz 1.2 MHz to 2 MHz 2 MHz to 30 MHz 1.1 V to 3.5 V 10 Hz to 30 Hz 30 Hz to 120 Hz 20 MHz to 30 MHz 1.1 V to 3.5 V 10 Hz to 30 MHz 1.2 kHz to 12 kHz 1.2 kHz to 10 kHz to 20 kHz 1.2 kHz to 10 kHz to 20 kHz to 10 kHz to 20 kHz to 10 kH	0.90 % + 47 μ V 0.85 % + 47 μ V 0.95 % + 47 μ V 0.95 % + 47 μ V 0.95 % + 120 μ V 0.75 % + 400 μ V 0.85 % + 120 μ V 0.75 % + 460 μ V 0.65 % + 580 μ V 0.70 % + 580 μ V 0.80 % + 580 μ V		A

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
Bandwidth (cont'd) with respect to set point Into 50 Ω	40 Hz to 600 MHz			A
	100 mV to 3.5 V peak to peak 600 MHz to 1.1 GHz Nominal 1.2 V peak to peak	2.0 % 5.2 %		
Timebase accuracy	1 ns to 20 ms 20 ms to 2 s	3.0 µs/s 0.20 %		A
RISE TIME	Nominal 1 ns	120 ps		A
FREQUENCY				А
	10 MHz	4.5 in 10 ¹¹	For stable oscillators by direct comparison	
	1 Hz to 18 GHz	4.6 in 10 ¹¹ + 100 μHz	, , , , , , , , , , , , , , , , , , ,	
TIME INTERVAL	1 s to 24 hours	2.0 ms 200 ms	Electronically triggered. Manual triggered	A
Optical Tachometry	30 rpm to 99,000 rpm	0.12 rpm	Optical simulation	А
ELECTRICAL SIMULATION OF TEMPERATURE MEASURING and READING INSTRUMENTS	Ambient 20 °C ± 3 °C	0.15 °C	Support measurement suitable for measurement of reference junction compensation devices	A
Thermocouple displays Including Reference Junction compensation.				
Base Metal Thermocouples	-250 °C to +1375 °C	0.26 °C to 0.76 °C		А
Noble Metal Thermocouples	0 °C to +1767 °C	0.58 °C to 0.79 °C		А
Thermocouple displays Excluding Reference Junction compensation.				
Base Metal Thermocouples	-250 °C to +1375 °C	0.012 °C to 0.028 °C		A
Noble Metal Thermocouples	0 °C to +1767 °C	0.059 °C to 0.092 °C		А
Resistance			(PT 100 & PT1000)	
Temperature simulators Temperature indicators	-200 °C to 800 °C -200 °C to 800 °C	0.0036 °C to 0.011 °C 0.0036 °C to 0.011 °C		

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
ADDITIONAL MEASUREMENTS IN SUPPORT OF IEE 17 TH EDITION TEST EQUIPMENT				
RCD				
Trip current	3 mA to 10 mA 10 mA to 30 mA 30 mA to 100 mA 100 mA to 300 mA 300 mA to 2 A	400 μA 830 μA 2.2 mA 8.3 mA 45 mA		
Trip time	20 ms to 390 ms 390 ms to 900 ms	500 μs 2.0 ms		
AC RESISTANCE FOR LOOP 50 Hz			Laboratory loop nominally 0.46 Ω	
Nominal Ranges	0.05 Ω to 0.1 Ω 0.1 Ω to 0.22 Ω 0.22 Ω to 0.33 Ω	1.7 mΩ 4.0 mΩ 4.0 mΩ		
	0.33 Ω to 0.5 Ω 0.5 Ω to 1 Ω 1 Ω to 5 Ω	6.0 mΩ 7.0 mΩ 6.0 mΩ		
	5 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 1 k Ω	8.0 mΩ 25 mΩ 480 m Ω		
EARTH BOND RESISTANCE	0 Ω to 1 Ω 1 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 1 kΩ	4.0 mΩ 15 mΩ 23 mΩ 170 mΩ		
50 Hz	100 mA 100 mA to 8 A 8 A to 40 A	3.0 mA 21 mA 88 mA		
DC VOLTAGE	0 μV to 10 mV 10 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1 kV 1 kV to 19 kV	80 μV/V + 1μV 8.5 μV/V + 1μV 5.0 μV/V + 1μV 6.9 μV/V + 1μV 8.0 μV/V 7.5 μV/V 1.6 % + 1 V	These values can be measured	В

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
AC VOLTAGE	1 mV to 20 mV 30 Hz to 10 kHz 10 kHz to 100 kHz	0.14 % 0.2 %		В
	20 mV to 200 mV 30 Hz to 10 kHz 10 kHz to 100 kHz	0.10 % 0.10 %		
	200 mV to 2 V 30 Hz to 10 kHz 10 kHz to 100 kHz	0.03 % 0.05 %		
	2 V to 20 V 30 Hz to 10 kHz 10 kHz to 100 kHz 100 kHz to 330 kHz	0.03 % 0.05 % 0.15 %		
	20 V to 200 V 30 Hz to 10 kHz 10 kHz to 100 kHz	0.03 % 0.05 %		
	200 V to 1000 V 30 Hz to 10 kHz	0.04 %		
	1 kV to 5 kV <i>50 hz</i>	5.1 % + 1 V		
DC CURRENT Measurement	10 μA to 100 μA	80 µA/A		В
	100 μA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 1 A 1A to 10 A 10 A to 50 A	50 μΑ/Α 50 μΑ/Α 56 μΑ/Α 150 μΑ/Α 200 μΑ/Α 420 μΑ/Α		
AC CURRENT Measurement	10 μA to 100 μA			В
	40 Hz to 5 kHz	0.03 %		
	100 μA to 1 mA <i>40 Hz to 5 kHz</i> 1m A to 10 mA	0.03 %		
	40 Hz to 5 kHz	0.03 %		
	10 mA to 100 mA <i>40 Hz to 5 kHz</i> 100 mA to 1 A	0.03 %		
	40 Hz to 5 kHz	0.087 %		
Measurement and Generation	1 A to 10 A 50 Hz to 400 Hz	0.050 %		В

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
RESISTANCE Measurement				В
	0 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 1 kΩ 1 kΩ 10 kΩ 10 kΩ to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 10 MΩ 10 MΩ to 100 MΩ 100 MΩ to 1 GΩ	20 μΩ/Ω + 70 μΩ 15 μΩ/Ω + 700 μΩ 13 μΩ/Ω + 700 μΩ 13 μΩ/Ω + 6.3 mΩ 13 μΩ/Ω + 70 mΩ 22 μΩ/Ω + 2.6 Ω 82 μΩ/Ω + 130 Ω 0.08 % 1.00 %		
DC VOLTAGE Generation				В
	0 V to 220 mV 220 mV to 2.2 V 2.2 V to 22 V 22 V to 220 V 220 V to 1.1 kV	15 μV/V 10 μV/V 8.5 μV/V 13 μV/V 16 μV/V		
Generation	2 mV to 200 mV 10 Hz to 10 kHz 10 kHz to 100 kHz	0.07 % 0.15 %		В
	200 mV to 2 V 10 Hz to 10 kHz 10 kHz to 100 kHz	0.05 % 0.15 %		
	2 V to 20 V 10 Hz to 10 kHz 10 kHz to 100 kHz 100 kHz to 330 kHz	0.06 % 0.12 % 0.40 %		
	20 V to 200 V 10 Hz to 10 kHz 10 kHz to 100 kHz	0.05 % 0.16 %		
	200 V to 1000 V 50 Hz to 10 kHz 10 kHz to 100 kHz	0.07 % 0.16 %		
DC CURRENT Generation	0 A to 200 µA 200 µA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2.2 A to 3 A 3 A to 10 A 10 A to 50 A	85 μΑ/Α 75 μΑ/Α 72 μΑ/Α 85 μΑ/Α 230 μΑ/Α 440 μΑ/Α + 1.2 mA 580 μΑ/Α + 12 mA 420 μΑ/Α		В
Simulated current	10 A to 100 A 100 A to 1000 A	500 μA/A + 12 mA 0.14 % + 700 mA	For the calibration of clamp meters only	

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
AC CURRENT Generation	2 μA to 200 μA <i>10 Hz to 5kHz</i>	0.08 %		В
	200 μA to 2 mA <i>10 Hz to 5kHz</i>	0.03 %		
	2 mA to 20 mA 10 Hz to 5kHz	0.03 %		
	20 mA to 200 mA 10 Hz to 5kHz	0.03 %		
	200 mA to 2.A 10 Hz to 5kHz	0.06 %		
	2.2 A to 3 A 10 Hz to 45 Hz 45 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz	0.35 % + 1.2 mA 0.15 % + 0.70 mA 0.40 % + 4.9 mA 3.7 % + 24 mA		
Simulated AC Current	3 A to 11 A 45 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 5 kHz	0.25 % + 4.5 mA 0.17 % + 4.5 mA 3.6 % + 15 mA		
Simulated AC Current	10 A to 100 A 40 Hz to 100 Hz 100 Hz to 440 Hz	0.10 % 0.50 %	Multi turn coil For the calibration of clamp meters only	В
RESISTANCE	100 A to 1000 A 40 Hz to 100 Hz	0.20 %		В
Generation Spot Values	10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 10 MΩ 100 MΩ	0.32 mΩ 1.4 mΩ 19 mΩ 120 mΩ 3.8 Ω 40 Ω 0.60 kΩ 18 kΩ		
OSCILLOSCOPE BANDWIDTH AND FREQUENCY RESPONSE				В
Set points at 1 kHz	40 Hz to 600 MHz 100 mV to 3.5 V peak to peak	2.0 %		
Timebase accuracy	1 ns to 20 ms	3.0 µs/s		В
RISE TIME	Nominal 1 ns	120 ps		В

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
ELECTRICAL SIMULATION OF TEMPERATURE INSTRUMENTS				
Туре К	-200 °C to -100 °C -100 °C to -25 °C -25 °C to 120 °C 120 °C to 1000 °C 1000 °C to 1372 °C	0.36 °C 0.23 °C 0.22 °C 0.30 °C 0.43 °C	Thermocouple displays Including Reference Junction compensation	
Type J	-210 °C to -100 °C -100 °C to -30 °C -30 °C to 150 °C 150 °C to 760 °C 760 °C to 1200 °C	0.35 °C 0.25 °C 0.25 °C 0.25 °C 0.30 °C		
Type R	0 °C to 250 °C 250 °C to 400 °C 400 °C to 1000 °C 1000 °C to 1767 °C	0.76 °C 0.56 °C 0.55 °C 0.60 °C		
Type S	0 °C to 250 °C 250 °C to 400 °C 400 °C to 1000 °C 1000 °C to 1767 °C	0.66 °C 0.56 °C 0.57 °C 0.65 °C		
Туре Т	-250 °C to -150 °C -150 °C to 0 °C 0 °C to 120 °C 120 °C to 400 °C	0.75 °C 0.35 °C 0.25 °C 0.25 °C		
Туре К	-200 °C to -100 °C -100 °C to -25 °C -25 °C to 120 °C 120 °C to 1000 °C 1000 °C to 1372 °C	0.35 °C 0.22 °C 0.21 °C 0.29 °C 0.43 °C	Thermocouple displays Excluding Reference Junction compensation	
Туре Ј	-210 °C to -100 °C -100 °C to -30 °C -30 °C to 150 °C 150 °C to 760 °C 760 °C to 1200 °C	0.34 °C 0.24 °C 0.24 °C 0.24 °C 0.29 °C		
Type R	0 °C to 250 °C 250 °C to 400 °C 400 °C to 1000 °C 1000 °C to 1767 °C	0.76 °C 0.56 °C 0.55 °C 0.60 °C		
Type S	0 °C to 250 °C 250 °C to 400 °C 400 °C to 1000 °C 1000 °C to 1767 °C	0.66 °C 0.56 °C 0.57 °C 0.65 °C		
Туре Т	-250 °C to -150 °C -150 °C to 0 °C 0 °C to 120 °C 120 °C to 400 °C	0.75 °C 0.34 °C 0.24 °C 0.24 °C		

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
Resistance			(PT 100)	В
Temperature simulators Temperature indicators	-200 °C to 800 °C -200 °C to 800 °C	0.050 °C 0.080 °C		
ADDITIONAL MEASUREMENTS IN SUPPORT OF IEE 17 TH EDITION TEST EQUIPMENT				В
RCD				
Trip current	3 mA to 10 mA 10 mA to 30 mA 30 mA to 100 mA 100 mA to 300 mA 300 mA to 2 A	400 μA 830 μA 2.2 mA 8.3 mA 45 mA		
Trip time	20 ms to 390 ms 390 ms to 900 ms	500 μs 2.0 ms		
AC RESISTANCE FOR LOOP 50 Hz Nominal Ranges	0.05 Ω to 0.1 Ω	1.7 mΩ		
	0.1 Ω to 0.22 Ω 0.22 Ω to 0.33 Ω	4.0 mΩ 4.0 mΩ		
	0.33 Ω to 0.5 Ω 0.5 Ω to 1 Ω 1 Ω to 5 Ω	6.0 mΩ 7.0 mΩ 6.0 mΩ		
	5 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 1 k Ω	8.0 mΩ 25 mΩ 480 mΩ		
EARTH BOND RESISTANCE	0 Ω to 1 Ω 1 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 1 kΩ	4.0 mΩ 15 mΩ 23 mΩ 170 mΩ		
50 Hz	100 mA 100 mA to 8 A 8 A to 40 A	3.0 mA 21 mA 88 mA		

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
PRESSURE				
Gas Pressure Gauge			Methods consistent with EURAMET CG17	
Calibration of pressure indicating instruments and gauges	-90 kPa to +400 kPa 400 kPa to 2 MPa 2 MPa to 7 MPa	120 Pa 180 Pa 660 Pa	Calibrations of pressure devices with an electrical output may be undertaken.	A
	-90 kPa to 2 MPa 2 MPa to 7 MPa	0.50 kPa 1.1 kPa		В
Hydraulic Pressure Gauge				
Calibration of pressure indicating instruments and gauges	500 kPa to 60 MPa 60 MPa to 140 MPa 140 MPa to 280 MPa	0.014 % + 1.0 kPa 70 kPa 80 kPa		A
	0 MPa to 140 MPa 140 MPa to 280 MPa	80 kPa 110 kPa		В
TEMPERATURE				А
Resistance thermometers	-80 °C to -40 °C -40 °C to 0 °C 0 °C to 100 °C 100 °C to 200 °C 200 °C to 500 °C 500 °C to 650 °C	0.040 °C 0.055 °C 0.035 °C 0.045 °C 0.16 °C 0.26 °C	Comparison in liquid bath and dry media	
Temperature indicating instruments with probes	-80 °C to -40 °C -40 °C to 0 °C 0 °C to 100 °C 100 °C to 200 °C 200 °C to 500 °C 500 °C to 650 °C	0.040 °C 0.055 °C 0.035 °C 0.045 °C 0.16 °C 0.26 °C	Comparison in liquid bath and dry media Calibrations of temperature transmitters may be undertaken.	
Thermocouples			Comparison in liquid	
Base Metal	-80 °C to 350 °C	0.27 °C to 0.39 °C	but and ary modu	
	350 °C to 650 °C			
Noble Metal	-80 °C to 500 °C 500 °C to 650 °C	0.60 °C 0.65 °C		
Temperature controlled environmental chambers, fridges/refrigerators, freezers, incubators, ovens and furnaces	-80 °C to +250 °C 250 °C to 500 °C 500 °C to 700 °C 700 °C to 1000 °C 1000 °C to 1300 °C	1.1 °C 2.3 °C 3.1 °C 4.0 °C 5.0 °C	Single and multipoint time dependent temperature profiling using thermocouoples, also referred to as spatial temperature surveying or mapping	В
Dry Block Calibrators	-80 °C to 140 °C 140 °C to 650 °C	0.050 °C 0.13 °C	Method consistent with Euramet CG 13	A

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
TORQUE				А
Hand Torque Tools (Torque wrenches and Torque screwdrivers)	BS EN ISO 6789-2:2017 0.04 N·m to 1500 N·m	1.0 %	Calibration results may also be reported in units of lbf-in and lbf-ft. The uncertainty quoted	
	BS EN ISO 6789:2003 (Withdrawn) 0.04 N·m to 1500 N·m	1.0 %	is for both the application of the calibration torque and the characteristics of the device being calibrated.	
Static Torque Transducers Transducers in clockwise and/or anti-clockwise direction	BS 7882:2017 0.04 to 3 N·m 0.1 to 60 N·m 0.2 to 150 N·m 0.4 to 1500 N·m	0.070 % 0.060 % 0.040 % 0.030 %	Calibrations may also be given in units of electrical signal output. Calibrated statically using un-supported Beam and Masses.	A
END				

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Appendix - Calibration and Measurement Capabilities

Introduction

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

Calibration and Measurement Capabilities (CMCs)

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest measurement uncertainty that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors.

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of k = 2. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

Expression of CMCs - symbols and units

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand. Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where q is the quantity value.

The notation Q[a, b] stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$