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
AddressLocal contaJLR Calibration CentreMr S JenningBuilding 2 (W/2/012)Abbey RoadWhitleyCoventryCV3 4LF	ct IS Accelerometry Dimensional Electrical Force	A

Site activities performed away from the locations listed above:

Location details		Activity	Location code
Address A customers premises The location must be suitable for the nature of the particular calibrations undertaken and will be the subject of contract review arrangements between the laboratory and the customer	Local contact Mr S Jennings	Dimensional	В

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0117 Accredited to ISO/IEC 17025:2017	Issue No: 042 Issue date: 21 February 2025
	Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
	RANGE IN MILLIMETRES A UNLESS (ND UNCERTAINTY IN MI OTHERWISE STATED	CROMETRES	
LENGTH			NOTES	
Gauge Blocks Millimetre (Steel)	0.25 to 10 10 to 25 Sizes 30, 40, 50 60, 70, 75 80, 90, 100 Variation in length of the above gauge blocks	Class C (See Notes) 0.080 0.10 0.12 0.15 0.18 0.080	By comparison to K grade gauge blocks using a length measuring instrument. Class C uncertainties apply to the measurement of length of steel gauges by comparison with grade K standards of length of a similar material. Class C uncertainties apply to grade 0, 1 and 2 gauges to BS EN ISO 3650:1999	A
Length gauges, flat and spherical ended	0 to 600	1.0 + (8.0 x length in m)	By comparison to a length measuring instrument and end standards.	A
Parallels	5 to 50 x 100 x 400	3.0 to 5.0	BS 906:Part 1:1972 By comparison to reference squares and datum surfaces	A

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
	RANGE IN MILLIMETRES A UNLESS (ND UNCERTAINTY IN MI	CROMETRES	
ANGLE			NOTES 1 The uncertainty quoted is for the departure from flatness, straightness, or squareness, i.e. the distance separating the two parallel planes which just enclose the surface under consideration.	
Squares, Blade type	Squarenes of blade to stock 100 to 600	See Note 1 7.0 on squareness	BS 939:2007 By comparison to reference squares and datum surfaces	A
FORM			1 The uncertainty quoted is for the departure from flatness, straightness, or squareness, i.e. the distance separating the two parallel planes which just enclose the surface under consideration.	
Surface plates Granite and Cast iron	Overall flatness 160 x 100 to 1600 x 1000	See Note 1.5 + (0.80 x diagonal in m)	BS 817:2008 Using an electronic level	А, В

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RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED MEASURING INSTRUMENTS AND MACHINES And Action surfaces By comparison to end standards and datum surfaces BS 870:2008 A Micrometers External 0 to 300 Heads: 2.0 Setting and extension rods: 1.0 + (8.0 x length in m) By comparison to end standards and datum surfaces BS 870:2008 A	Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
MEASURING INSTRUMENTS AND MACHINESO to 300Heads: 2.0By comparison to end standards and datum surfaces BS 870:2008AMicrometers External0 to 300Heads: 2.0 Setting and extension rods: 1.0 + (8.0 x length in m)By comparison to end standards and datum surfaces BS 870:2008A		RANGE IN MILLIMETRES A UNLESS (ND UNCERTAINTY IN MI OTHERWISE STATED	CROMETRES	
Micrometers External0 to 300Heads: 2.0 Setting and extension rods: 1.0 + (8.0 x length in m)By comparison to end standards and datum surfaces BS 870:2008A	MEASURING INSTRUMENTS AND MACHINES				
External0 to 300Heads: 2.0 Setting and extension rods: 1.0 + (8.0 x length in m)BS 870:2008	Micrometers			By comparison to end standards	А
	External	0 to 300	Heads: 2.0 Setting and extension rods: 1.0 + (8.0 x length in m)	BS 870:2008	
Depth0 to 300Heads: 2.0BS 6468:2008Setting and extension rods 2.0 + (7.0 x length in metres)BS 6468:2008	Depth	0 to 300	Heads: 2.0 Setting and extension rods 2.0 + (7.0 x length in metres)	BS 6468:2008	
Vernier dial and digital type gaugesBy comparison to end standards and datum surfacesA	Vernier dial and digital type gauges			By comparison to end standards and datum surfaces	A
Caliper0 to 1000Overall performance: 10 + (30 x length in m)BS 887:2008	Caliper	0 to 1000	Overall performance: 10 + (30 x length in m)	BS 887:2008	
Height0 to 1000Overall performance: 10 + (30 x length in m)BS 1643:2008	Height	0 to 1000	Overall performance: 10 + (30 x length in m)	BS 1643:2008	
Height (simple type)0 to 1000Overall performance: 10 + (30 x length in m)BS EN ISO 13225:2012	Height (simple type)	0 to 1000	Overall performance: 10 + (30 x length in m)	BS EN ISO 13225:2012	
Depth0 to 600Overall performance: 10 + (30 x length in m)BS 6365: 2008	Depth	0 to 600	Overall performance: 10 + (30 x length in m)	BS 6365: 2008	
ANCILLARY MEASUREMENTS	ANCILLARY MEASUREMENTS				
Flatness 0.3 Using optical flat		Flatness	0.3	Using optical flat	
Parallelism 3.0 Using reference standards		Parallelism	3.0	Using reference standards	
Straightness 3.0 Using reference standards		Straightness	3.0	Using reference standards	
Squareness 6.0 Using reference standards		Squareness	6.0	Using reference standards	

	S United 2 Pine Trees, Ch	Schedule of A issued Kingdom Acc tertsey Lane, Staine	ccreditation by reditation Service as-upon-Thames, TW18 3H	R, UK
UKAS CALIBRATION 0117 Accredited to ISO/IEC 17025:2017	lssu	Jaguar Land Ro e No: 042 Issue da	over Limited te: 21 February 2025	
	Calibration performed by the	Organisation at the loca	tions specified	
Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
ELECTRICAL : Electrical values a instruments with an output. The mo- column.	nd uncertainties listed below ar ethod used is by direct comparie	re applicable for the calibra son against laboratory star	tion of both measuring instruments a ndards unless otherwise stated in th	and for e remarks
DC RESISTANCE				
Sourcing Measurement	0 Ω 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 10 kΩ 10 kΩ 1 MΩ 10 MΩ 19 MΩ 100 MΩ 0 Ω to 2 Ω 2 Ω to 20 Ω 20 Ω to 20 Ω 200 Ω to 2 kΩ 2 kΩ to 20 kΩ 2 kΩ to 20 kΩ 2 kΩ to 20 kΩ 2 kΩ to 20 kΩ 2 0 kΩ to 2 MΩ 2 MΩ to 20 MΩ 20 MΩ to 200 MΩ	47 μΩ 83 μΩ 13 μΩ/Ω 5.7 μΩ/Ω 5.0 μΩ/Ω 3.7 μΩ/Ω 5.0 μΩ/Ω 8.8 μΩ/Ω 15 μΩ/Ω 28 μΩ/Ω 48 μΩ/Ω 14 μΩ/Ω + 4.5 μΩ 11 μΩ/Ω + 15 μΩ 10 μΩ/Ω 10 μΩ/Ω 10 μΩ/Ω 13 μΩ/Ω 25 μΩ/Ω + 100 Ω 130 μΩ/Ω + 10 kΩ	Sourcing values for the calibration of measuring. instruments	A
DC VOLTAGE Generation Measurement	0 mV to 220 mV 220 mV to 2.2 V 2.2 V to 11 V 11 V to 22 V 22 V to 220 V 220 V to 1100 V 0 mV to 220 mV 220 mV to 2.2 V 2.2 V to 220 V 2.2 V to 220 V 220 V to 1100 V	12 μ V/V + 0.46 μ V 8.0 μ V/V + 0.70 μ V 2.0 μ V/V + 1.8 μ V 2.0 μ V/V + 2.1 μ V 5.0 μ V/V + 26 μ V 5.0 μ V/V + 160 μ V 8.0 μ V/V + 0.27 μ V 2.3 μ V/V + 0.75 μ V 2.3 μ V/V + 0.75 μ V 2.3 μ V/V + 2.6 μ V 2.0 μ V/V + 50 μ V 2.3 μ V/V + 300 μ V	Sourcing values for the calibration of measuring instruments. These values can be directly measured.	A

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ISO/IEC 17025:2017	
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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
DC CURRENT				
Generation	0 μA to 220 μA 220 μA to 2.2 mA 2.2 mA to 22 mA 22 mA to 220 mA 220 mA to 2.2 A 2.2 A to 20 A 20 A to 100 A	5.1 μA/A + 1.1 nA 10 μA/A + 0.35 nA 10 μA/A + 5.0 nA 22 μA/A + 80 nA 50 μA/A + 1.7 μA 110 μA/A + 0.85 mA 130 μA/A + 5.0 mA	Sourcing values for the calibration of measuring instruments.	A
	100 A to 2500 A			
		0.20 % + 0.13 A	Simulated current using multi turn coil, for the calibration of clamp-on ammeters.	
Measurement	0 mA 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 20 A	12 μΑ/Α + 0.3 nA 11 μΑ/Α + 0.60 nA 7.5 μΑ/Α + 9.0 nA 10 μΑ/Α + 71 nA 27 μΑ/Α + 4.0 μA 130 μΑ/Α + 26 μA	These values can be directly measured.	A
AC VOLTAGE				
Generation	20 Hz to 40 Hz 22 mV to 220 mV 0.22 V to 2.2 V	170 μV/V + 1.1 μV 80 μV/V + 7.5 μV	Sourcing values for the calibration of measuring instruments.	A
	40 Hz to 20 kHz 22 mV to 220 mV 0.22 V to 2.2 V 2.2 V to 22 V 22 V to 220 V	65 μV/V + 1.0 μV 25 μV/V + 3.5 μV 30 μV/V + 75 μV 40 μV/V + 0.40 mV		
	55 Hz to 1 kHz 220 V to 1000 V	65 μV/V + 4.1 mV		

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
AC VOLTAGE				
Measurement	20 Hz to 55 Hz 20 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V	75 μV/V + 1.3 μV 35 μV/V + 8.0 μV 47 μV/V + 180 μV 53 μV/V + 1.5 mV	These values can be directly measured.	A
	55 Hz to 10 kHz 20 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V	120 μV/V + 2.0 μV 55 μV/V + 25 μV 65 μV/V + 160 μV 70 μV/V + 2.3 mV 110 μV/V + 12 mV		
	10 kHz to 30 kHz 20 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 100 V to 1000 V	180 μV/V + 1.0 μV 56 μV/V + 7.0 μV 120 μV/V + 95 μV 150 μV/V + 650 μV 240 μV/V + 12 mV		
ACCURRENT			Occursion and the family of	
Generation	55 Hz to 1 kHz 2.2 μA to 220 μA 0.22 mA to 2.2 mA 2.2 mA to 22 mA 22 mA to 220 mA 0.22 A to 2.2 A	180 μA/A + 2.6 nA 280 μA/A + 26 nA 100 μA/A + 260 nA 59 μA/A + 2.7 μA 100 μA/A + 25 μA	Sourcing values for the calibration of measuring instruments.	A
	40 Hz to 65 Hz 2.2 A to 20 A 20 A to 120 A	210 μA/A + 10 mA 210 μA/A + 20 mA		
	65 Hz to 1 kHz 2.2 A to 20 A 20 A to 120 A	800 μΑ/Α + 10 mA 800 μΑ/Α + 100 mA		
	60 Hz 120 A to 2500 A	0.20 % + 0.52 A	Simulated current using multi turn coil, for the calibration of clamp-on ammeters.	
AC CURRENT				
Measurement	55 Hz to 1 kHz 20 μA to 200 μA 200 μA to 2 mA 2 mA to 20 mA 20 mA to 20 mA 0.2 A to 20 A 2 A to 20 A	130 μΑ/Α + 4.0 nA 95 μΑ/Α + 26 nA 58 μΑ/Α + 250 nA 76 μΑ/Α + 1.4 μΑ 110 μΑ/Α + 18 μΑ 170 μΑ/Α + 240 μΑ	These values can be directly measured.	A
FREQUENCY	1 Hz to 100 MHz 100 MHz to 1 GHz	4.0 in 10 ¹² + 100 µHz 4.0 in 10 ¹²		A
Generate only	1 GHz to 6 GHz	4.0 in 10 ¹²		

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ACCELEROMETRY						
ACCELERATION TRANSDUCERS			Calibration method is by direct comparison against laboratory references			
Accelerometer Types: Piezo electric minimum sensitivity >1 pC/m/s ² Integral electronic minimum sensitivity >1 mV/m/s ² Piezo resistive minimum sensitivity >1 mV/m/s ²						
All types with a nominal mass of up to 100 grams, a nominal Peak Acceleration of 14 ms ⁻² to 98 ms ⁻² and a minimum sensitivity of 5.0 mV ms^{-2} .	10 Hz to 20 Hz 20 Hz to 5 kHz	3.0 % 2.5 %		A		
FORCE						
FORCE MEASURING DEVICES						
Calibration of load cells (excluding proving devices) in tension and compression	2 kN to 100 kN	0.50 %	By comparison to reference proving devices	A		
END						



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] = $[a^2 + b^2]^{1/2}$