Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

0775

Accredited to ISO/IEC 17025:2017

Fluke (UK) Ltd

Issue No: 025 **Issue date:** 27 January 2025

Fluke Industrial
Temperature Laboratory UK
52 Hurricane Way
Norwich
Norfolk
NR6 6JB

Contact: Mr Nigel Brackenbury
Tel: +44 (0)1603 256696
Fax : +44 (0)1603 256777
E-mail: nigel.brackenbury@fluke.com
Website: www.fluke.com

Calibration performed at the above address only

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
TEMPERATURE			Calibration by comparison with a reference standard
4-wire platinum resistance thermometers	-196 °C -95 °C to -80 °C -80 °C to 150 °C 20 °C to 420 °C	0.050 °C 0.060 °C 0.050 °C 0.040 °C	In liquid nitrogen In a liquid bath In a fluidized bath
Temperature indicators and recorders with temperature sensor(s)		(as above with an allowance for display resolution and short-term stability)	
Base metal thermocouples Types K, J, T, E, N	-196 °C -95 °C to 150 °C 20 °C to 420 °C	0.26 °C 0.28 °C 0.28 °C	In liquid nitrogen In a liquid bath In a fluidized bath
Calibration in air chamber	-40 °C to 70 °C	0.25 °C	in air chamber
HUMIDITY			Calibration by comparison with dew-point hygrometer and Platinum Resistance Thermometers
Relative humidity	25 %rh to 90 %rh at ambient temperature	2.8 % of reading	The accreditation covers other units derived from those listed
Dew point	-9 °C dp to 21 °C dp	0.25 °C dp	

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
ELECTRICAL			Calibration by comparison with a reference standard
DC Voltage	-100 mV to -50 mV -50 mV to +50 mV 50 mV to 100 mV	10 µV/V 500 nV 10 µV/V	Generation and measurement for the calibration of voltage based transducers and precision thermometers
DC Resistance	0 Ω to 200 Ω 80 Ω to 10 MΩ	17 mΩ 0.10%	For the calibration of thermistor indicators
	0 Ω 1 Ω 10 Ω 25 Ω 100 Ω 200 Ω 400 Ω 4 kΩ 10 kΩ 100 kΩ 500 kΩ	20 µΩ 20 µΩ 40 µΩ 80 µΩ 0.40 mΩ 0.80 mΩ 1.5 mΩ 0.20 Ω 0.30 Ω 0.50 Ω 4.6 Ω	Specific values for the calibration of 1502, 1529 and 1560 series precision thermometers
Thermocouple Reference Junction Compensation	20 °C to 25 °C	0.10 °C	For the calibration of precision thermometer internal reference junctions, using a Type E thermocouple
Temperature indicators, calibration by electrical simulation			
Base metal thermocouples	-200 °C to 0 °C 0 °C to 1200 °C 1200 °C to 1370 °C	0.46 °C 0.26 °C 0.22 °C	Including cold junction compensation
Resistance thermometers (Pt100)	-200 °C to +200 °C 200 °C to 800 °C	0.050 °C 0.070 °C	

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