Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

4595

Accredited to ISO/IEC 17025:2017

Withnell Sensors Limited

Issue No: 021 **Issue date:** 08 May 2025

The Old Silk Mill
Bury Lane
Withnell
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PR6 8RX

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Calibration performed by the Organisation at the locations specified

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details		Activity	Location code
The Old Silk Mill Bury Lane Withnell Nr Chorley PR6 8RX	**Local contact** Samantha Smith	Temperature Humidity Voltage Resistance	P

Site activities performed away from the locations listed above:

Location details	Activity	Location code
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.	Temperature – indicators with probes including data loggers. Temperature controlled incubators, ovens, environmental chambers, refrigerators and freezers	S

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
TEMPERATURE				
Platinum resistance thermometers	- 196 °C (LN_2) - 60 °C 0.01 °C (triple point of water) 100 °C 231.928 °C (Tin FP) 419.527 °C (Zinc FP)	0.0060 °C 0.0060 °C 0.0050 °C 0.0080 °C 0.0080 °C 0.010 °C	Calibration in a range of baths utilising liquid media FP = Freezing Point	P
Indicators with probes including data loggers	-90 °C to 140 °C 140 to 250 °C - 196 °C (LN_2)	0.020 °C 0.022 °C 0.011 °C	Calibration in stirred liquid baths and dry block baths	P
Indicators with probes including data loggers	-100 °C to 155 °C	0.065 °C	Calibration in dry block bath	S
Platinum resistance thermometers	-90 °C to 140 °C 140 °C to 250 °C 420 °C	0.011 °C 0.016 °C 0.013 °C	Calibration in a range of baths utilising liquid and salt media	P
Cold junction compensation	Ambient temperature 20 °C ±2 °C	0.045 °C	KAYE Sensor Input Module for KAYE Validator 2000 and KAYE Validator AVS (Advanced Validation System)	P
Dry Block Calibrators	-100 °C to +155 °C 155 °C to 420 °C	0.062 °C 0.097 °C	Calibration in removable or fixed metal inserts	P
Temperature controlled chambers, ovens, environmental cabinets, refrigerators and freezers	-80 °C to -35 °C -35 °C to 0 °C 0 °C to +25 °C +25 °C to +50 °C +50 °C to +180 °C	1.7 °C 0.53 °C 0.51 °C 0.28 °C 0.30 °C	Single and multipoint time dependant temperature profiling, also referred to as spatial temperature surveying or mapping	S
HUMIDITY	10 %rh to 90 %rh Temperature range 10 °C to 20 °C 10 %rh to 90 %rh Temperature range 20 °C to 30 °C 10 %rh to 90 %rh Temperature range 30 °C to 60 °C	0.5 %rh to 2.0 %rh 0.5 %rh to 1.2 %rh 0.5 %rh to 1.9 %rh	By comparison with dew-point hygrometer and Platinum Resistance Thermometers	P
Temperature probes in air	10 °C to 20 °C 20 °C to 30 °C 30 °C to 40 °C 40 °C to 50 °C 50 °C to 60 °C	0.27 °C 0.21 °C 0.33 °C 0.46 °C 0.50 °C		

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
ELECTRICAL				
VOLTAGE			Calibration with reference meter	P
Sourcing for Calibration of Kaye Validator 2000 & Kaye Validator AVS (Advanced Validation System)	0 V to 30 mV 30 mV to 60 mV 60 mV to 100 mV 100 mV to 1 V 1 V to 10 V 10 V to 15 V	1.0 µV 1.1 µV 1.2 µV 4.7 µV 38 µV 59 µV		
RESISTANCE			Calibration with reference meter	P
Calibration of Kaye Validator 2000 & Kaye Validator AVS (Advanced Validation System)	100 Ω to 200 Ω	2.0mΩ		
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: $Q[a, b] = [a^2 + b^2]^{1/2}$