Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

0446

Accredited to ISO/IEC 17025:2017

Siemens Public Limited Company

Issue No: 038 **Issue date:** 19 July 2022

Commissioners Road
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Kent
ME2 4GN

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Calibration performed at the above address only

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
AC VOLTAGE	30 V to 500 V *45 Hz to 60 Hz*	100 µV/V	Using rms detection.
AC CURRENT	*45 Hz to 60 Hz* 10 mA to 50 mA 50 mA to 10 A 10 A to 120 A	100 µA/A 100 µA/A 100 µA/A	Using rms detection.
FREQUENCY	10 Hz to 10 MHz 10 MHz to 100 MHz	0.10 µHz/Hz 1.0 µHz/Hz	Using frequency counter.
AC POWER / ENERGY ACTIVE POWER / ENERGY	 *45 Hz to 60 Hz* *Cos φ = 1* 10 mA to 10 A 10A to 120 A *Cos φ = 0.5 Lead to 0.5 Lag* 10 mA to 10 A 10 A to 120 A *Cos φ = 0.25 Lead to 0.25 to Lag* 10 mA to 10 A 10 A to 120 A	 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr	For voltages between 30 V and 500 V at frequencies between 45 Hz and 60 Hz using a phantom load technique. Single and Poly Phase devices may be calibrated.

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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
AC POWER / ENERGY (continued) REACTIVE POWER / ENERGY	*Sin φ = 1* 10 mA to 10 A 10 A to 120 A *Sin φ = 0.5 Lead to 0.5 Lag* 10 mA to 10 A 10 A to 120 A *Sin φ = 0.25 Lead to 0.25 Lag* *10 mA to 10 A* 10 A to 120 A	 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr 100 µW/W or µWhr/Whr	For voltages between 30 V and 500 V at frequencies between 45 Hz and 60 Hz using a phantom load technique. Single and Poly Phase devices may be calibrated.
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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: $Q[a, b] = [a^2 + b^2]^{1/2}$