

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p>UKAS CALIBRATION</p> <p>4432</p> <p>Accredited to ISO/IEC 17025:2005</p>	<h3>Caltest Instruments Limited</h3> <p>Issue No: 003 Issue date: 20 September 2010</p>	
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<p>Calibration performed at the above address only</p>		

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks
DC RESISTANCE			
Measurement	1 m Ω to 10 m Ω 10 m Ω to 100 m Ω 100 m Ω to 1 Ω 1 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω 100 M Ω 1 G Ω 10 G Ω	70 ppm 45 ppm 25 ppm 6.0 ppm 5.0 ppm 6.0 ppm 4.0 ppm 4.0 ppm 7.0 ppm 15 ppm 15 ppm 20 ppm 110 ppm	
Generation	1 Ω 10 Ω 100 Ω 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω	10 ppm 5.0 ppm 4.0 ppm 3.0 ppm 4.0 ppm 4.0 ppm 7.0 ppm 30 ppm	
DC VOLTAGE	0 V to 1.1 V 1.1 V to 11 V 11 V to 110 V 110 V to 1 kV 1 kV to 2 kV 2 kV to 10 kV	1.0 ppm + 0.82 μ V 1.0 ppm + 1.8 μ V 1.0 ppm + 2.0 μ V 1.5 ppm 0.15 % 0.30 %	Measurement only



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Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks
DC CURRENT			
Measurement	0.1 μ A to 1 μ A 1 μ A to 10 μ A 10 μ A to 100 μ A 100 μ A to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 1 A 1 A to 10 A 10 A to 50 A 50 A to 100 A	17 ppm 15 ppm 15 ppm 15 ppm 16 ppm 16 ppm 16 ppm 43 ppm 80 ppm 180 ppm 270 ppm	
Generation	0.1 μ A to 10 μ A 10 μ A to 100 mA 100 mA to 1 A 1 A to 10 A 10 A to 50 A 50 A to 100 A	16 ppm 15 ppm 42 ppm 80 ppm 0.020 % 0.030 %	
AC VOLTAGE	150 mV to 250 mV 40 Hz to 10 kHz 50 kHz	22 ppm 35 ppm	
	250 mV to 100 V 40 Hz to 50 kHz	20 ppm	
	100 V to 200 V 40 Hz to 10 kHz 50 kHz	20 ppm 22 ppm	
	200 V to 300 V 40 Hz to 50 kHz	22 ppm	
	300 V to 500 V 40 Hz to 10 kHz 50 kHz	25 ppm 35 ppm	
	500 V to 1 kV 40 Hz to 10 kHz 50 kHz	25 ppm 60 ppm	
	50 Hz to 60 Hz 1 kV to 2 kV 2 kV to 10 kV	0.35 % 0.90 %	Measurement only
AC CURRENT	40 Hz to 1 kHz 5 mA to 100 mA 100 mA to 1 A 1 A to 10 A 10 A to 20 A	46 ppm 65 ppm 100 ppm 120 ppm	
	45 Hz to 60 Hz 20 A to 100 A	180 ppm	



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FREQUENCY	40 Hz to 225 MHz	2.0 parts in 10^8			
ACTIVE POWER AND ENERGY	45 to 65 Hz 15 W to 2.4 kW 0.8 to unity PF 1 Ø 0.8 to unity PF 3 Ø	45 ppm 60 ppm	Limiting voltage 60 V to 480 V Limiting current 0.25 A to 5 A		
	0.5 Power Factor 1 Ø 0.5 Power Factor 3 Ø	75 ppm 85 ppm			
	0.3 Power Factor 1 Ø 0.3 Power Factor 3 Ø	100 ppm 110 ppm			
	45 to 65 Hz 0.6 W to 120W, 300 W to 9.6 kW 0.8 to unity PF 1 Ø 0.8 to unity PF 3 Ø	65 ppm 80 ppm		Limiting voltage 60 V to 480 V* Limiting current 0.01 A to 0.25 A and 5 A to 20 A	
	0.5 Power Factor 1 Ø 0.5 Power Factor 3 Ø	90 ppm 100 ppm		* The CMC is increased to 200 ppm at voltages greater than 120 V for which power factors other than unity are used.	
	0.3 Power Factor 1 Ø 0.3 Power Factor 3 Ø	120 ppm 130 ppm			
	45 Hz to 65 Hz 0.6W to 48 kW 0.3 to unity PF 1 Ø 0.3 to unity PF 3 Ø	130 ppm 140 ppm		Limiting voltage 60 V to 480 V* Limiting current 0.01 A to 100 A	
				* The CMC is increased to 200 ppm at voltages greater than 120 V for which power factors other than unity are used.	
	REACTIVE POWER AND ENERGY	48 Hz to 52 Hz 3 VAr to 9.6 kVAr Zero Power Factor 1 Ø Zero Power Factor 3 Ø		90 ppm 100 ppm	Limiting voltage 60 V to 480 V* Limiting current 0.05 A to 20 A
		0.866 Power Factor 1 Ø 0.866 Power Factor 3 Ø		100 ppm 110 ppm	
		48 Hz to 52 Hz 1.2 kVAr to 48 kVAr Zero Power Factor 1 Ø Zero Power Factor 3 Ø		110 ppm 120 ppm	
		0.866 Power Factor 1 Ø 0.866 Power Factor 3 Ø		120 ppm 130 ppm	
			Limiting voltage 60 V to 480 V* Limiting current 20 A to 100 A		
			* The CMC is increased to 200 ppm at voltages greater than 120 V for which power factors other than zero are used.		
END					