

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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



0693

Accredited to
ISO/IEC 17025:2005

Aerospace Metrology & Electromechanical Calibration Ltd

Issue No: 013 Issue date: 13 August 2010

Met-Cal House
Fisher Street
Newcastle-Upon-Tyne
NE6 4LT

Contact: Mr S Oxborough
Tel: +44 (0)191 262 2266
Fax: +44 (0)191 262 6622
E-Mail: sales@amecal.com
Website: www.amecal.com

Calibration performed at the above address only

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty (k = 2)	Remarks
ELECTRICAL MEASUREMENTS			
DC VOLTAGE			
Generation	0 μ V to 200 μ V 200 μ V to 2 mV 2 mV to 20 mV 20 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 20 V to 1200 V	1.6 μ V 1.6 μ V 1.6 μ V 4.0 ppm + 1.5 μ V 3.9 ppm + 1.0 μ V 3.7 ppm + 12 μ V 4.5 ppm + 120 μ V 4.7 ppm + 0.58 mV	
Measurement	0 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1200 V 1.2 kV to 3 kV 3 kV to 10 kV	11 ppm + 1.1 μ V 3.5 ppm + 4.9 μ V 3.8 ppm + 44 μ V 11 ppm + 0.51 mV 11 ppm + 5.3 mV 420 ppm + 6.7 V 420 ppm + 17 V	
DC RESISTANCE			
Generation	1 Ω 10 Ω 100 Ω 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω	2.0 ppm 1.0 ppm 1.6 ppm 4.0 ppm 1.4 ppm 5.7 ppm 15 ppm 30 ppm	
Measurement	0 m Ω to 100 m Ω 100 m Ω to 300 m Ω 300 m Ω to 1 Ω 1 Ω to 3 Ω 3 Ω to 10 Ω	120 ppm + 3.5 $\mu\Omega$ 80 ppm + 20 $\mu\Omega$ 76 ppm + 62 $\mu\Omega$ 76 ppm + 150 $\mu\Omega$ 51 ppm + 150 $\mu\Omega$	



0693
Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

Aerospace Metrology & Electromechanical Calibration Ltd
Issue No: 013 Issue date: 13 August 2010

Calibration performed at main address only

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks
DC RESISTANCE (cont'd)			
Measurement (cont'd)	10 Ω to 20 Ω 20 Ω to 200 Ω 200 Ω to 2 k Ω 2 k Ω to 20 k Ω 20 l Ω to 200 k Ω 200 k Ω to 2 M Ω 2 M Ω to 20 M Ω 20 M Ω to 100 M Ω 100 M Ω to 1 G Ω	24 ppm + 0.19 m Ω 15 ppm + 0.93 m Ω 29 ppm + 7.7 m Ω 17 ppm + 77 m Ω 1.7 ppm + 1.2 Ω 36 ppm + 19 Ω 22 ppm + 0.3 k Ω 0.13 % + 12 k Ω 1.0 % + 1.2 M Ω	
DC CURRENT			
Generation	0 μ A to 200 μ A 200 μ A to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A	24 ppm + 0.30 nA 18 ppm + 2.9 nA 18 ppm + 29 nA 32 ppm + 0.29 μ A 60 ppm + 5.8 μ A	
Measurement	0 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 30 A	240 ppm + 0.29 nA 130 ppm + 1.2 nA 130 ppm + 12 nA 130 ppm + 0.20 μ A 130 ppm + 7.1 μ A 240 ppm + 23 μ A 890 ppm + 0.25 mA 0.091 % + 10 mA	
AC VOLTAGE			
Generation	90 μ V to 2 mV 30 Hz 300 Hz 1 kHz 10 kHz 30 kHz 100 kHz 2 mV to 20 mV 30 Hz 300 Hz 1 kHz 10 kHz 30 kHz 100 kHz 20 mV to 200 mV 30 Hz 300 Hz 1 kHz 10 kHz 30 kHz 100 kHz	0.23 % + 20 μ V 0.23 % + 20 μ V 0.23 % + 20 μ V 0.23 % + 20 μ V 0.24 % + 20 μ V 0.26 % + 20 μ V 360 ppm + 20 μ V 340 ppm + 20 μ V 340 ppm + 20 μ V 360 ppm + 20 μ V 450 ppm + 20 μ V 610 ppm + 20 μ V 150 ppm + 20 μ V 120 ppm + 20 μ V 120 ppm + 20 μ V 130 ppm + 20 μ V 210 ppm + 20 μ V 380 ppm + 20 μ V	Calibrations can be performed at intermediate frequencies but the uncertainties may be increased.



0693
Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

Aerospace Metrology & Electromechanical Calibration Ltd
Issue No: 013 Issue date: 13 August 2010

Calibration performed at main address only

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks
AC VOLTAGE (cont'd) Generation (cont'd)	200 mV to 2 V 10 Hz 30 Hz 300 Hz 1 kHz 10 kHz 30 kHz 100 kHz 300 kHz 1 MHz 2 V to 20 V 10 Hz 30 Hz 300 Hz 1 kHz 10 kHz 30 kHz 100 kHz 300 kHz 1 MHz 20 V to 200 V 10 Hz 30 Hz 300 Hz 1 kHz 10 kHz 30 kHz 100 kHz 200 V to 1100 V 50 Hz and 55 Hz 300 Hz 1 kHz 10 kHz 100 kHz	63 ppm + 20 μ V 60 ppm + 20 μ V 51 ppm + 20 μ V 63 ppm + 20 μ V 56 ppm + 20 μ V 54 ppm + 20 μ V 69 ppm + 20 μ V 130 ppm + 20 μ V 0.10 % + 20 μ V 60 ppm + 20 μ V 56 ppm + 20 μ V 50 ppm + 20 μ V 48 ppm + 20 μ V 50 ppm + 20 μ V 51 ppm + 20 μ V 78 ppm + 20 μ V 120 ppm 710 ppm 100 ppm 92 ppm 87 ppm 85 ppm 87 ppm 87 ppm 150 ppm 46 ppm 53 ppm 48 ppm 60 ppm 410 ppm	750 V maximum above 33 kHz
Measurement	10 Hz to 2 kHz 0 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1100 V 2 kHz to 20 kHz 0 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1100 V	530 ppm + 31 μ V 82 ppm + 140 μ V 83 ppm + 1.4 mV 120 ppm + 14 mV 300 ppm + 200 mV 99 ppm + 140 μ V 150 ppm + 240 μ V 270 ppm + 2.4 mV 350 ppm + 25 mV 850 ppm + 540 mV	



0693
Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

Aerospace Metrology & Electromechanical Calibration Ltd
Issue No: 013 Issue date: 13 August 2010

Calibration performed at main address only

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks
AC VOLTAGE (cont'd) Measurement (cont'd)	20 kHz to 100 kHz 0 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 50 Hz 1100 V to 3 kV	550 ppm + 70 μ V 410 ppm + 500 μ V 520 ppm + 5.0 mV 190 ppm + 53 mV 1.2 %	
AC CURRENT Generation	10 Hz to 5 kHz 9 μ A to 200 μ A 200 μ A to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A	200 ppm + 20 nA 160 ppm + 160 nA 160 ppm + 1.6 μ A 160 ppm + 16 μ A 270 ppm + 160 μ A up to 1 kHz 700 ppm + 200 μ A above 1 kHz	
Measurement	45 Hz to 1 kHz 0 to 30 μ A 30 μ A to 300 μ A 300 μ A to 3 mA 3 mA to 30 mA 30 mA to 300 mA 300 mA to 3 A	1.0 μ A 0.28 % + 1.5 μ A 0.28 % + 12 μ A 0.27 % + 120 μ A 0.27 % + 1.2 mA 0.91 % + 12 mA	
OPTICAL MEASUREMENTS GLOSS Material	Measured at fixed geometries of: 20° Mirror High Gloss Semi Gloss 60° Mirror High Gloss Semi Gloss 85° Mirror High Gloss Semi Gloss	24 SGU 0.80 SGU 1.1 SGU 22 SGU 0.60 SGU 1.1 SGU 1.1 SGU 0.50 SGU 1.1 SGU	
Glossmeters	at geometries of 20°, 60°, 85° 0 SGU to 100 SGU 100 SGU to 2000 SGU	0.80 SGU 1.1 SGU	

END