


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>Accredited to ISO/IEC 17025:2005</p>	Able Calibration Services Limited Issue No: 006 Issue date: 20 July 2009	
	22 Dewberry Grove Rogerstone Newport NP10 9JY	Contact: Mr R Bale Tel: +44 (0)1633 897225 Fax: +44 (0)1633 897225 E-Mail: info@able-calibration.co.uk Website: www.able-calibration.co.uk
Calibration performed by the Organisations at the locations specified below		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address 22 Dewberry Grove Rogerstone South Wales NP10 9JY Local contact Mr Richard Bale Tel: +44 (0)1633 897225 Fax: +44 (0)1633 897225 Email: info@able-calibration.co.uk Website: www.able-calibration.co.uk	Electrical Temperature Pressure	P

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Customers Premises - Any Contact as above	Electrical Temperature Pressure	S



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DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Best Measurement Capability Expressed as an Expanded Uncertainty ($k=2$)	Remarks	Location Code
ELECTRICAL				
DC VOLTAGE	0 mV to 100 mV 0.1 V to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	4.5 μ V 42 ppm + 3.5 μ V 42 ppm + 26 μ V 42 ppm + 260 μ V 42 ppm + 2.6 mV		P & S
High Voltage Measurement only	1 kV to 3 kV 3 kV to 30 kV	1.7 % + 20 V 0.43% + 20 V		P & S
DC CURRENT	Up to 100 μ A 101 μ A to mA to 1 mA 1.01 mA to 10 mA 10.1 mA to 100 mA 101 mA to 1 A 1 A to 1.9 A 2.0 A to 20 A 20.1 A to 30 A	450 ppm + 10 nA 440 ppm + 10 nA 150 ppm + 28 nA 120 ppm + 260 nA 180 ppm + 2.6 μ A 260 ppm + 2.6 μ A 0.25 % + 6 mA 0.25% + 6 mA	Measurement only above 20 A	P & S
DC CURRENT Simulation	Up to 1000 A	0.4 % + 6 mA	50 turn coil	
DC RESISTANCE	0 Ω to 100 Ω 100 Ω to 1000 Ω 1 k Ω to 10 k Ω 10 k Ω to 100 k Ω 100 k Ω to 1 M Ω 1 M k Ω to 10 M Ω 10 M Ω to 100 M Ω 100 M Ω to 1 G Ω	40 ppm + 1 m Ω 36 ppm + 0.1 Ω 24 ppm + 0.2 Ω 35 ppm + 2 Ω 41 ppm + 5 Ω 130 ppm + 48 Ω 0.42% + 1.1 k Ω 3.5 %		P & S
AC RESISTANCE	10 Ω to 10 M Ω @ 1 kHz	0.4%		P & S
AC VOLTAGE	1 mV to 100 mV 40 Hz to 1 kHz	580 ppm + 20 μ V		P & S
	0.1 V to 1 V 40 Hz to 1 kHz 1 kHz to 30 kHz 30 kHz to 50 kHz	402 ppm + 20 μ V 320 ppm + 20 μ V 550 ppm + 20 μ V		
	1 V to 10 V 40 Hz to 1 kHz 1 kHz to 30 kHz 30 kHz to 50 kHz	300 ppm + 33 μ V 320 ppm + 33 μ V 550 ppm + 33 μ V		



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AC VOLTAGE (cont'd)	10 V to 100 V 40 Hz to 1 kHz 1 kHz to 30 kHz 30 kHz to 50 kHz	300 ppm + 260 μ V 330 ppm + 260 μ V 570 ppm ppm + 260 μ V		
High Voltage	100 V to 750 V 40 Hz to 10 kHz	400 ppm + 2.6 mV		
Measurement only	750 V to 10 kV @ 50 Hz	1.2 % + 20 V		P & S
AC CURRENT	1 μ A to 100 μ A 40 kHz to 1 kHz	0.1 % + 74 nA		P & S
	101 μ A to 1 mA 40 kHz to 1 kHz	0.1 % + 800 nA		
	1.01 mA to 10 mA 40 kHz to 1 kHz	0.1% + 7.6 μ A		
	10.1 mA to 100 mA 40 kHz to 1 kHz	0.1 % + 74 μ A		
	101 mA to 1 A 40 kHz to 1 kHz	700 ppm + 23 μ A		
	1 A to 1.9 A 40 kHz to 1 kHz	740 ppm + 100 μ A		
	2 A to 5 A 40 Hz to 100 Hz	0.78 % + 10 mA		
	5 A to 20 A 40 Hz 100 Hz	0.43 % + 10 mA		
AC CURRENT				
Simulation	Up to 1000 A @ 40 to 50 Hz	0.5 % + 10 mA	50 turn coil	P & S
FREQUENCY				P & S
Measurement	5 Hz to 25 MHz 25 MHz to 1.3 GHz	2.8 ppm + 16 μ Hz 2.8 ppm + 160 mHz	Generation up to 15 MHz May be expressed as events per unit time for devices such as Tachometers and 1/f for oscilloscope period calibration	
Revolutions Per Minute	3 RPM to 90 000 RPM	1 RPM		
CAPACITANCE	1 nf to 100 μ f @ 100 Hz and 1 kHz	0.4 %		
INDUCTANCE	100 μ H to 1 H @ 1 kHz	0.4 %		



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SIMULATION				P & S
Thermocouple simulators and indicators, calibration by electrical simulation				
Nobel metal thermocouples Type R & S	-50 °C to 1768 °C	1.0 °C	With cold junction compensation Without cold junction compensation	
	-50 °C to 200 °C	1.0 °C		
	200 °C to 1768 °C	0.5 °C		
Base metal thermocouples Type K, J, T & N	-200 °C to 1372 °C	0.7 °C	With cold junction compensation Without cold junction compensation	
	-200 °C to 0 °C	0.3 °C		
	0 °C to 1372 °C	0.15 °C		
Cold junction compensation	At ambient temperature	0.32 °C		
Resistance thermometers (PT100)	-200 °C to 850 °C	0.2 °C		
PRESSURE				
Gas pressure (gauge)				
Calibration of pressure indicating instruments and gauges	-90 kPa to 700 kPa 700 kPa to 2.0 MPa 2.0 MPa to 3.5 MPa	0.4 kPa 2.1 kPa 2.3 kPa	Instruments with an electrical output can be calibrated	P & S
TEMPERATURE				
Temperature indicators and recorders, with temperature sensor(s)	-30 °C to 140 °C 140 °C to 200 °C 200 °C to 400 °C 400 °C to 600 °C	0.5 °C 1.0 °C 1.3 °C 1.8 °C	Instruments with an electrical output can be calibrated	P & S
Calibration in ambient air	10 °C to 30 °C	0.4 °C		
Temperature controlled chambers, fridges, freezers, ovens, furnaces and liquid baths, (inclusive of associated indicators, controllers and recorders, all with sensors, within the specified parameters and ranges)	-50 °C to 150 °C 150 °C to 200 °C 200 °C to 400 °C 400 °C to 600 °C	0.23 °C 0.4 °C 0.8 °C 1.5 °C	Single and multipoint monitoring probes. Time dependent temperature profiling	S
Temperature block calibrators	-30 °C to 150 °C 150 °C to 200 °C 200 °C to 300 °C 300 °C to 600 °C	0.23 °C 0.4 °C 0.8 °C 1.5 °C		P & S
END				