United Kingdom Accreditation Service

ACCREDITATION CERTIFICATE

UKAS
UNITED KINGDOM ACCREDITATION SERVICE

CALIBRATION LABORATORY
No. 0683

Pullman Instruments (UK) Ltd

is accredited in accordance with the recognised International Standard ISO/IEC 17025:2005
General Requirements for the competence of testing and calibration laboratories.

This accreditation demonstrates technical competence for a defined scope as detailed in and at the locations specified in the schedule to this certificate, and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated 18 June 2005).

The schedule to this certificate is an essential accreditation document and from time to time may be revised and reissued by the United Kingdom Accreditation Service. The most recent issue of the schedule of accreditation, which bears the same accreditation number as this certificate, is available from the UKAS website www.ukas.org.

This accreditation is subject to continuing conformity with United Kingdom Accreditation Service requirements. The absence of a schedule on the UKAS website indicates that the accreditation is no longer in force.

Accreditation Manager, United Kingdom Accreditation Service

Initial Accreditation date
26 February 2002

This certificate issued on
22 December 2006

The Department of Trade and Industry (DTI) has entered into a memorandum of understanding with the United Kingdom Accreditation Service (UKAS) through which UKAS is recognised as the national body responsible for assessing and accrediting the competence of organisations in the fields of calibration, testing, inspection and certification of systems, products and persons

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

UKAS CALIBRATION

0683

Accredited to ISO/IEC 17025:2005

Pullman Instruments (UK) Ltd

Issue No: 013 **Issue date:** 01 May 2009

Chatsworth House
Chatsworth Terrace
Harrogate
HG1 5HT

Contact: Mr M Conboy
Tel: +44 (0)1423 720360
Fax: +44 (0)1423 720361
E-Mail: info@pullman.co.uk
Website: www.pullman.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 Chatsworth House Chatsworth Terrace Harrogate HG1 5HT	**Local contact** Mr M Conboy Tel: +44 (0)1423 720360 Fax: +44 (0)1423 720361 Email: info@pullman.co.uk Website: www.pullman.co.uk	Electrical Temperature	Calibrations performed at Permanent Laboratory are denoted: **P**

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Any Site	Temperature	Calibrations performed on site are denoted: **S**

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				P
Generation	20 mV to 200 mV	8 µV		
	200 mV to 2 V	18 µV		
	2 V to 20 V	180 µV		
	20 V to 200 V	8 mV		
	200 V to 1 kV	50 mV		
Measurement	up to 3 mV	3 µV		
	3 mV to 10 mV	3.1 µV		
	10 mV to 30 mV	4 µV		
	30 mV to 100 mV	4.1 µV		
	100 mV to 300 mV	14 µV		
	300 mV to 1 V	15 µV		
	1 V to 3 V	120 µV		
	3 V to 10 V	230 µV		
	10 V to 30 V	8 mV		
	30 V to 100 V	4 mV		
	100 V to 300 V	120 mV		
	300 V to 1 kV	120 mV		
DC Current				P
Generation	1 µA to 200 µA	42 nA		
	200 µA to 2 mA	160 nA		
	2 mA to 20 mA	2.1 µA		
	20 mA to 200 mA	30 µA		
	200 mA to 2 A	300 µA		
	2 A to 10 A	35 mA		
	10 A to 500 A	1%	For the calibration of clampmeters only	
Measurement	Up to 10 µA	4.2 nA		
	10 µA to 100 µA	11 nA		
	100 µA to 1 mA	56 nA		
	1 mA to 10 mA	600 nA		
	10 mA to 100 mA	11 µA		
	100 mA to 1 A	190 µA		
	1 A to 10 A	7 mA		
DC Resistance				P
Generation	10 Ω	1.5 mΩ		
	100 Ω	4 mΩ		
	1 kΩ	25 mΩ		
	10 kΩ	280 mΩ		
	100 kΩ	3 Ω		
	1 MΩ	70 Ω		
	10 MΩ	4.2 kΩ		

Measured Quantity Instrument or Gauge	Range	Best Measurement Capability Expressed as an Expanded Uncertainty (k=2)	Remarks	Location Code
ELECTRICAL (cont'd)				
DC Resistance (cont'd)				
Measurement and Generation	up to 10 Ω	0.9 mΩ		
	10 Ω to 100 Ω	3.6 mΩ		
	100 Ω to 1 kΩ	35 mΩ		
	1 kΩ to 10 kΩ	310 mΩ		
	10 kΩ to 100 kΩ	10 Ω		
	100 kΩ to 1 MΩ	160 Ω		
	1 MΩ to 10 MΩ	1.4 kΩ		
AC Voltage				P
Generation	*60 Hz to 1 kHz*			
	10 mV to 200 mV	300 µV		
	200 mV to 2 V	3 mV		
	2 V to 20 V	30 mV		
	20 V to 200 V	220 mV		
	200 V to 700 V	700 mV		
	1 kHz to 20 kHz			
	2 V to 20 V	60 mV		
Measurement	*45 Hz to 20 kHz*			
	10 mV to 30 mV	60 µV		
	30 mV to 300 mV	140 µV		
	300 mV to 3 V	7 mV		
	3 V to 30 V	52 mV		
	45 Hz to 1 kHz			
	30 V to 300 V	230 mV		
	45 Hz to 60 Hz			
	300 V to 1 kV	2 V		
AC Current				P
Generation	*60 Hz to 500 Hz*			
	10 µA to 200 µA	300 nA		
	200 µA to 2 mA	3 µA		
	2 mA to 20 mA	30 µA		
	20 mA to 200 mA	250 µA		
	200 mA to 2 A	3.2 mA		
	2 A to 10 A	30 mA		
	10 A to 500 A	1%	For the calibration of clampmeters only	

Measured Quantity Instrument or Gauge	Range	Best Measurement Capability Expressed as an Expanded Uncertainty (k=2)	Remarks	Location Code
ELECTRICAL (cont'd)				
AC Current (cont'd)				
Measurement	*60 Hz to 5 kHz*			
	1 µA to 300 µA	220 nA		
	300 µA to 3 mA	3 µA		
	3 mA to 30 mA	24 µA		
	30 mA to 300 mA	250 µA		
	300 mA to 3 A	13 mA		
	3 A to 10 A	20 mA		
TEMPERATURE				
Temperature indicators and recorders, with temperature sensor(s)	-30 °C to 140 °C	0.3 °C		P
	above 140 °C to 300 °C	0.7 °C		
	above 300 °C to 450 °C	0.8 °C		
	-30 °C to 140 °C	0.3 °C		S
	above 140 °C to 300 °C	0.6 °C		
	above 300 °C to 450 °C	0.8 °C		
Block calibrators	-30 °C to 450 °C	0.5 °C		P & S
Temperature controlled fridges, freezers, autoclaves, ovens and environmental chambers	-30 °C to 450 °C	0.4 °C		P & S

END