

CERTIFICATE OF CALIBRATION

Issued By Transmille Ltd.

Certificate Number 17002/R

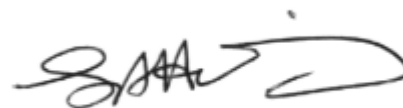
Date of Issue 03 November 2009



Approved Signatory



Transmille Ltd.
Unit 4, Select Business Centre
Lodge Road
Staplehurst, Kent. TN12 0QW.
TEL 01580 890700 FAX 01580 890711



S.A. Hawkins J.A. Bailey

Customer : SIGNATROL LTD
105 CHURCH STREET, TEWKESBURY
GL20 5AB

Date Received : 03 November 2009

Instrument :	System ID :	A1A050872	Job Number :	35134-1
	Description :	Digital Multimeter (6.5 digit)	Ref. Number :	CE026
	Manufacturer :	Agilent		
	Model Number :	34401A		
	Serial Number :	MY41050872		
	Procedure Version :	3.02/N		

Environmental Conditions

Temperature :	20°C +/- 1°C	Mains Voltage :	230V +/- 12V
Relative Humidity :	50% +/- 20%	Mains Frequency :	50Hz +/- 1Hz

Comments

Instrument was allowed to stabilise before calibration.
4 Wire kelvin connections were used for ohms measurements below 10kOhms
Front Panel Terminals were used for calibration.

Calibration Information

The instrument was calibrated against laboratory standards whose values are traceable to recognised National Standards. The uncertainty limits quoted refer to the measured values only, with no account being taken of the instruments ability to maintain its calibration.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrated By : J.A. Bailey

Date of Calibration : 03 November 2009

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

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UKAS Accredited Calibration Laboratory No. 0324
AS FOUND RESULTS

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Test Title	Applied Value	Reading	Uncertainties
DC Voltage			
100mV D.C. Range	100.000 0mV	100.000 5mV	590nV
1V D.C. Range	1.000 000V	1.000 002V	14uV
10V D.C. Range	10.000 00V	10.000 02V	130uV
100V D.C. Range	100.000 0V	99.998 6V	1.7mV
1000V D.C. Range	1 000.000V	999.997V	17mV
AC Voltage			
100mV A.C. @ 200Hz	100.000 0mV	99.972 7mV	43uV
1V A.C. @ 200Hz	1.000 000V	0.999 875V	350uV
10V A.C. @ 40Hz	10.000 00V	9.992 77V	7.8mV
10V A.C. @ 200Hz	10.000 00V	9.998 69V	3.2mV
10V A.C. @ 1kHz	10.000 00V	9.999 51V	4.7mV
10V A.C. @ 10kHz	10.000 00V	9.999 86V	4.7mV
100V A.C. @ 200Hz	100.000 0V	100.019 8V	33mV
750V A.C. @ 200Hz	700.000 0V	699.845 0V	250mV
DC Current			
10mA D.C. Range	10.000 00mA	9.999 94mA	1uA
100mA D.C. Range	100.000 0mA	99.998 8mA	14uA
1A D.C. Range	1.000 000A	0.999 802A	330uA
3A D.C. Range	2.000 00A	1.999 68A	430uA
AC Current @ 60Hz			
1A A.C. Rng @ 60Hz	0.100 00A	0.099 90A	130uA
1A A.C. Rng @ 60Hz	0.500 00A	0.499 62A	760uA
1A A.C. Rng @ 1kHz	1.000 00A	0.999 63A	6.3mA
3A A.C. Rng @ 60Hz	2.000 00A	1.998 05A	2.4mA
Resistance			
100 Ω Range	99.998 7 Ω	100.003 0 Ω	170u Ω
1k Ω Range	1.000 006k Ω	1.000 039k Ω	1.7m Ω
10k Ω Range	10.000 03k Ω	10.000 36k Ω	20m Ω
100k Ω Range	100.003 8k Ω	100.004 7k Ω	240m Ω
1M Ω Range	1.000 086M Ω	1.000 108M Ω	5.2 Ω
10M Ω Range	10.000 80M Ω	10.001 23M Ω	180 Ω
100M Ω Range	99.997 6M Ω	100.378 6M Ω	1.6k Ω

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Linearity			
10V Linearity	-9.00000V	-9.00002V	120uV
10V Linearity	-8.00000V	-8.00001V	110uV
10V Linearity	-7.00000V	-7.00002V	96uV
10V Linearity	-6.00000V	-6.00001V	86uV
10V Linearity	-5.00000V	-5.00001V	77uV
10V Linearity	-4.00000V	-4.00001V	67uV
10V Linearity	-3.00000V	-3.00000V	58uV
10V Linearity	-2.00000V	-2.00001V	27uV
10V Linearity	-1.00000V	-1.00000V	18uV
10V Linearity	0.000 00V	0.000 00V	12uV
10V Linearity	1.000 00V	1.000 00V	18uV
10V Linearity	2.000 00V	2.000 00V	27uV
10V Linearity	3.000 00V	3.000 01V	58uV
10V Linearity	4.000 00V	4.000 01V	67uV
10V Linearity	5.000 00V	5.000 00V	77uV
10V Linearity	6.000 00V	6.000 02V	86uV
10V Linearity	7.000 00V	7.000 00V	96uV
10V Linearity	8.000 00V	8.000 02V	110uV
10V Linearity	9.000 00V	9.000 02V	120uV
Frequency			
10Hz	10.000 0Hz	10.000 0Hz	310uHz
100Hz	100.000Hz	100.000Hz	3.1mHz
1kHz	1.000 00kHz	1.000 00kHz	31mHz
10kHz	10.000 0kHz	10.000 0kHz	310mHz
100kHz	100.000kHz	100.000kHz	3.1Hz