

CERTIFICATE OF CALIBRATION

Issued By Transmille Ltd.

Certificate Number 27148

Date of Issue 24 October 2014



0324



Transmille Ltd.
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Approved Signatory

G.A. Shapland M.A. Bailey S.A. Hawkins J.A. Bailey

Customer : SIGNATROL LTD
UNIT E2, GREEN LANE BUSINESS PARK
TEWKESBURY GLOUCESTERSHIRE GL20 8SJ.

Date Received : 17 October 2014

Instrument :	System ID :	H8AA61208	Job Number :	53670-2
	Description :	Digital Multimeter (5.5 digit)	Site :	
	Manufacturer :	Hewlett Packard	Location :	
	Model Number :	3478A		
	Serial Number :	2911A61208		
	Procedure Version :	3.00/N		

Environmental Conditions

Temperature : 20°C +/- 1°C
Relative Humidity : 50% +/- 20%

Mains Voltage : 230V +/- 12V
Mains Frequency : 50Hz +/- 1Hz

Comments

Instrument was allowed to stabilise for at least 12 hours before calibration.
4-wire connection was made directly to the unit's terminals

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 : M. Nelson

Date of Calibration : 24 October 2014

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

CERTIFICATE OF CALIBRATION

Certificate Number
27148

UKAS Accredited Calibration Laboratory No. 0324
AS FOUND RESULTS

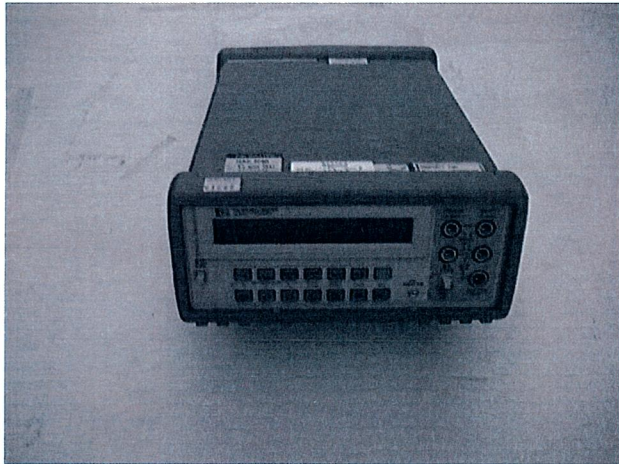
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Test Title	Applied Value	Reading	Uncertainties
DC Voltage Ranges			
30mV D.C.	30.000 0mV	30.000 1mV	3.2uV
300mV D.C.	300.000mV	300.001mV	6.5uV
3V D.C.	3.000 00V	3.000 04V	60uV
30V D.C.	30.000 0V	30.000 7V	730uV
300V D.C.	300.000V	300.007V	7.3mV
Linearity - 30V DC Range			
Linearity	5.000 0V	5.000 1V	220uV
Linearity	10.000 0V	10.000 2V	240uV
Linearity	15.000 0V	15.000 2V	270uV
Linearity	20.000 0V	20.000 4V	300uV
Linearity	25.000 0V	25.000 3V	660uV
AC Voltage @ 200Hz			
300V A.C.	300.000V	300.173V	150mV
30V A.C.	30.000 0V	30.012 1V	19mV
3V A.C.	3.000 00V	3.000 92V	1.7mV
300mV A.C.	300.000mV	300.018mV	200uV
DC Current Ranges			
300mA D.C.	300.000mA	299.862mA	280uA
1A D.C.	1.000 00A	0.999 51A	330uA
AC Current Ranges			
300mA A.C.	300.000mA	299.961mA	590uA
1A A.C.	1.000 00A	0.999 91A	1.5mA
Resistance Ranges			
10 Ω 4W	10.006 1 Ω	10.007 1 Ω	6.9m Ω
100 Ω 4W	100.006 Ω	100.013 Ω	12m Ω
1k Ω 4W	0.999 96k Ω	0.999 96k Ω	96m Ω
10k Ω 4W	10.000 4k Ω	10.000 5k Ω	960m Ω
100k Ω 2W	99.996k Ω	99.997k Ω	9.6 Ω
1M Ω 2W	1.000 02M Ω	1.000 04M Ω	160 Ω
10M Ω 2W	10.001 9M Ω	10.004 8M Ω	4.6k Ω

End of results

Instrument Service Log

SIGNATROL LTD, UNIT E2, GREEN LANE BUSINESS PARK, TEWKESBURY, GLOUCESTERSHIRE GL20 8SJ.



Instrument Description	digital multimeter (5.5 digit)
Model Number	3478A
Serial Number	2911A61208
System ID	H8AA61208
Reference Number	-
Used By / Location	-
Date Acquired	-
Instrument Cost	-
Calibration Interval	52 weeks

Date	Details	Calibration
02/11/2012	Calibration Only; UKAS Calibration; Certificate number : 22668 Parts Used : NONE Customer Order No. : 44142; Job No. : 45504-1 Instrument in good condition. Adjustments made to Resistance. All tests passed UKAS calibration.	by M.A. Bailey
17/10/2013	Calibration Only; UKAS Calibration; Certificate number : 24626 Parts Used : NONE Customer Order No. : 44426; Job No. : 49587-1 Instrument in good condition. All tests passed UKAS calibration.	by M.A. Bailey
24/10/2014	Calibration Only; UKAS Calibration; Certificate number : 27148 Parts Used : NONE Customer Order No. : 44738; Job No. : 53670-2 Instrument in good condition. All tests passed UKAS calibration.	by M. Nelson

Issued by : TRANSMILLE LTD., UNIT 4, SELECT BUSINESS CENTRE LODGE ROAD STAPLEHURST, KENT. TN12 0QW. TEL : 01580 890700 FAX : 01580 8907