

# CERTIFICATE OF CALIBRATION

Issued By Transmille Ltd.

Certificate Number 40302

Date of Issue 04 December 2019



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

Page 1 of 2 Pages

Approved Signatory

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

**Customer :** SIGNATROL LTD  
UNIT E2, GREEN LANE BUSINESS PARK  
TEWKESBURY

Date Received : 28 November 2019

<b>Instrument :</b>	System ID :	H8AA61208	Job Number :	73361-1
	Description :	Digital Multimeter (5.5 digit)	Ref. Number :	CE1013
	Manufacturer :	Hewlett Packard	Site :	
	Model Number :	3478A	Location :	
	Serial Number :	2911A61208	Last Calibration Certificate :	37489
	Procedure Version :	3.00/N	Last Calibration Date :	28/11/2018

## Environmental Conditions

Temperature : 20°C +/- 1°C  
Relative Humidity : 40% +/- 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 : 04 December 2019

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

UKAS Accredited Calibration Laboratory No. 0324  
**AS FOUND RESULTS**

Certificate Number  
40302

Page 2 of 2 Pages

Test Title	Applied Value	Reading	Uncertainties
<b>DC Voltage Ranges</b>			
30mV D.C.	30.000 0mV	29.999 7mV	±2.9uV
300mV D.C.	300.000mV	300.002mV	±6.4uV
3V D.C.	3.000 00V	3.000 06V	±59uV
30V D.C.	30.000 0V	30.000 7V	±720uV
300V D.C.	300.000V	300.002V	±7.2mV
<b>Linearity - 30V DC Range</b>			
Linearity	5.000 0V	5.000 0V	±220uV
Linearity	10.000 0V	10.000 1V	±240uV
Linearity	15.000 0V	15.000 3V	±270uV
Linearity	20.000 0V	20.000 4V	±300uV
Linearity	25.000 0V	25.000 4V	±660uV
<b>AC Voltage @ 200Hz</b>			
300V A.C.	300.000V	300.152V	±140mV
30V A.C.	30.000 0V	30.007 5V	±19mV
3V A.C.	3.000 00V	3.000 30V	±1.7mV
300mV A.C.	300.000mV	299.977mV	±190uV
<b>DC Current Ranges</b>			
300mA D.C.	300.000mA	299.949mA	±81uA
1A D.C.	1.000 00A	1.000 06A	±190uA
<b>AC Current Ranges</b>			
300mA A.C.	300.000mA	299.559mA	±460uA
1A A.C.	1.000 00A	0.999 93A	±1mA
<b>Resistance Ranges</b>			
10Ω 4W	10.006 1Ω	10.008 5Ω	±6.1mΩ
100Ω 4W	100.006Ω	100.014Ω	±8.3mΩ
1kΩ 4W	0.999 96kΩ	0.999 98kΩ	±37mΩ
10kΩ 4W	10.000 4kΩ	10.000 5kΩ	±290mΩ
100kΩ 2W	99.996kΩ	99.997kΩ	±3.6Ω
1MΩ 2W	1.000 03MΩ	1.000 01MΩ	±44Ω
10MΩ 2W	10.002 3MΩ	10.003 4MΩ	±1.3kΩ

**End of results**