

# CERTIFICATE OF CALIBRATION

Issued By Hitek Calibration Services

Certificate Number U8715

Date of Issue 2nd January 2024



0404

Page 1 of 3

Approved Signatory

Jeff King ☒



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RH20 3JR

**Customer :** PPT Group UK Ltd  
NEWTON HOUSE, SLINFOLD  
SPRING COPSE BUSINESS PARK, RH13 0SZ

**Date Received :** 21st December 2024

<b>Instrument :</b>	System ID :	H00007110	Job Number :	J061757-2
	Description :	Digital Multimeter	Customer Ref :	TM0003
	Manufacturer :	Hewlett Packard	Order Number :	PO126588-1
	Model Number :	3478A		
	Serial Number :	2619A45735		
	Procedure Number & Version :	11448 : 1.00/N		

## Environmental Conditions

Temperature :	23°C ± 3°C	Mains Voltage :	230V ± 10V
Relative Humidity :	50% Rh ± 20% Rh	Mains Frequency :	50Hz ± 1Hz

## Comments

Instrument placed in laboratory and allowed to stabilise  
Tests marked \* are not UKAS accredited have been included for completeness  
An additional uncertainty applies of +/- 1 digit

## 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 results relate to the equipment calibrated only.

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 :** Jeff King

**Date of Calibration :** 2nd January 2024

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. **0404**

Certificate Number  
U8715

Page 2 of 3

## AS FOUND RESULTS

Test Title	Applied Value	Reading	Uncertainty
<b>D.C. Voltage</b>			
30mV D.C. Range	30.0000mV	30.0015mV	± 5.3uV
300mV D.C. Range	300.000mV	299.999mV	± 17uV
3V D.C. Range	3.00000V	2.99990V	± 140uV
30V D.C. Range	30.0000V	29.9999V	± 1.5mV
300V D.C. Range	300.000V	300.000V	± 16mV
<b>D.C. Linearity</b>			
3V D.C. Range	-3.00000V	-2.99988V	± 140uV
3V D.C. Range	-2.00000V	-1.99992V	± 77uV
3V D.C. Range	-1.00000V	-0.99996V	± 43uV
3V D.C. Range	1.00000V	0.99996V	± 43uV
3V D.C. Range	2.00000V	1.99993V	± 77uV
3V D.C. Range	3.00000V	2.99991V	± 140uV
<b>A.C. Voltage</b>			
300mV A.C. @ 60Hz	300.000mV	299.767mV	± 250uV
3V A.C. @ 60Hz	3.00000V	2.99891V	± 2.3mV
30V A.C. @ 60Hz	30.0000V	29.9857V	± 24mV
30V A.C. @ 200Hz	30.0000V	30.0037V	± 28mV
30V A.C. @ 1000Hz	30.0000V	30.0060V	± 78mV
30V A.C. @ 10000Hz	30.0000V	30.0050V	± 78mV
30V A.C. @ 20000Hz	30.0000V	30.0220V	± 78mV
300V A.C. @ 60Hz	300.000V	299.946V	± 240mV
<b>D.C. Current</b>			
300mA D.C. Range	300.000mA	300.021mA	± 70uA
3A D.C. Range	1.00000A	1.00005A	± 150uA
3A D.C. Range	3.00000A	3.00228A	± 1.8mA
<b>A.C. Current</b>			
3A A.C. @ 60Hz	3.00000A	3.00659A	± 5.7mA
3A A.C. @ 60Hz	1.00000A	1.00021A	± 1.7mA
300mA A.C. @ 60Hz	300.000mA	300.063mA	± 830uA
<b>D.C. Resistance 4-wire</b>			
30R Range	10.0052Ω	10.0116Ω	± 6.9mΩ
300R Range	100.006Ω	100.002Ω	± 12mΩ
3kR Range	1.00001kΩ	0.99996kΩ	± 94mΩ
30kR Range	9.9994kΩ	9.9989kΩ	± 940mΩ
300kR Range	100.005kΩ	99.998kΩ	± 9.6Ω
<b>D.C. Resistance 2-wire</b>			

# CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0404

Certificate Number  
U8715

Page 3 of 3

**AS FOUND RESULTS**

Test Title	Applied Value	Reading	Uncertainty
3MR Range	1.00005MΩ	0.99992MΩ	± 170Ω
30MR Range	10.0019MΩ	9.9953MΩ	± 5.4kΩ

End of results

END OF TEST DATA

