CERTIFICATE OF CALIBRATION

ISSUED BY AVON-DYNAMIC CALIBRATION

Date of Issue 11 February 2021 **Certificate Number K563757**

UKAS CALIBRATION
0199

AVON DYNAMIC

CALIBRATE MEASURE INNOVATE

For Signatrol Ltd
Unit E2, Green Lane Business Park
Tewkesbury
Glos.
GL20 8SJ

Approved Signatory:
M.Hyde

Customer Ref Number :	CE1159	Date of Calibration :	11 February 2021
Date of Receipt :	8 February 2021	Item Type :	SDM3055
Item Serial Number :	SDM35FAQ1R1792		
Instrument Manufacturer :	Siglent		
Description :	Digital Multimeter		
Specification Reference :	Manufacturer's Stated Specification (Manual Ref.No.34410-90010)		
Procedure Reference :	CLI050, CLI051, CLI052, CLI053, CL1054 & CLI055.		

Note

Calibrations marked ## (Not UKAS Accredited) in this Certificate have been included for Completeness

Calibrated By : M.Hyde

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

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UKAS ACCREDITED CALIBRATION LABORATORY No 0199

REPORT

The unit under test was allowed to stabilise for 24 hours in the laboratory environment prior to testing. The unit was allowed to settle for 1 minute before each reading was taken. Results**:** As received. No adjustment was necessary.

DC Voltage Ranges (100mV to 1 000V)

Range	Applied Voltage	Instrument Reading	Specification	Uncertainty of Measurement
200 mV	+ 100.000 00 mV	+ 99.999 mV	± 23 µV	± 1.5 µV
	- 100.000 00 mV	- 99.998 mV	± 23 µV	± 1.5 µV
2 V	+ 1.000 000 0 V	+ 0.999 99 V	± 210 µV	± 8 µV
	- 1.000 000 0 V	- 0.999 99 V	± 210 µV	± 8 µV
20 V	+ 19.000 000 V	+ 19.001 4 V	± 3.7 mV	± 60 µV
	+ 10.000 000 V	+ 10.001 1 V	± 2.3 mV	± 60 µV
	+ 5.000 000 V	+ 5.000 5 V	± 1.6 mV	± 40 µV
	- 10.000 000 V	- 9.999 5 V	± 2.3 mV	± 60 µV
200 V	+ 100.000 00 V	+ 99.999 V	± 21 mV	± 0.80 mV
1 000 V	+ 1 000.000 0 V	+ 999.97 V	± 180 mV	± 9.1 mV

AC Voltage Ranges (100mV to 750V)

Range	Applied Voltage	Instrument Reading	Specification	Uncertainty of Measurement
200 mV	100.000 0 mV @ 1 kHz	99.917 mV	± 300 µV	± 19.6 µV
	100.000 0 mV @ 30 kHz	100.140 mV	± 1.1 mV	± 32.6 µV
2 V	1.000 000 V @ 1 kHz	0.999 76 V	± 3.0 mV	± 121 µV
	1.000 000 V @ 30 kHz	1.001 41 V	± 11 mV	± 253 µV
20 V	10.000 00 V @ 1 kHz	9.984 4 V	± 30 mV	± 0.62 mV
	10.000 00 V @ 30 kHz	10.025 8 V	± 0.11 V	± 1.03 mV
200 V	100.000 0 V @ 1 kHz	99.835 V	± 1.2 V	± 7.2 mV
	100.000 0 V @ 30 kHz	100.249 V	± 1.2 V	± 11.0 mV
750 V	750.000 V @ 1 kHz	748.876 V	± 1.85 V	± 79 mV
	210.000 V @ 30 kHz	210.567 V	± 2.48 V	± 22 mV

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Resistance Ranges (100Ω to 100MΩ)

Range	Applied Resistance	Instrument Reading	Specification	Uncertainty of Measurement
200 Ω	99.997 79 Ω	100.018 Ω	± 40 mΩ	± 1.4 mΩ
2 kΩ	0.999 929 kΩ	1.000 07 kΩ	± 260 mΩ	± 12 mΩ
20 kΩ	9.999 427 kΩ	10.000 7 kΩ	± 2.6 Ω	± 120 mΩ
200 kΩ	99.994 16 kΩ	100.007 kΩ	± 40 Ω	± 1.5 Ω
2 MΩ	0.999 8858 MΩ	0.999 95 MΩ	± 480 Ω	± 25 Ω
10 MΩ	9.999 492 MΩ	10.000 1 MΩ	± 25.3 kΩ	± 480 Ω
100 MΩ	100.008 44 MΩ	100.053 MΩ	± 1.754 MΩ	± 12.5 kΩ

DC Current Range (10mA, 100mA 1A & 3A)

Range	Applied Voltage	Instrument Reading	Specification	Uncertainty of Measurement
200 µA	+ 100.000 0 µA	+ 99.993 µA	± 0.065 µA	± 11.8 nA
2 mA	+ 1.000 000 mA	+ 0.999 94 mA	± 0.65 µA	± 51 nA
20 mA	+ 10.000 00 mA	+ 9.996 9 mA	± 13.5 µA	± 0.48 µA
200mA	+ 100.000 0 mA	+ 99.988 mA	± 86 µA	± 6.3 µA
2 A	+ 1.000 000 A	+ 0.998 82 A	± 2.1 mA	± 108 µA
10 A	+ 2.000 000 A	+ 1.997 0 A	± 6.0 mA	± 209 µA

AC Current Range (1A & 3A)

Range	Applied Voltage	Instrument Reading	Specification	Uncertainty of Measurement
20 mA	10.000 00 mA @ 1kHz	10.000 1 mA	± 70 µA	± 0.48 µA
200mA	100.000 0 mA @ 1kHz	99.964 mA	± 1.2 mA	± 6.3 µA
2 A	1.000 000 A @ 1kHz	0.998 94 A	± 9.0 mA	± 344 µA
10 A	2.000 000 A @ 1kHz	1.997 6 A	± 10 mA	± 650 µA

Frequency

Range	Applied Input	Instrument Reading	Uncertainty of Measurement
100 mV	100.000 00 mV @ 100 Hz	99.998 Hz	± 0.1 Hz
1 V	1.000 000 V @ 100 kHz	99.998 kHz	± 10 Hz

Standards Used
ADC2613

Laboratory Ambient Temperature = 20°C ± 3°C

Laboratory Humidity = 50% rh ± 20% rh

-End of Report-

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

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