CERTIFICATE OF CALIBRATION

ISSUED BY AVON-DYNAMIC CALIBRATION

Date of Issue 07 February 2023 Certificate Number K736105-2

UKAS CALIBRATION
0199

AVON DYNAMIC

CALIBRATE MEASURE INNOVATE

For:

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

Approved Signatory
Mr. M. Hyde

Manufacturer:	AOIP	Date of Receipt:	31 January 2023
Model Number:	TC6622	Specification:	Manufacturer
Inventory Number:	CE1142	Calibrated by:	HMAGGS
Serial Number:	2002Z A 36 0145 A	Next Calibration Due:	03 February 2024
Description:	TEMPERATURE CALIBRATOR		

Report: This instrument has been calibrated to the stated specification, unless otherwise stated. The recorded measurements were correct when taken within the conditions stated. The calibration was carried out using standards which are subject to regular periodic verification and are traceable to National Standards.

Laboratory Conditions

Temperature:	20.0	± 3°C
Humidity:	50%rh	± 20%rh

Comment :- **Calibrations marked ## (Not UKAS Accredited) in this Certificate have been included for completeness.**

This Certificate superceeds K736105-1 due to a results collumn labelling error.

Calibration Code A All prime parameters were found to be within the stated specification with no adjustment necessary.

Compliance Statement:

Conformity / Non-Conformity statements are based on simple acceptance rule (ILAC-G8:09/2019) where, Acceptance Limit (AL) equals Tolerance Limit (TL). Provided that the Tolerance Uncertainty Ratio (TUR) ≥ 1:1.

Date of Calibration: 03 February 2023

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor *k* = 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.
Results: As received. No adjustments were necessary.

RTD Source: 4 Wire connection

Range	Set Temperature	Measured Resistance	Calculated Temperature	Specification	Uncertainty of Measurement
PT100	-200.00 °C	18.520 Ω	-200.00 °C	± 0.104 °C	± 0.050 °C
	-150.00 °C	39.723 Ω	-150.00 °C	± 0.098 °C	± 0.050 °C
	-100.00 °C	60.255 Ω	-100.00 °C	± 0.092 °C	± 0.050 °C
	-70.00 °C	72.333 Ω	-70.00 °C	± 0.088 °C	± 0.050 °C
	-40.00 °C	84.269 Ω	-40.00 °C	± 0.085 °C	± 0.050 °C
	-25.00 °C	90.188 Ω	-25.01 °C	± 0.083 °C	± 0.050 °C
	0.00 °C	99.998 Ω	0.01 °C	± 0.080 °C	± 0.050 °C
	4.00 °C	101.560 Ω	3.99 °C	± 0.080 °C	± 0.050 °C
	25.00 °C	109.733 Ω	25.00 °C	± 0.083 °C	± 0.050 °C
	50.00 °C	119.398 Ω	50.00 °C	± 0.086 °C	± 0.050 °C
	100.00 °C	138.504 Ω	100.00 °C	± 0.092 °C	± 0.050 °C
	121.10 °C	146.482 Ω	121.10 °C	± 0.095 °C	± 0.050 °C
	134.00 °C	151.331 Ω	133.99 °C	± 0.096 °C	± 0.050 °C
	150.00 °C	157.323 Ω	149.99 °C	± 0.098 °C	± 0.050 °C
	200.00 °C	175.853 Ω	199.99 °C	± 0.104 °C	± 0.050 °C
	250.00 °C	194.092 Ω	249.98 °C	± 0.110 °C	± 0.050 °C
	300.00 °C	212.048 Ω	299.99 °C	± 0.116 °C	± 0.050 °C
	400.00 °C	247.088 Ω	399.99 °C	± 0.128 °C	± 0.050 °C

Range	Set Temperature	Measured Resistance	Calculated Temperature	Specification	Uncertainty of Measurement
PT1000	-200.00 °C	185.222 Ω	-200.00 °C	± 0.144 °C	± 0.0043 Ω
	-150.00 °C	397.239 Ω	-150.00 °C	± 0.138 °C	± 0.00016 kΩ
	-100.00 °C	602.540 Ω	-100.01 °C	± 0.132 °C	± 0.00019 kΩ
	-70.00 °C	723.335 Ω	-70.00 °C	± 0.128 °C	± 0.00021 kΩ
	-40.00 °C	842.699 Ω	-40.00 °C	± 0.125 °C	± 0.00023 kΩ
	-25.00 °C	901.917 Ω	-25.00 °C	± 0.123 °C	± 0.00023 kΩ
	0.00 °C	999.975 Ω	-0.01 °C	± 0.120 °C	± 0.00025 kΩ
	4.00 °C	1015.615 Ω	4.00 °C	± 0.120 °C	± 0.00031 kΩ
	25.00 °C	1097.310 Ω	24.99 °C	± 0.123 °C	± 0.00032 kΩ
	50.00 °C	1193.959 Ω	50.00 °C	± 0.126 °C	± 0.00033 kΩ
	100.00 °C	1385.062 Ω	100.00 °C	± 0.132 °C	± 0.00036 kΩ
	121.10 °C	1464.829 Ω	121.10 °C	± 0.135 °C	± 0.00037 kΩ
	134.00 °C	1513.352 Ω	134.00 °C	± 0.136 °C	± 0.00038 kΩ
	150.00 °C	1573.251 Ω	150.00 °C	± 0.138 °C	± 0.00038 kΩ
	200.00 °C	1758.538 Ω	199.99 °C	± 0.144 °C	± 0.00041 kΩ
	250.00 °C	1940.991 Ω	250.00 °C	± 0.150 °C	± 0.00044 kΩ
	300.00 °C	2120.525 Ω	300.00 °C	± 0.156 °C	± 0.00046 kΩ
	400.00 °C	2470.934 Ω	400.00 °C	± 0.168 °C	± 0.00051 kΩ

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

RTD Measurement: 4 Wire connection

Range	Set Temperature	Applied Resistance	Displayed Temperature	Specification	Uncertainty of Measurement
PT100	-200.00 °C	18.521 Ω	-199.99 °C	± 0.074 °C	± 0.080 °C
	-150.00 °C	39.723 Ω	-149.98 °C	± 0.068 °C	± 0.080 °C
	-100.00 °C	60.256 Ω	-99.99 °C	± 0.062 °C	± 0.080 °C
	-70.00 °C	72.335 Ω	-69.99 °C	± 0.058 °C	± 0.080 °C
	-40.00 °C	84.271 Ω	-39.99 °C	± 0.055 °C	± 0.080 °C
	-25.00 °C	90.192 Ω	-24.99 °C	± 0.053 °C	± 0.080 °C
	0.00 °C	100.000 Ω	0.01 °C	± 0.050 °C	± 0.080 °C
	4.00 °C	101.562 Ω	4.01 °C	± 0.050 °C	± 0.080 °C
	25.00 °C	109.734 Ω	25.01 °C	± 0.053 °C	± 0.080 °C
	50.00 °C	119.398 Ω	50.02 °C	± 0.056 °C	± 0.080 °C
	100.00 °C	138.506 Ω	100.02 °C	± 0.062 °C	± 0.080 °C
	121.10 °C	146.483 Ω	121.12 °C	± 0.065 °C	± 0.080 °C
	134.00 °C	151.334 Ω	134.02 °C	± 0.066 °C	± 0.080 °C
	150.00 °C	157.325 Ω	150.02 °C	± 0.068 °C	± 0.080 °C
	200.00 °C	175.856 Ω	200.02 °C	± 0.074 °C	± 0.080 °C
	250.00 °C	194.098 Ω	250.02 °C	± 0.080 °C	± 0.080 °C
	300.00 °C	212.052 Ω	300.02 °C	± 0.086 °C	± 0.080 °C
	400.00 °C	247.095 Ω	400.02 °C	± 0.098 °C	± 0.080 °C

Range	Set Temperature	Applied Resistance	Displayed Temperature	Specification	Uncertainty of Measurement
PT1000	-200.00 °C	185.200 Ω	-200.00 ºC	± 0.074 °C	± 0.0043 Ω
	-150.00 °C	0.39723 kΩ	-149.99 °C	± 0.068 °C	± 0.00016 kΩ
	-100.00 °C	0.60256 kΩ	-100.00 °C	± 0.062 °C	± 0.00019 kΩ
	-70.00 °C	0.72335 kΩ	-70.00 °C	± 0.058 °C	± 0.00021 kΩ
	-40.00 °C	0.84271 kΩ	-39.99 °C	± 0.055 °C	± 0.00023 kΩ
	-25.00 °C	0.90192 kΩ	-24.99 °C	± 0.053 °C	± 0.00023 kΩ
	0.00 °C	1.00000 kΩ	-0.01 °C	± 0.050 °C	± 0.00025 kΩ
	4.00 °C	1.01562 kΩ	4.00 °C	± 0.050 °C	± 0.00031 kΩ
	25.00 °C	1.09735 kΩ	25.00 °C	± 0.053 °C	± 0.00032 kΩ
	50.00 °C	1.19397 kΩ	50.01 °C	± 0.056 °C	± 0.00033 kΩ
	100.00 °C	1.38506 kΩ	100.01 °C	± 0.062 °C	± 0.00036 kΩ
	121.10 °C	1.46483 kΩ	121.11 °C	± 0.065 °C	± 0.00037 kΩ
	134.00 °C	1.51334 kΩ	134.01 °C	± 0.066 °C	± 0.00038 kΩ
	150.00 °C	1.57325 kΩ	150.01 °C	± 0.068 °C	± 0.00038 kΩ
	200.00 °C	1.75856 kΩ	200.01 °C	± 0.074 °C	± 0.00041 kΩ
	250.00 °C	1.94098 kΩ	250.01 °C	± 0.080 °C	± 0.00044 kΩ
	300.00 °C	2.12052 kΩ	300.01 °C	± 0.086 °C	± 0.00046 kΩ
	400.00 °C	2.47092 kΩ	400.01 °C	± 0.098 °C	± 0.00051 kΩ

Standard Used
ADC2830
ADC2990

Procedure Reference : CLI055 & CLI131.

-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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