

CERTIFICATE OF CALIBRATION

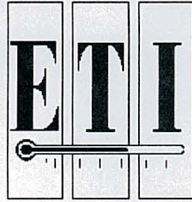
Date Of Issue
18th September 2009

Certificate Number
180909/N9



0601

Certificate Issued By:



Electronic Temperature Instruments Ltd
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Approved Signatory

Signature

J. Carswell

J. McKernan

D. Carter

Customer Name: SIGNATROL LTD

Address: 1st & 2nd FLOOR OFFICES
105 CHURCH STREET
TEWKSBURY
GLOUCESTERSHIRE
GL20 5AB

Order Number: 43242

Ref Number: 226/22477

Date Received: 11th September 2009

Date Calibrated: 18th September 2009

Ambient Temperature: 22°C ± 2°C

Ambient Humidity: <60% rh

Temperature Scale: International Temperature Scale of 1990

Instrument Type: EUROTRON MICROCAL 1 CALIBRATOR

Instrument Serial Number: 0049272

Procedure: The instrument was stabilised at ambient temperature, then calibrated by measuring its output on traceable reference equipment.

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.

Results indicate performance of instrument at time of measurement, with no warranty as to specification, repeatability or long term stability.

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

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UKAS Accredited Calibration Laboratory No 0601

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Instrument Serial No 0049272

Results

<u>Type "J" Output Temperature °C</u>	<u>Nominal mV</u>	<u>Measured mV</u>	<u>Equivalent Temperature °C</u>	<u>Uncertainty of Measurement °C</u>
-100.0	-4.633	-4.639	-100.1	0.25
700.0	39.132	39.127	699.9	0.15

<u>Type "K" Output Temperature °C</u>	<u>Nominal mV</u>	<u>Measured mV</u>	<u>Equivalent Temperature °C</u>	<u>Uncertainty of Measurement °C</u>
-100.0	-3.554	-3.552	-100.0	0.25
900.0	37.326	37.331	900.1	0.15

<u>Type "T" Output Temperature °C</u>	<u>Nominal mV</u>	<u>Measured mV</u>	<u>Equivalent Temperature °C</u>	<u>Uncertainty of Measurement °C</u>
-100.0	-3.379	-3.373	99.8	0.25
300.0	14.862	14.861	300.0	0.15

<u>Type "S" Output Temperature °C</u>	<u>Nominal mV</u>	<u>Measured mV</u>	<u>Equivalent Temperature °C</u>	<u>Uncertainty of Measurement °C</u>
800.0	7.345	-7.343	799.8	1.0
1400.0	14.373	14.366	1399.4	1.0

<u>Type "R" Output Temperature °C</u>	<u>Nominal mV</u>	<u>Measured mV</u>	<u>Equivalent Temperature °C</u>	<u>Uncertainty of Measurement °C</u>
800.0	7.950	-7.470	799.7	1.0
1400.0	16.040	16.032	1399.4	1.0

<u>Type "E" Output Temperature °C</u>	<u>Nominal mV</u>	<u>Measured mV</u>	<u>Equivalent Temperature °C</u>	<u>Uncertainty of Measurement °C</u>
-100.0	-5.237	-5.247	-100.2	0.25
650.0	49.116	49.113	650.0	0.15

<u>PT100 Output Temperature °C</u>	<u>Nominal Ohms</u>	<u>Measured Ohms</u>	<u>Equivalent Temperature °C</u>	<u>Uncertainty of Measurement °C</u>
0.0	0.00	100.037	0.09	0.025
600.0	313.71	313.625	599.74	0.2

End of Report



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CALIBRATION REPORT No: 140909/1
Model : EUOTRON MICROCAL 1
Standard: PREMA 6001
Date: 14th September 2009
Ambient Temperature: 22 °C ± 2 °C

Serial No: 0049272
Certificate No: CN120565
Calibrated by: J. McKernan
Ambient Humidity: < 60 %rh

Range	Test Value mV	Actual	Error	Test Limits mV
100mV	10.0	9.999	-0.001	0.006
100mV	50.0	50.007	0.007	0.006
1000mV	100.0	99.979	-0.021	0.006
1000mV	500.0	500.032	0.032	0.006
Range	Test Value mA	Actual	Error	Test Limits mA
20mA	4.0	3.9997	-0.0003	0.005
20mA	10.0	9.9987	-0.0013	0.005
20mA	20.0	19.9964	-0.0036	0.005

This is to certify that the above instrument has been calibrated against laboratory standards, which are traceable via International Agreement, to all major National Standards, including the NPL and NIST.

Certified by: