

CERTIFICATE OF CALIBRATION

This is a re-printed certificate. Re-printed on: 16 September 2021

ISSUED BY: THERMOSENSE LIMITED

DATE OF ISSUE: 04 September 2021

CERTIFICATE No: X2002X



21817

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APPROVED SIGNATORY



All calibrations performed at:

Eton House
Eton Way North
Radcliffe
Lancashire
M26 2ZT

Tel: +44 (0)1628 531166

Customer: Customer / Customer / Customer

Order Reference: 123999

Address: Address / Void / Sample / Address / Void / Sample / Address / Void / Sample / Address / Void / Sample

Device Description: Duplex Pt100 with Terminal Head

Device Identity: X1-999-X1

Sensor Type: PT100 (3 wire configuration) Flat Film Detector

Sensor Length: 190mm

Sensor Diameter: 6.0mm

Immersion Depth: 155/140

Procedure Used: pt2b3ab

Calibration Points Requested: 11

Ambient Temperature: 24.9°C ± 1.2°C

Equipment Used: Isotech Venus 4951 Dry Block Calibrator (381785/1) / Isotech Jupiter 4852 Dry Block Calibrator (40911/1)
Isotech milliK & millisKanner (391730/2 & 20AS76/1) / Isotech milliK & millisKanner (391730/1 & 391730/3)

Reference(s) Used: PRT (391730/5) / PRT (40865/1)

The device was examined and found to be in a satisfactory condition.

Results annotated hereon are applicable only to the device(s) identified above.

Results of Calibration

Actual Temperature °C	UUT Value mA	UUT Temperature °C	Error °C	Uncertainty (±) °C
0.002	4.485	0.002	-0.000	0.20
35.020	7.896	35.178	+0.157	0.20
70.037	11.296	70.240	+0.203	0.20
100.146	14.216	100.353	+0.206	0.20
150.090	19.071	150.420	+0.330	0.50
0.002	4.481	-0.040	-0.042	0.20
35.020	7.896	35.178	+0.157	0.20
70.037	11.286	70.137	+0.100	0.20
100.146	14.212	100.311	+0.165	0.20
150.090	19.057	150.275	+0.185	0.50
150.090	19.066	150.368	+0.278	0.50

The values above were ascertained from the output terminals of an Input Transmitter, using the following settings: 4mA= -5 °C 20mA= 160 °C
The output of the transmitter was converted to thermal units using the following formula: Temp Rdg = Low Limit + (High Limit - Low Limit) x (mA out - 4) / 16

The results indicated above show the probe to be within the tolerances of Class B Accuracy, as defined by BS EN 60751:2008.

The results above in combination with certificate X2001X indicate AMS2750 (REV.F) compliance.

The calibration was performed in multiple Dry Block Calibrators using IEC 60751 (2008) Temperature Conversion.

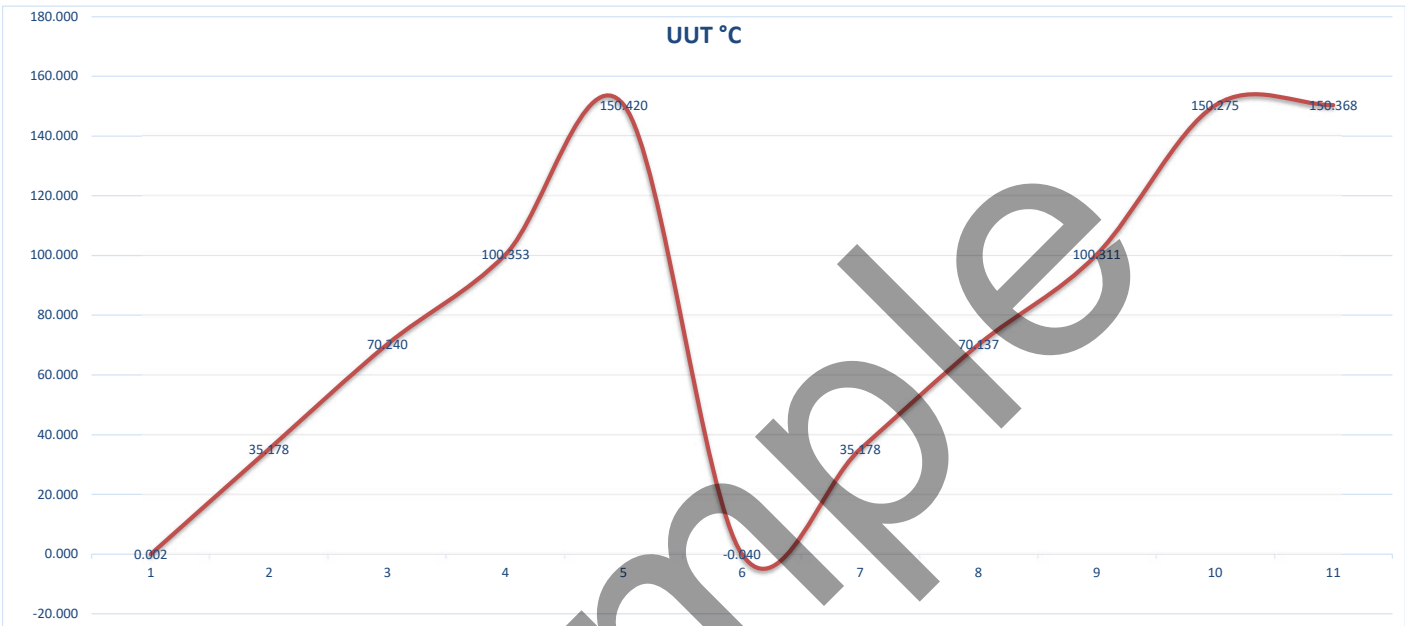
Coil Reference: 2219403

The accuracy of precision sensors may be diminished by the number, the length and the quality of connections or the terminations made to them.
Part of an AMS duplex assembly calibrated in conjunction with Certificates X2001X & X2003/4X

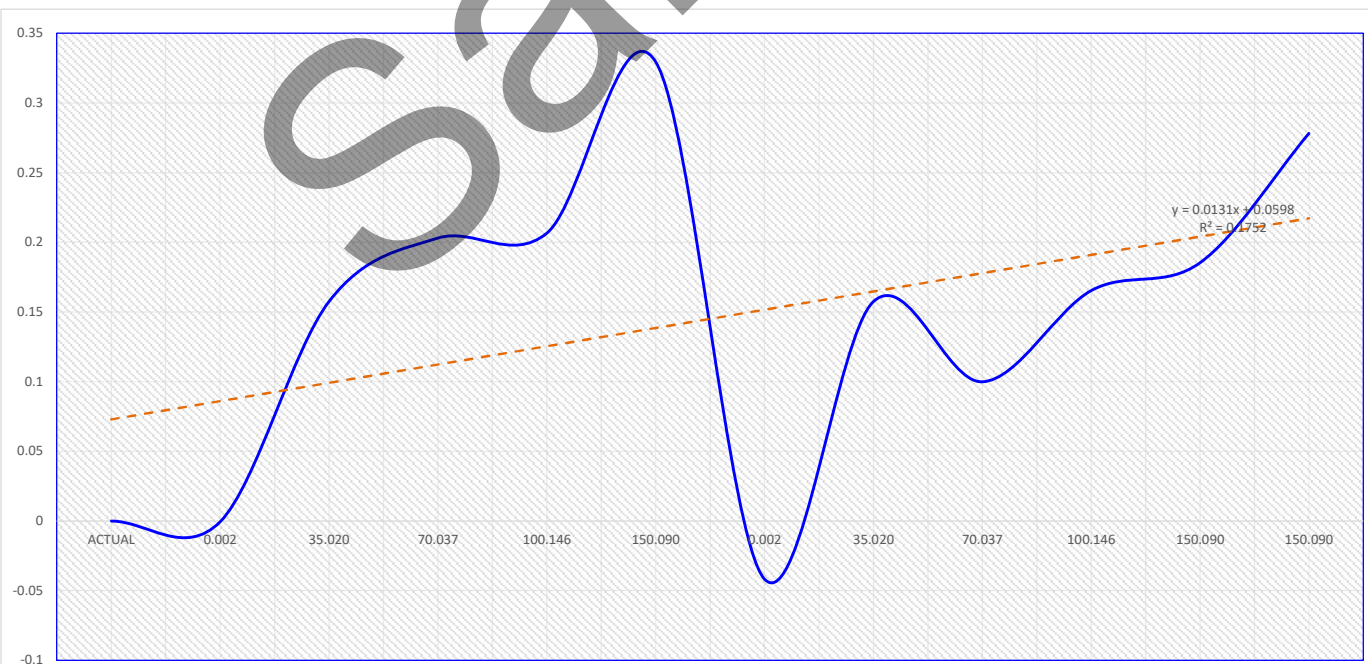
N.B.: Where statements of conformity are made, they include the effects of uncertainty and guard banding in compliance with ILAC-G8: 09/2019 (para 4.2.2).

The information indicated below is taken from the calibration data annotated overleaf.

Graph 1: Shows the rise and/or fall in temperature in the calibration specification.



Graph 2: Shows the deviation revealed in calibration between the actual temperature (Graph 1) and that indicated by the test sample.



The blue line above indicates the direction and magnitude of deviation from the true temperature value. The dotted line indicates the trend of deviation from true across the range of the calibration points employed. The formula is that of the trend line. For the purposes of setting offsets; regard should be taken of the parallelity of the trend line to the base line.

The results indicated above show the probe to be within the tolerances of Class B Accuracy, as defined by BS EN 60751:2008.