



THAT EQUITY MAY PREVAIL

Certificate Of Calibration

Digital Thermometer with 8 Inch Stem Probe

Report No. 112015-5-16 AMENDED (2)



Calibration Laboratory 2398.01

Customer: VERMONT FORENSIC LABORATORY
45 STATE DRIVE
WATERBURY, VT 05671

Date Received: 18 Nov 2015
Calibration Date: 20 Nov 2015

Make: VWR / CONTROL CO
Model: 14-648-12 (VWR), 4532 Ultra (Control Company)

Customer Specified Due Date: 30 Nov 2016
PO# : 33875

Serial # 111814517 With 8 Inch Probe ID # NONE

Contact: Jeff Dukette

/Range: -50 TO 150 °C X 0.1 °C

Temperature: 21.6 TO 21.6 °C / RH% 44 TO 44

Accuracy/Tolerance : SEE NOTES

Condition Received : GOOD

Item Received : IN TOLERANCE

Item Returned IN TOLERANCE , No Adjustment possible

Calibration Location: QCS Temperature Laboratory

Equipment Location : LAB

NOTES: Amended by MEC 25 Nov 2015 to reflect the correct Serial Number of UUT. Amended by MEC 01 Dec 2015 to reflect correct calibration due date of standard serial number 304526. UUT calibrated at customers specified points. / *customers specified tolerance +/- 0.3 °C. Manufacturer's tolerance is ± 1.0 °C. (Except at 0 °C and 50 °C where the tolerance is ± 0.2 °C)

Nominal	Actual (STD)	Measured (UUT)	Δ (UUT)	Units	Tolerance (±)	Uncertainty (±)	Pass/Fail
0	-0.003	-0.1	-0.1	°C	0.3*	0.10	PASS
50	49.998	49.9	-0.1	°C	0.3*	0.10	PASS

Δ ROUNDED TO THE READABILITY OF UUT.

The measurement traceability and calibration process used for conformance verification of the above instrument meets or exceeds the requirements of 17025:2005. The reported uncertainties reflect those of type B (Systematic errors associated with the standards and the procedure used), and type A (Random errors of the process). The type A and type B uncertainties were calculated in accordance with NIST technical Note 1297 using the RSS method and are reported at the coverage factor k=2 to approximate a confidence level of 95%. The due date as it appears on this report does not imply that the instrument will maintain its accuracy for any given length of time unless supported with further documentation (E.g. statistical etc.) which affirms such stability and is the responsibility of the end user. Many factors may contribute to instrument in-accuracy over time such as drift, environment, transportation, frequency of use etc. The reported results reflect readings obtained at the time of test only. The reported uncertainties reflect those associated with the calibration process itself and the instrument under test. If the UUT is a digital electronic measurement instrument add 0.6 of the least significant digit to the above stated uncertainty. The instrument is considered to be in-tolerance based on the observed results (Deviation or departure from nominal value) falling anywhere within its specified tolerance limits with consideration of applied uncertainty. This document shall not be reproduced except in full without the written approval of Q.C. Services, Inc.

Procedure Used: QCS 3015 ORIG (QCSTD 030508-2)

TRACEABLE STANDARDS USED:

ERTCO-EUTECHNICS 4400 S/N: 302639	Cal Due : 10/2016	
ERTCO-EUTECHNICS 4400 SN : 304526	Cal Due : 01/2016	X
HART SCI 1502 S/N 8B552 with PRT 760520	Cal Due : 09/2017	X
FLUKE 1502 S/N: A6C265 With PRT 02620	Cal Due : 07/2017	

Certified by: Martin Crowell

Date: 20 Nov 2015

Approved By:

Howard Maxim

Title: Metrologist

Date: 01 Dec 2015



Certificate Of Calibration

Digital Thermometer with 8 Inch Stem Probe

Report No. 112015-5-16 AMENDED

Customer:	VERMONT FORENSIC LABORATORY 103 SOUTH MAIN STREET WATERBURY, VT 05671	Date Received:	18 Nov 2015
Make:	CONTROL CO	Calibration Date:	20 Nov 2015
Model:	14-648-12	Customer Specified Due Date:	30 Nov 2016
Serial #	111814517 With 8 Inch Probe ID # NONE	PO# :	33875
/Range:	-50 TO 150 °C X 0.1 °C	Contact:	Jeff Dukette
Accuracy/Tolerance :	SEE NOTES :	Temperature:	21.6 TO 21.6 °C / RH% 44 TO 44
Item Received :	IN TOLERANCE	Condition Received :	GOOD
Calibration Location:	QCS Temperature Laboratory	Item Returned :	IN TOLERANCE , No Adjustment possible
		Equipment Location :	LAB

NOTES: AMENDED by MEC 25 Nov 2015 to reflect the correct Serial Numbet

CALIBRATED AT CUSTOMERS SPECIFIED POINTS. / CUSTOMERS TOLERANCE +/- 0.3 °C

Nominal	Actual (STD)	Measured (UUT)	Δ (UUT)	Units	Tolerance (\pm)	Uncertainty (\pm)	Pass/Fail
0	-0.003	-0.1	-0.1	°C	0.3	0.10	PASS
50	49.998	49.9	-0.1	°C	0.3	0.10	PASS

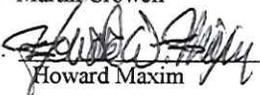
Δ ROUNDED TO THE READABILITY OF UUT.

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Procedure Used: QCS 3015 ORIG (QCSTD (030508-2))

TRACEABLE STANDARDS USED:

ERTCO-EUTECHNICS 4400 S/N: 302639	Cal Due : 10/2016	
ERTCO-EUTECHNICS 4400 SN : 304526	Cal Due : 01/2015	X
HART SCI 1502 S/N 8B552 with PRT 760520	Cal Due : 09/2017	X
FLUKE 1502 S/N: A6C265 With PRT 02620	Cal Due : 07/2017	

Certified by: Martin Crowell Date: 20 Nov 2015

Approved By:  Howard Maxim Title: Metrologist Date: 20 Nov 2015



THAT EQUITY MAY PREVAIL

Certificate Of Calibration

Digital Thermometer with 8 Inch Stem Probe

Report No. 112015-5-16



Calibration Laboratory 2398.01

Customer: VERMONT FORENSIC LABORATORY
103 SOUTH MAIN STREET
WATERBURY, VT 05671

Date Received: 18 Nov 2015
Calibration Date: 20 Nov 2015

Make: CONTROL CO

Customer Specified Due Date: 30 Nov 2016

Model: 14-648-12

PO#: 33875

Serial # * 111814367 With 8 Inch Probe ID # NONE

Contact: Jeff Dukette

/Range: -50 TO 150 °C X 0.1 °C

Temperature: 21.6 TO 21.6 °C / RH% 44 TO 44

Accuracy/Tolerance: SEE NOTES:

Condition Received: GOOD

Item Received: IN TOLERANCE

Item Returned IN TOLERANCE, No Adjustment possible

Calibration Location: QCS Temperature Laboratory

Equipment Location: LAB

NOTES: CALIBRATED AT CUSTOMERS SPECIFIED POINTS. / CUSTOMERS TOLERANCE +/- 0.3 °C

Nominal	Actual (STD)	Measured (UUT)	Δ (UUT)	Units	Tolerance (±)	Uncertainty (±)	Pass/Fail
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Procedure Used: QCS 3015 ORIG (QCSTD 030508-2)

TRACEABLE STANDARDS USED:

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Certified by: Martin Crowell

Date: 20 Nov 2015

Approved By:

Howard Maxim

Title: Metrologist

Date: 20 Nov 2015

* This is the incorrect serial number. The thermometer serial number that was calibrated is 111814517. QC services was contacted and an amended certificate was sent to VFL. ASD 11/24/15