MET/TEMP II Temperature Calibration Software v5.1

MET/TEMP II software enables you to easily automate the calibration of a wide range of temperature sensors

It provides a comprehensive temperature calibration solution for testing batches of sensors, calculating characterization coefficients and printing calibration reports. You can standardize comparison or fixed point calibrations, and use multiple temperature sources or references in a single test.

Version 5.1 updates the popular MET/TEMP II software by offering support for the 6109A and 7109A Portable Calibration Baths, the 1586A Super-DAQ Precision Temperature Scanner, and multiple COM ports without a SmartSwitch.

Key features and benefits

Fully automated, consistent sensor calibration

MET/TEMP II automates batch calibrations of your platinum resistance thermometers (PRTs), thermistor and thermocouple sensors, freeing your time for more important tasks. You can be confident your results are consistent no matter who does the job since MET/TEMP II monitors and controls the calibration process.
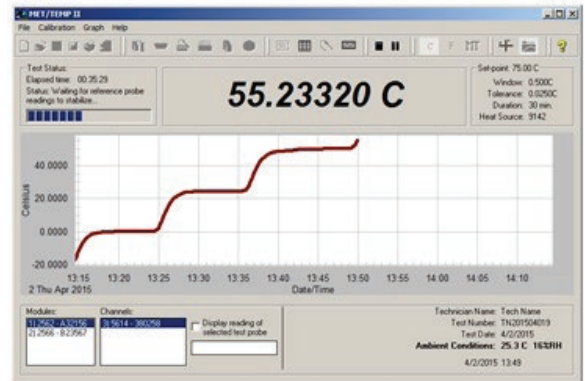

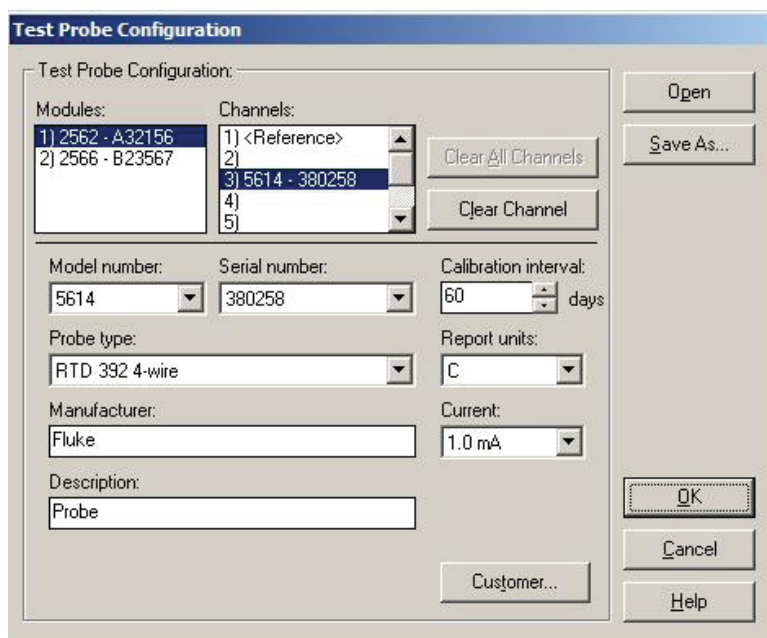Figure 1. Test Display window showing calibration test summary

Figure 2. Test Probe Configuration dialog

Features at a glance

- Fully automated, consistent sensor calibration
- Test a broad workload of temperature sensors
- Multiply your lab productivity
- Proven, trusted calibration software
- Easy to learn and use
- Choice of calibration method (comparison, fixed-point, or mixed)
- Heat source calibrations
- Support for many test equipment configurations
- Automatically log ambient conditions
- Asset management
- Coefficient calculation for many sensor types
- Data quality check
- Interpolation tables
- ANSI/NCSL compliant report of calibration

Test a broad workload of temperature sensors

MET/TEMP II handles a wide range of temperature sensors. It can calibrate thermocouples, RTDs, SPRTs, thermistors, and even liquid-in-glass (LIGs), bi-metallic thermometers, and connected sensors that can't be attached to a readout. Virtually any sensor with a resistance or voltage output can be tested, up to 100 sensors at a time. They don't even have to be the same type. You can select up to 40 temperature points for testing your sensors.

Multiply your lab productivity

Manual temperature sensor calibration is expensive, time consuming, and error prone. It takes roughly four hours to calibrate a sensor at three points, then another hour for paperwork to document the temperature data and to create the certificate. And your results may vary depending on the technician doing the calibration. There's a better way.

With MET/TEMP II software, simply place your test sensors in a heat source, connect them to a temperature readout, enter your setup information, and start the test. Later print out the reports, sign them, and ship the sensors back to your customer. You and your customers will love the fast turnaround. It's your choice. Spend hours handling temperature sensor calibration manually. Or get consistent, repeatable measurements in just minutes with MET/TEMP II.

Proven, trusted calibration software

MET/TEMP II v5.1 is an updated version of trusted, well-known software that easily connects to your Fluke Calibration equipment. Hundreds of customers worldwide use this software in their calibration labs. Version 5 maintains the structure and work flow that users know and like.

Easy to learn and use

The MET/TEMP II user interface guides you through configuring/running a calibration test, calculating sensor coefficients, and preparing a report of calibration. Calibration professionals of all levels will can easily learn and benefit from the time saving features of MET/TEMP II software.

Choice of calibration method (comparison, fixed-point, or mixed)

You may calibrate most secondary standard sensors against a reference sensor or against calibrated heat sources. But do you need a higher level of accuracy than a comparison calibration can give you? MET/TEMP II can calibrate your secondary standard or primary standard sensors using fixed-point cells. If you prefer, MET/TEMP II lets you combine comparison and fixed-point cell measurements during the same calibration. You can also do a triple-point of water measurement before and/or after your comparison points.
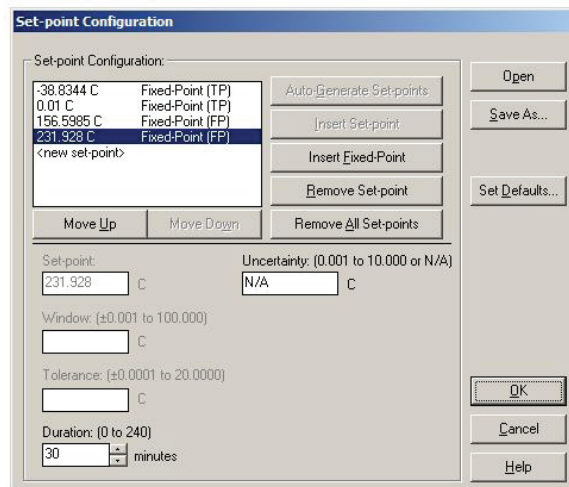

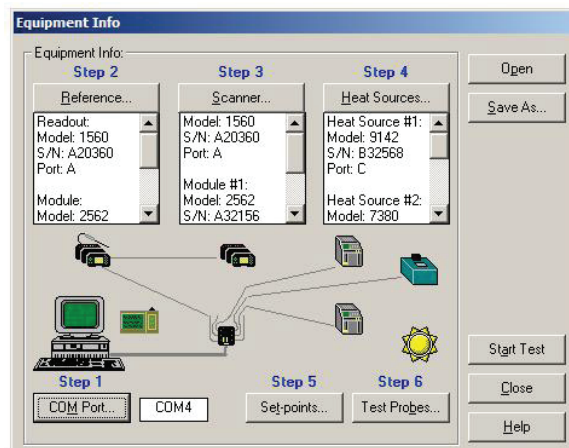**Figure 3.** Configuring set-points for a fixed-point calibration

Figure 4. Equipment Info dialog showing instrument configuration

Heat source calibrations

Would you like to calibrate your heat sources also? MET/TEMP II can perform heat source calibrations for Fluke Calibration dry-wells and Micro-Baths.

Support for many test equipment configurations

Perform calibrations using a variety of digital thermometer readouts, from handhelds to high-precision bench-top models, and an assortment of heat sources including dry-wells, Metrology Wells, Micro-Baths, calibration baths and furnaces.

Automatically log ambient conditions

MET/TEMP II can log ambient temperature and humidity automatically during calibration using the 1620A "DewK" Thermo-Hygrometer.

Asset management

MET/TEMP II maintains all test equipment information and calibration status in a database, as well as unit under test (UUT) sensor information including customer names and address, which are used when printing reports. MET/TEMP II can also interface with the Fluke MET/TRACK® database.

Coefficient calculation for many sensor types

The Coefficients and Tables utility calculates characterization coefficients for PRT, thermistor, and thermocouple probes. The types of coefficients that can be calculated are ITS-90, IPTS-68, Callendar-Van Dusen, and polynomial functions for PRTs; polynomial for thermistors; and coefficients for thermocouple types B, E, J, K, N, R, S, T, and AuPt. Characterization coefficients and test data acquired by MET/TEMP II can be exported to a text file.

Data quality check

Are you concerned about the quality of the data acquired from a questionable sensor? The Coefficients and Tables utility calculates residuals at each set-point to give you an indication of the quality of the data used to characterize the sensor.

Interpolation tables

After you have characterized a sensor, you can generate temperature versus resistance, temperature versus ratio or temperature versus voltage interpolation tables using the calculated characterization coefficients. Interpolation tables can be printed as part of the report of calibration, or exported to a delimited ASCII text file for importing into other analysis software.

ANSI/NCSL compliant report of calibration

MET/TEMP II produces reports of calibration compliant to ANSI/NCSL Z540.3.
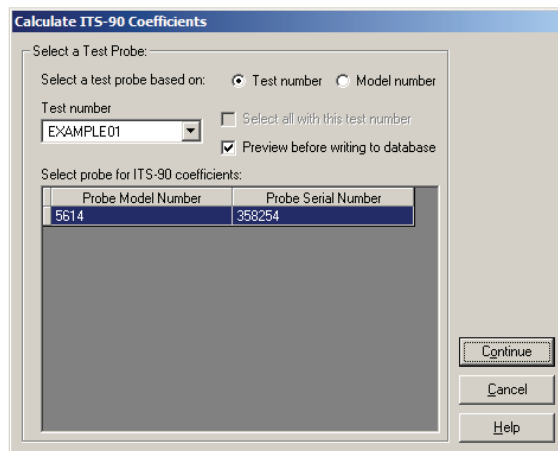

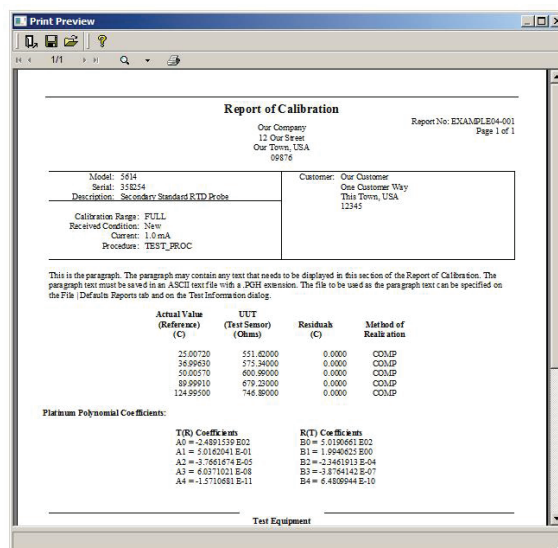**Figure 5.** Calculate ITS-90 Coefficients dialog

Figure 6. Print Preview Window for viewing reports

Fluke Calibration instruments supported

Thermometer readouts

- 1502A/1504 Tweener
- 1523/1524 Reference Thermometers
- 1529 Chub-E4 Readout
- 1560 Black Stack (with optional modules)
- 1594A/1595A Super Thermometer (2590 multiplexer optional)
- 1586A Super-DAQ Precision Temperature Scanner

Temperature sources

- 9142/9143/9144 Field Metrology Wells
- 9190A Ultra-Cool Field Metrology Well
- 9170/9171/9172/9173 Metrology Wells
- 9103/9140 Dry-Well Calibrators
- 9009 Dual-Block Calibrator
- 9011 Dual-Well Calibrator
- 9100S/9102S Handheld Dry-Well
- 9101 Zero-Point Dry-Well
- 6020/6022/6024 Hot Oil Baths
- 6050H Extremely Hot Salt Bath
- 6054/6055/7007 Deep Well Baths
- 6102/7102/7103 Micro-Baths
- 6330/7320/7340/7380 Compact Baths
- 36331/73X1 Deep Well Compact Baths
- 7008/7040/7037/7012/7011 Cold Baths
- 7009/7108/7015 Resistor Baths
- 7080 Really Cold Bath
- 7312 Triple Point of Water Maintenance Bath
- 9150 Thermocouple Calibration Furnace
- 9118A Thermocouple Calibration Furnace
- 590X/591X/592X/594X Fixed Point Cells
- 9132/9133 Infrared Calibrators
- 6109A and 7109A Portable Calibration Baths

Ambient temperature monitor

- 1620A Digital Thermometer-Hygrometer

Note: A number of discontinued Fluke Calibration instruments are also supported by MET/TEMP II. Please contact an authorized Fluke Calibration Service Center if you have a question about equipment supported by MET/TEMP II v5.1.

System requirements

Hardware

- Computer with 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
- VGA monitor or better
- CD-ROM drive for software installation
- Minimum 100 MB disk space for software installation
- USB or RS-232 port

The following equipment is required to use MET/TEMP II:

- USB to RS-232 adapter (included)
- SmartSwitch box (included). Supports both 8-port and 6-port models.
- Multiple physical COM ports and USB to RS-232 adapters can be used in place of the SmartSwitch to support multiple instruments.
- Up to 6 null modem cables to connect test equipment to SmartSwitch ports (not included with software).

Software

- One of the following Microsoft operating system:
  - Windows 7 32-bit or 64-bit
  - Windows 8/8.1 32-bit or 64-bit
  - Windows 10 32-bit or 64-bit
  - Windows 11 32-bit or 64-bit

Demonstration and pricing

Contact your Fluke representative to schedule a demonstration of MET/TEMP II and to request a price quote.

Ordering information

Models	Description
9938-16-V5	MET/TEMP II V5 Software, 115V 60 Hz
9938-25-V5	MET/TEMP II V5 Software, 230V 50 Hz
9938-25-UK-V5	MET/TEMP II V5 Software, 230V 50 Hz (UK)
9938-V5-UPG	MET/TEMP II V5 Software, Upgrade from V4
9938-V5-NS	MET/TEMP II V5 Software, no SmartSwitch

Note: SmartSwitch is not included with the software upgrade. It requires use of an existing SmartSwitch.

Support

Please contact **temperaturesupport@flukecal.com** for MET/TEMP II support. Additional contact information for our technical support team can be found on our website **www.flukecal.com**.

Fluke Calibration. *Precision, performance, confidence.*™

| Electrical | RF | Temperature | Humidity | Pressure | Flow | Software |