MET/TEMP II   Model 9938

- Fully automated calibration of RTDs, TCs, thermistors, and many heat sources
- Calibrates up to 100 sensors at up to 40 points
- Performs coefficient calculations and generates tables and reports
- Includes optional integration with Fluke's MET/TRACK® database

Few things matter in your work more than productivity. And few things can help make you more productive than well-written automation software. We've got the world's best temperature calibration automation software—exactly what you need to be productive. It's Windows® based and it's easy to use.

You may be familiar with the Hart automation software duo Calibrate-*it* and Generate-*it*. Now both come in a single package. We call it MET/TEMP II! Written by the same Hart Scientific temperature experts that brought you the original Calibrate-*it* and Generate-*it* software, this new package interfaces with Fluke's MET/TRACK— the industry standard for asset management.

Calibrating sensors manually is expensive because of labor costs. It takes roughly four hours to calibrate a sensor at three points, then another hour on top of that for paperwork to document the temperature data and to create the certificate. This is

much too time-consuming. Now there's a better way.

With MET/TEMP II software, you simply place your test sensors in a heat source, connect them to a readout, and enter your setup data into your PC. Sometime later, hit your print button, take the reports out of your printer, sign them, and ship the sensors back to your customer. Your customers will love the fast turnaround.

It's your choice. Spend four hours the old way and handle everything manually, or fifteen minutes with our software and have plenty of time to read your e-mail.

This software package tests thermocouples (all types), RTDs, SPRTs, thermistors, and even liquid-in-glass thermometers (LIGs). 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 as few as 1 or as many as 40 temperatures at which to test your sensors. Nobody makes more ultra-stable heat sources and

thermometer readouts for temperature calibration work than Hart Scientific. MET/TEMP II can use virtually every one of them. You don't need to worry about special software drivers for each different piece of equipment. Just plug and play.

Use MET/TEMP II with these instruments:

Thermometer Readouts

- 1590 Super-Thermometer II (2590 Mighty-Mux II optional)
- 1575A Super-Thermometer (2575 Mighty-Mux optional)
- 1560 *Black Stac*k (with any combination of modules)
- 1529 Chub-E4
- 1502, 1504 Tweener Thermometers
- 1521, 1522 Handheld Thermometers
- Fluke Hydra series dataloggers

Heat Sources

- All Hart baths with RS-232
- All Hart dry-blocks with RS-232, including 9112 & 9114 furnaces
- Fluke dry-block models 514, 515, 517, 518
- Any other heat source (temperatures must be set manually)

Did we mention that MET/TEMP II also works with the Fluke Hydra Series II data loggers?

You can even calibrate heat sources such as Hart dry-wells and Micro-Baths with this software.

MET/TEMP II also lets you perform semi-automated fixed-point calibrations. The software allows you to program soak times in the cell before taking readings. You may even mix fixed points with comparison points in the same calibration. Of course, we also include fixed-point information on the new report layout.

If you use the 1560 *Black Stack*, you can simultaneously calibrate up to 64 RTDs, 64 thermistors, 96 thermocouples, or any combination. That's a lot of sensors.

MET/TEMP II allows you to track the serial numbers, model numbers, calibration dates, and recall dates of all test equipment

Software

and sensors under test. Optionally, this data may be synchronized with information in your MET/TRACK database. MET/TEMP II also stores customer names and addresses for printing on reports.

With MET/TEMP II, you make your own choices regarding precision and throughput. When setting up tests, you specify the required stability level at each set-point to ensure that readings are taken only under the conditions you require. You'll get the exact level of precision you want based on the equipment you have and the calibration time you set.

MET/TEMP II will interface with MET/TRACK to record calibration and maintenance history, traceability information, and even the location of your thermometers and heat sources. Use it with MET/TRACK and watch your productivity take a big step up.

Calibration reports are automatically created from your setup data and test results. Each report conforms completely to the requirements of ANSI/NCSL Z540-1. It's fast, it's accurate, and it's complete.

This is true Windows software. It runs on Windows 9x/ME/2000/NT/XP and includes a context-sensitive online help system. Just click the help button (or press F1) from any screen and you'll get the information you need. When you experience the interface of this software, you'll agree nothing could be easier.

The MET/TEMP II Coefficients and Tables application contains utilities for data analysis. It calculates ITS-90 coefficients and residuals for each sensor tested. Tables can be generated with temperature-


MET/TEMP II software can be used with any Hart thermometer readout, and it controls any combination of Hart dry-wells and baths. Choose from more than 9 readouts and 40 heat sources to calibrate up to 100 sensors automatically. Whether you need 1 mK accuracy for advanced metrology work or 1 °C accuracy for industrial sensors, Hart has the equipment to fit your application. It also provides quick and accurate generation of sensor coefficients and tables.

versus-resistance, temperature-versus-ratio, or temperature-versus-EMF data. Each report can be generated in °C, °F, or K and in selectable increments from 0.01 to 100.
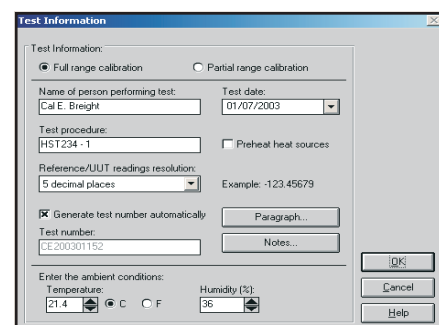
For PRTs, MET/TEMP II calculates coefficients for ITS-90, IPTS-68, Callendar-Van Dusen, and polynomial functions. For thermistors, it calculates coefficients for polynomial functions, includ-
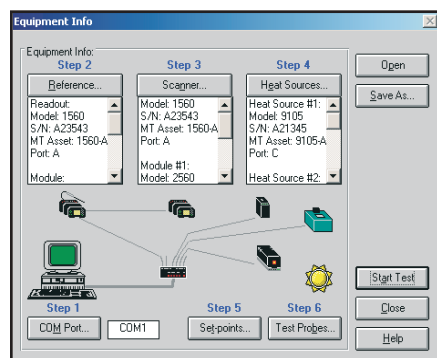
Instrument configuration screen.
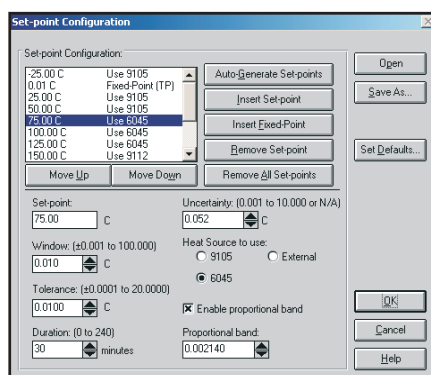
Set-point configuration screen.

Test information screen.

ing Steinhart-Hart. Thermocouple coefficients can be calculated for types B, E, J, K, N, R, S, T, and AuPt. This software even allows you to verify that the appropriate temperatures are used to calculate coefficients.

Need subranges in ITS-90? No problem. Want to print tables for any temperature range and in any incremental amounts? No problem. Need to generate formatted reports that conform to ANSI/NCSL Z540-1? No problem.

Data can also be exported to spreadsheets or other statistical analysis software as comma-delimited or tab-delimited text. MET/TEMP II does all of that and more, but best of all it does it automatically.

There's not much you could ever want to do that this package won't do. This is real calibration software, not merely a data acquisition package with a fancy name!

Other software packages work with one or two instruments; they won't control the wide variety of heat sources our software does. Other software doesn't fully automate the calibration process.

Control dry-wells, baths, readouts, and the entire calibration process. Store data on test equipment and on sensors under test. There's absolutely nothing even close to this software on the market.

When you've got more work to do than you can do in a 12-hour day, and you still need some time to visit accounting to straighten out a few things, MET/TEMP II will take care of business for you. Go home. Spend some time with your kids. Play a game of golf. It's your choice how you spend your time! Download a demo from our Web site today.

Ordering Information

9938   MET/TEMP II Software
(package includes CD-ROM, RS-232 multiplexer box, adapter, and PC cable)

LIC-9938   MET/TRACK License

Report of Calibration

Temp Tech Co.
105 Celcius Drive
Out Town, USA
34567-8998

Report No: CE200206126-002
Page 1 of 1

Model: 5614	Customer: Our Customer
Serial: 365232	One Customer Way
Description: Probe, Secondary Standard	Technology Drive
	Any Town, USA 23456
Calibration Range: Full	
Received Condition: New	
Current: 1.0 mA	
Procedure: HST000 - 0	

The above referenced instrument was calibrated by direct measurement of generated temperatures using the reference standards listed in the "Test Equipment" table at the bottom of this report. The internal calibration coefficients and the data abtained are shown on page 2. A Test Uncertainty Ratio (TUR) of at least 4:1 was maintained unless otherwise indicated. This calibration is traceable to NIST or natural physical constants and is in compliance with ANSI/NCSL Z540-1 and MIL-STD 45662A.

Nominal (Set-point) (C)	Actual Value (Reference) (C)	UUT (Test Sensor) (Ohms)	Measurement Uncertainty (C)	Method of Realization
-25.00	-24.9697	89.2564	0.050	COMP
0.01	0.0100	100.0235	0.010	TP
25.00	25.0155	110.2354	0.050	COMP
50.00	49.9895	123.5642	0.050	COMP
75.00	75.0045	132.2514	0.050	COMP
100.00	99.9692	138.2563	0.050	COMP
125.00	124.9835	145.0251	0.050	COMP

Test Equipment

Manufacturer	Model	Description	Serial Number	Recall Date
Hart Scientific, Inc.	1529	"Chub-E4" Thermometer 2-RTD/2-TC	A23564	6/30/2002
Hart Scientific, Inc.	5614	Secondary Reference Temperature Std., 1/4" x 12"	360984	1/17/2003
Hart Scientific, Inc.	5901	TPW	123456	2/1/2003
Hart Scientific, Inc.	9105	Drywell, Low-Temperature	A23765	NCR

Notes: This test was performed in accordance with the test procedure indicated above.

Calibration Date:	6/3/2002	Technician:	
Recall Date:	6/3/2003		Cal E. Breight
Temperature:	21 C		
Humidity:	25%	Approved By:	
Customer Order:	54543-544S		

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MET/TEMP II software creates test reports that fully comply with ANSI/NCSL Z540-1 requirements. Among the features included in each report are report numbers, pagination, test procedure numbers, test data, stated uncertainties, and test results shown as tolerances. Two locations are also available on the report for special notes.

Get the latest product information at
www.hartscientific.com

Kelvin ✓
Kevin ✗

Read about our calibration training courses on page 153.

Cal Power

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