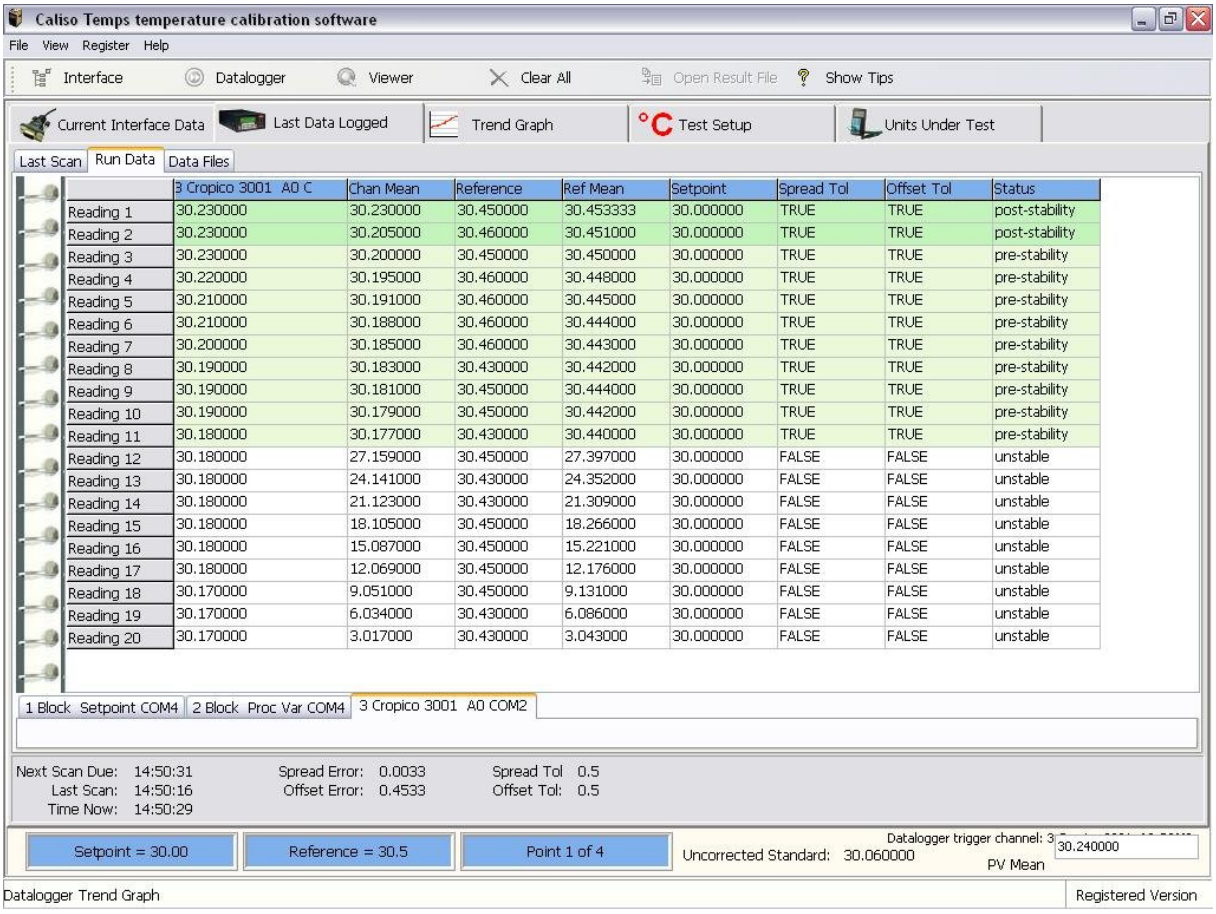
Caltech

Humpage Technology Ltd
46 Rockspray Grove
Walnut Tree
Milton Keynes MK7 7EA
United Kingdom
tel: +44 (0) 1908 875472
Web: www.humpagotec.com

Caliso Temps - Temperature Calibration for the 21st Century

Several years in the making, Caliso Temps is simply the best temperature calibration software there is.

We've worked alongside manufacturers of some of the world's finest temperature calibration equipment to bring you software that's truly unique. Now, whatever equipment you use, or are about to purchase, the chances are that it will work with Caliso Temps. Before purchasing any temperature calibration instrument, make sure that it will work with Caliso Temps. Please let us know if you require any additions to the devices supported, we're always happy to do our best. We have just released drivers for Fluke 9190, 9118A, 1586A.



	3 Cropico 3001 A0 C	Chan Mean	Reference	Ref Mean	Setpoint	Spread Tol	Offset Tol	Status
Reading 1	30.230000	30.230000	30.450000	30.453333	30.000000	TRUE	TRUE	post-stability
Reading 2	30.230000	30.205000	30.460000	30.451000	30.000000	TRUE	TRUE	post-stability
Reading 3	30.230000	30.200000	30.450000	30.450000	30.000000	TRUE	TRUE	pre-stability
Reading 4	30.220000	30.195000	30.460000	30.448000	30.000000	TRUE	TRUE	pre-stability
Reading 5	30.210000	30.191000	30.460000	30.445000	30.000000	TRUE	TRUE	pre-stability
Reading 6	30.210000	30.188000	30.460000	30.444000	30.000000	TRUE	TRUE	pre-stability
Reading 7	30.200000	30.185000	30.460000	30.443000	30.000000	TRUE	TRUE	pre-stability
Reading 8	30.190000	30.183000	30.430000	30.442000	30.000000	TRUE	TRUE	pre-stability
Reading 9	30.190000	30.181000	30.450000	30.444000	30.000000	TRUE	TRUE	pre-stability
Reading 10	30.190000	30.179000	30.450000	30.442000	30.000000	TRUE	TRUE	pre-stability
Reading 11	30.180000	30.177000	30.430000	30.440000	30.000000	TRUE	TRUE	pre-stability
Reading 12	30.180000	27.159000	30.450000	27.397000	30.000000	FALSE	FALSE	unstable
Reading 13	30.180000	24.141000	30.430000	24.352000	30.000000	FALSE	FALSE	unstable
Reading 14	30.180000	21.123000	30.430000	21.309000	30.000000	FALSE	FALSE	unstable
Reading 15	30.180000	18.105000	30.450000	18.266000	30.000000	FALSE	FALSE	unstable
Reading 16	30.180000	15.087000	30.450000	15.221000	30.000000	FALSE	FALSE	unstable
Reading 17	30.180000	12.069000	30.450000	12.176000	30.000000	FALSE	FALSE	unstable
Reading 18	30.170000	9.051000	30.450000	9.131000	30.000000	FALSE	FALSE	unstable
Reading 19	30.170000	6.034000	30.430000	6.086000	30.000000	FALSE	FALSE	unstable
Reading 20	30.170000	3.017000	30.430000	3.043000	30.000000	FALSE	FALSE	unstable

Caliso Temps, together with suitable instruments, provides exceptional power and simplicity when it comes to automated temperature calibration.

Nowadays, most manufacturers will supply you with some sort of software that will allow you to connect their instruments to your computer. Some work OK, others unfortunately can only be described as terrible.

Furthermore, they will only work with one manufacturer's instruments, which means 2 things:

- You will need to learn how to use several different programs
- Unless you restrict yourself to one manufacturer, you will be unable to integrate ALL of your instruments into an automated system

With Caliso Temps working for you, all of that becomes a thing of the past.

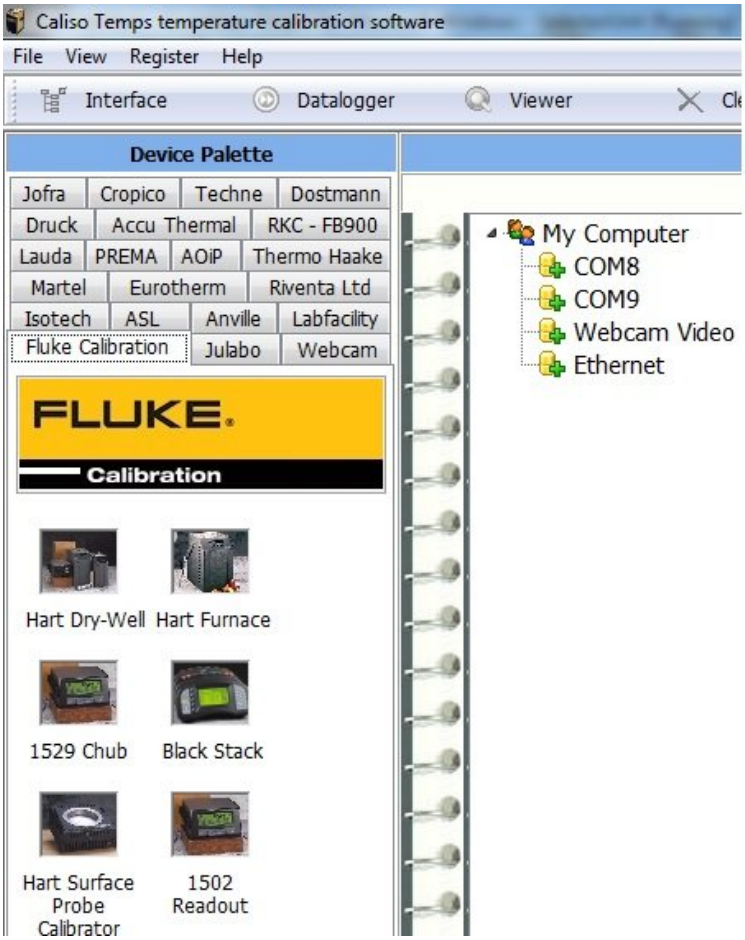
Caliso Temps is made up of 2 separate programs:

- **Laboratory Interface** where you connect your instruments and carry-out your calibration tests
- **Builder** where you analyse your data, perform calculations, and also design and make calibration certificates

Have a look at the images below and see for yourself just how good Caliso Temps really is.

1. The Interface

   The left-hand panel of the Interface window is the Device Palette that, as you can see, has a number of tabs across the top. Each tab has the name of a temperature calibration equipment manufacturer such as Isotech, ASL, HART Scientific, LabFacility, etc. By clicking on each tab you will see a series of icons which represent the specific instruments supported for each manufacturer.



The large central panel of the interface is the Connected Devices list. There you will see listed under "My Computer" all the COM ports and web-cams available for connection.

To connect an instrument to a serial port simply select the manufacturer’s tab on the Device Palette and drag and drop the icon of the required instrument on to the serial port on the Connected Devices panel. Click the Start button - and that's it, you are now connected. You can have as many instruments as you

have serial ports - all running together.

2. Web-cam support

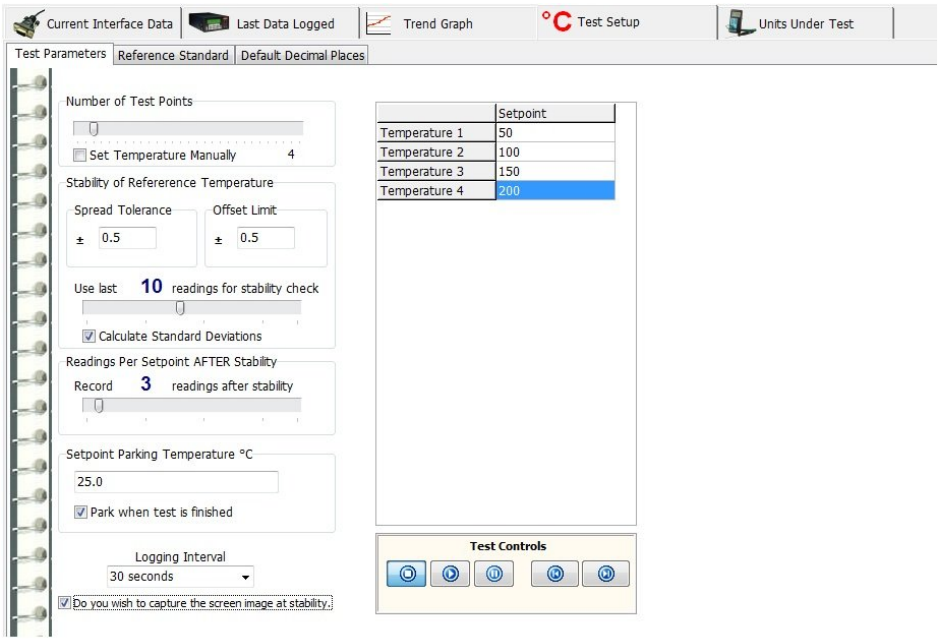
   Not every piece of temperature equipment is capable of communicating directly with your computer, these will include: · Simple digital temperature indicators. Mercury (or liquid) in glass thermometers · Paper chart recorders Nevertheless, you may still need to calibrate such devices. The Caliso Temps Laboratory Interface allows you to do this using standard, low cost digital cameras (web-cams). It does this by taking a still-image picture of whatever the camera is pointing at when the stability criteria for each set-point are met.

At the end of the test you will have a series of "JPG" images that capture the image of the instrument for each set-point. The temperatures may then be read from these images. In the top left-hand corner of each image you will see a red box that contains the date and time at which the image was captured together with the reference value at stability.

3. Test Setup

Configuring your calibration test is very simple. You just need to set a few parameters including:

- Number of test points
- The stability criteria for the reference temperature data
- The set-point values
- Logging Interval
- Bath, or block, parking temperature

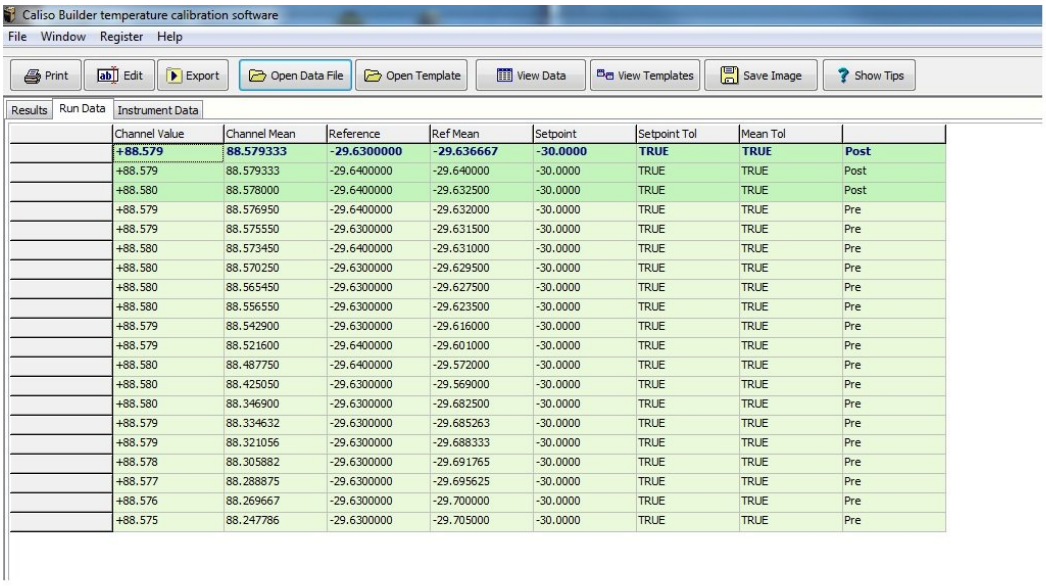


The final step is to specify the location for your run data files. Start the test and you're away.

That’s it, you need do no more! The software will now do the rest of the work for you, setting the block to the correct temperatures and recording data values for you. You could sit and watch, and that's what you'll probably do for a while. Then you'll realise that you could be doing something much more useful instead.

3. Run Data

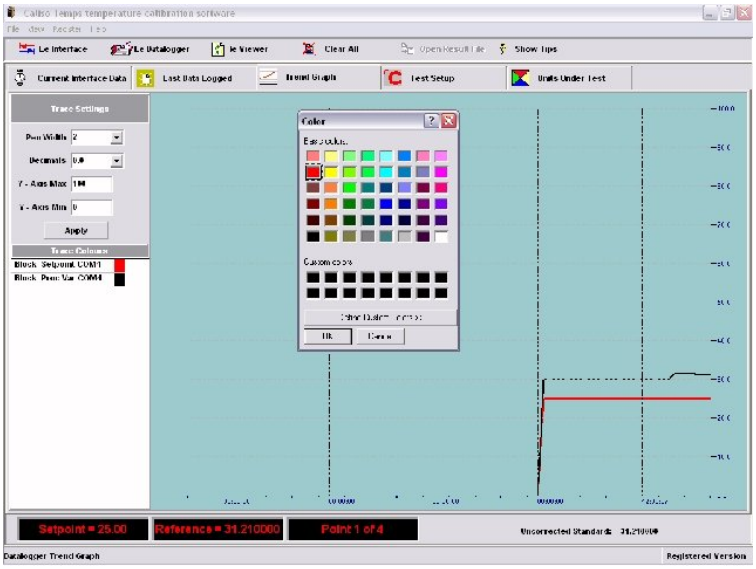
   Run data is grouped according to the set-points used in the tests. You will see a spreadsheet-like grid containing data from individual set-points of your test run. Along the bottom you will see a row of tabs indicating the temperature of each individual set-point. Click these to show the data for each of the set-points.



	Channel Value	Channel Mean	Reference	Ref Mean	Setpoint	Setpoint Tol	Mean Tol	
	+88.579	**88.579333**	**-29.6300000**	**-29.636667**	**-30.0000**	**TRUE**	**TRUE**	**Post**
	+88.579	88.579333	-29.6400000	-29.640000	-30.0000	TRUE	TRUE	Post
	+88.580	88.578000	-29.6400000	-29.632500	-30.0000	TRUE	TRUE	Post
	+88.579	88.576950	-29.6400000	-29.632000	-30.0000	TRUE	TRUE	Pre
	+88.579	88.575550	-29.6300000	-29.631500	-30.0000	TRUE	TRUE	Pre
	+88.580	88.573450	-29.6400000	-29.631000	-30.0000	TRUE	TRUE	Pre
	+88.580	88.570250	-29.6300000	-29.629500	-30.0000	TRUE	TRUE	Pre
	+88.580	88.565450	-29.6300000	-29.627500	-30.0000	TRUE	TRUE	Pre
	+88.580	88.556550	-29.6300000	-29.623500	-30.0000	TRUE	TRUE	Pre
	+88.579	88.542900	-29.6300000	-29.616000	-30.0000	TRUE	TRUE	Pre
	+88.579	88.521600	-29.6400000	-29.601000	-30.0000	TRUE	TRUE	Pre
	+88.580	88.487750	-29.6400000	-29.572000	-30.0000	TRUE	TRUE	Pre
	+88.580	88.425050	-29.6300000	-29.569000	-30.0000	TRUE	TRUE	Pre
	+88.580	88.346900	-29.6300000	-29.682500	-30.0000	TRUE	TRUE	Pre
	+88.579	88.334632	-29.6300000	-29.685263	-30.0000	TRUE	TRUE	Pre
	+88.579	88.321056	-29.6300000	-29.688333	-30.0000	TRUE	TRUE	Pre
	+88.578	88.305882	-29.6300000	-29.691765	-30.0000	TRUE	TRUE	Pre
	+88.577	88.288875	-29.6300000	-29.695625	-30.0000	TRUE	TRUE	Pre
	+88.576	88.269667	-29.6300000	-29.700000	-30.0000	TRUE	TRUE	Pre
	+88.575	88.247786	-29.6300000	-29.705000	-30.0000	TRUE	TRUE	Pre

Caliso Temps Laboratory Interface produces two types of data file. The first is a text file, which contains in tab delimited format all of the logged data from the start to the finish of the test. It therefore contains a complete record of the calibration test regardless of any stability criteria that may apply. The file may be exported directly to a word processor or a spreadsheet (such as MS Excel).
The second type of file is a CDT (Caliso Temperature Data) file and this is used in Builder to perform calculations of calibration co-efficient and to generate calibration certificates.

5 Trend Graphs

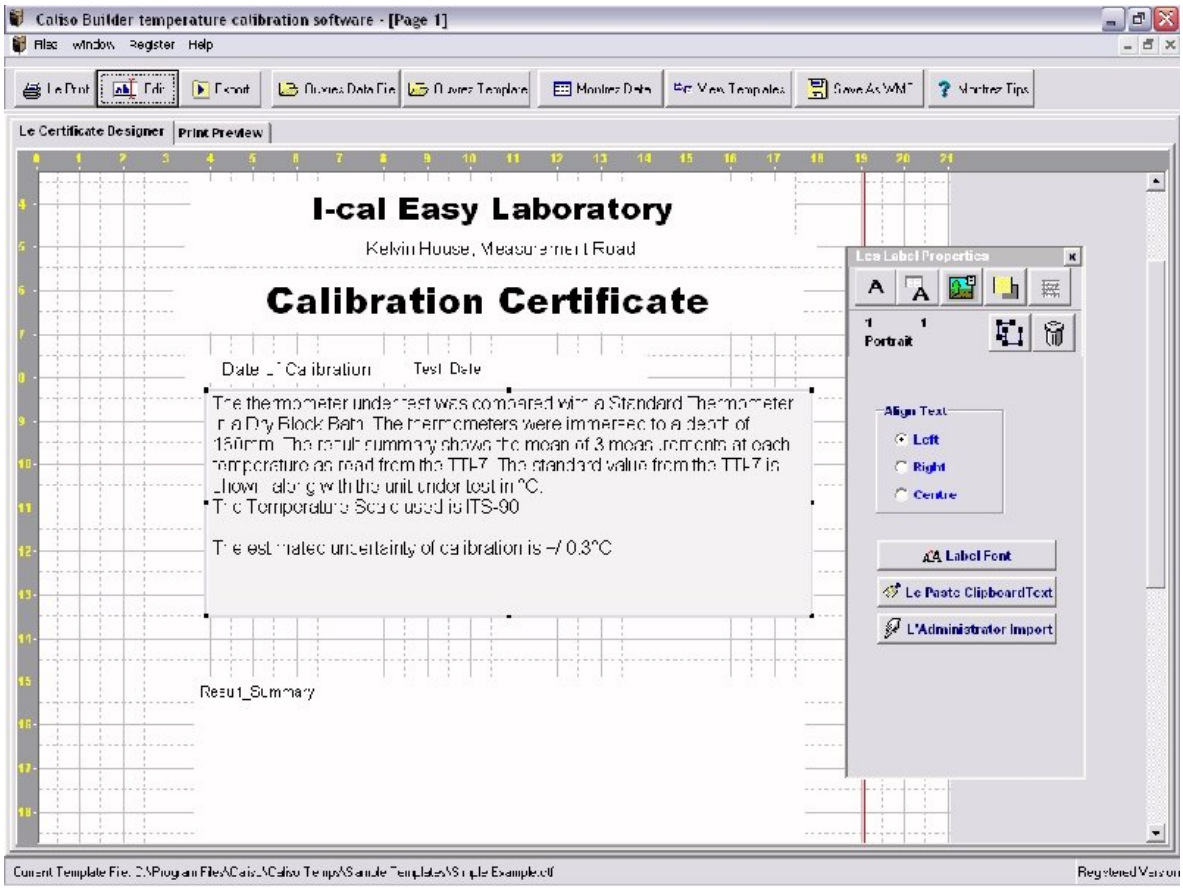


The trend-graph facility enables you to:

- Select a separate line colour for each channel
- Scale the Y-axis
- Select the number of decimal places displayed

6. Creating Calibration Certificates

Whilst some sample templates are included we feel sure that you will enjoy making calibration certificates using I-Cal-Easy Builder. All the tools needed to produce great looking certificates quickly and easily are here. Your certificate templates can contain several pages – you could, for example, have some pages in portrait and others in landscape, incorporate logos, text and, of course, calibration data.

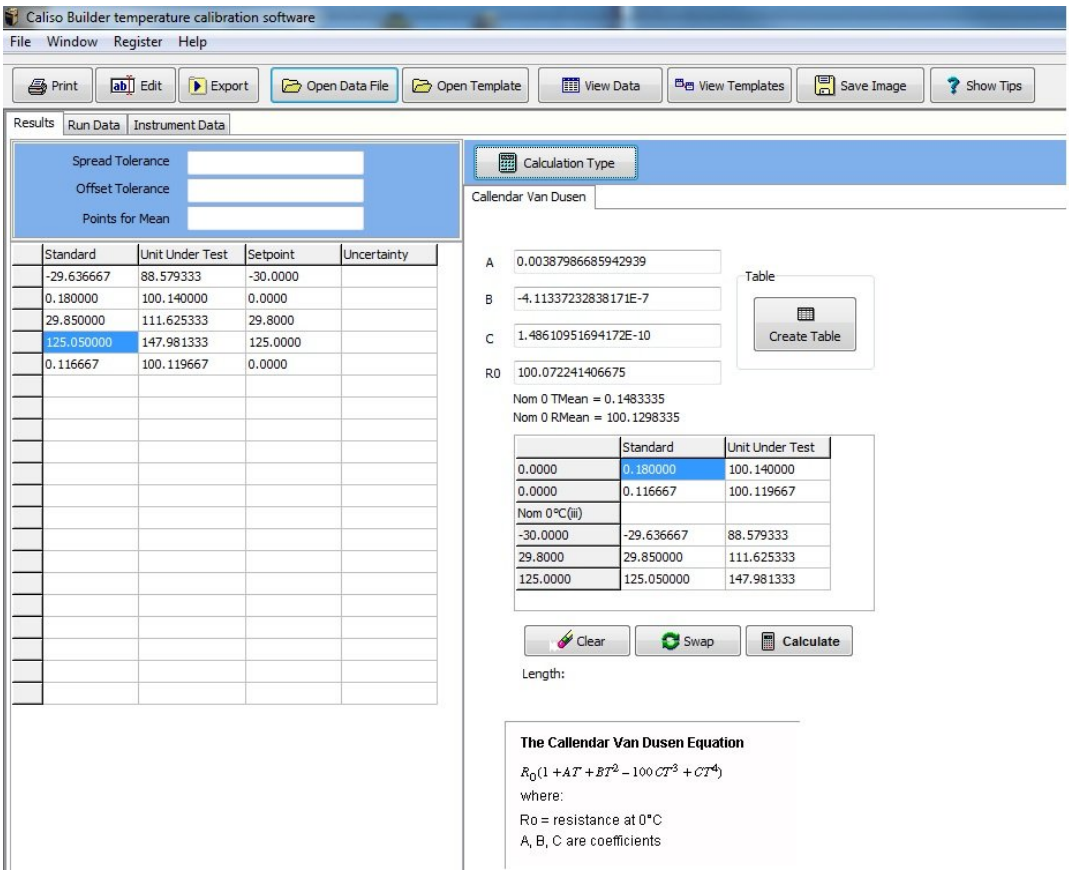


7. Data Analysis

The Builder's Data Viewer enables you to turn raw calibration data into calibration information of the following types:

- Callender Van Dusen coefficients
- ITS-90 coefficients
- Thermocouple correction coefficients
- Polynomial regression coefficients

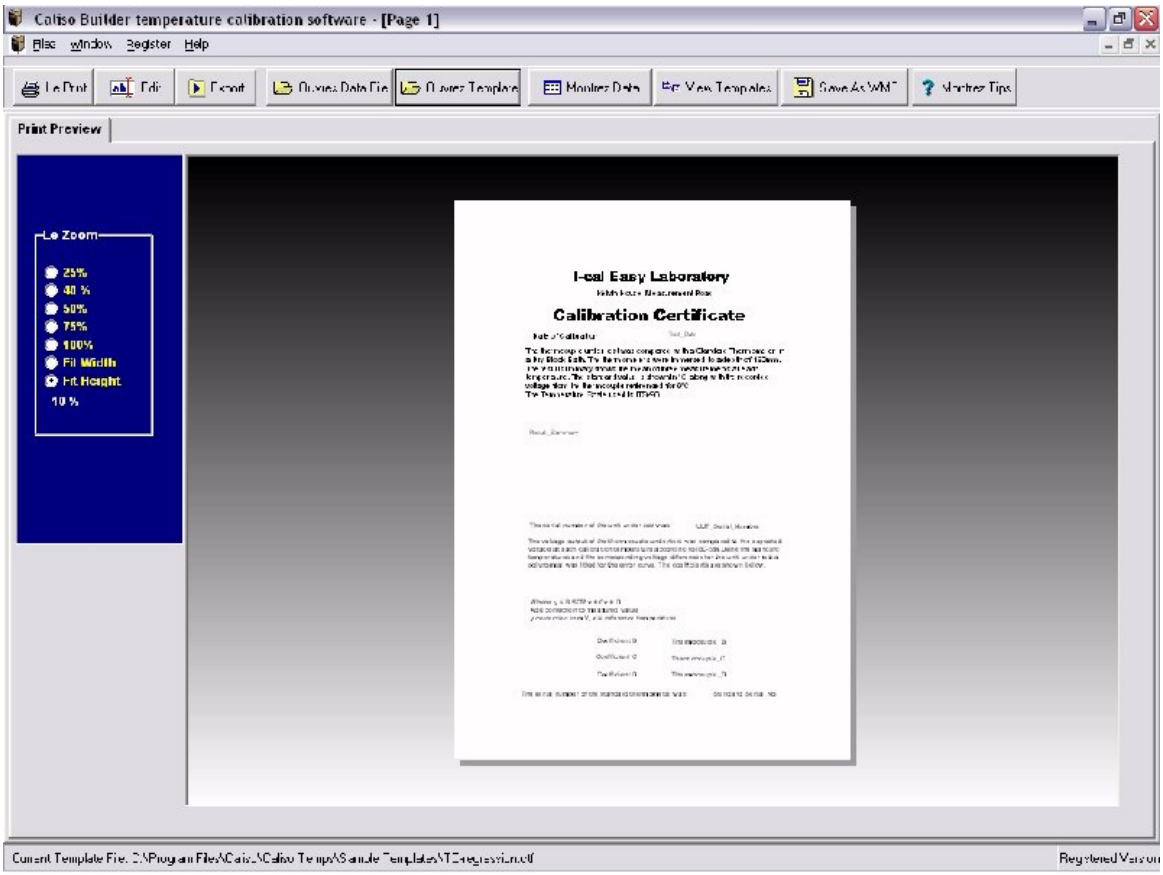
Calculated results are then saved in the Caliso Temperature Data file to provide a complete record of each device's calibration.



7. Calibration Certificate - Job done!

Congratulations!

You are now about the take the final, and in some ways, simplest step. You have used Caliso Temps Laboratory Interface to set-up an automated temperature calibration, and saved the data in CTD format. You then used Caliso Temps Builder to design a certificate template that exactly matches your requirements, with Data Containers, text and graphics. All that remains to do now is to use all of this to make calibration certificates.


Calso Builder temperature calibration software - [Page 1]
Files Window Register Help
Le Print
Edit
Export
Queues Data File
Queues Template
Monitor Data
View Templates
Save As WMF
Monitor Tips
Print Preview
Le Zoom
25%
40 %
50%
75%
100%
Fit Width
Fit Height
10 %
I-cal Easy Laboratory
Calibration Certificate
Current Template File: C:\Program Files\Calso\Calso Temps\Sample Templates\TExpression.clf
Registered Version