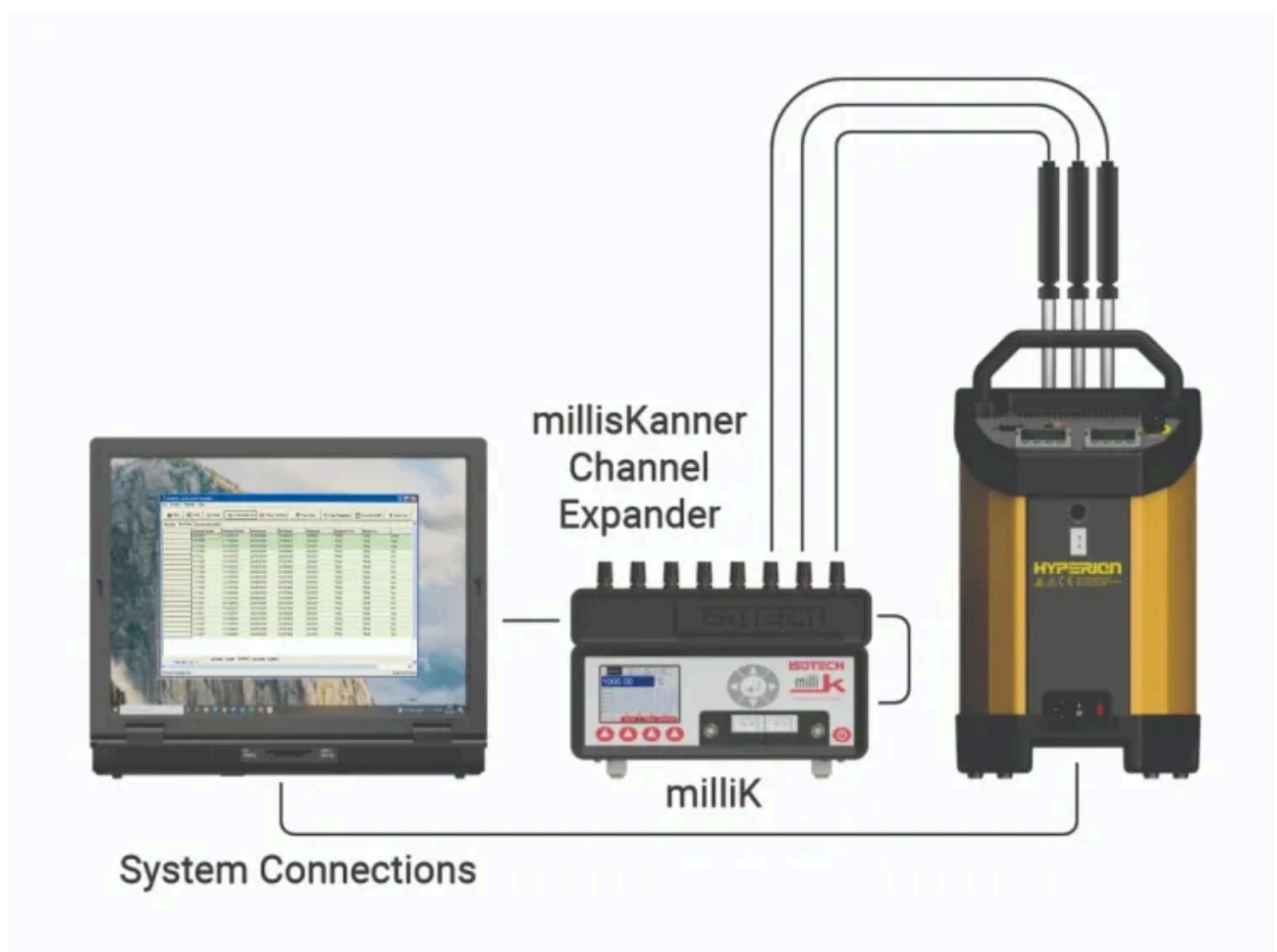


## DOCUMENT

# I-Cal-EASY

Isotech

Distributed by AKRIBIS



# Using Isotech milliK and I-Cal Easy

- Part Two
- Results and Certificates
- Start the Certificate Builder



# Certificate Builder

[illegible]

# Press START – Open Data File and Select CHAN 3

- The results are stored on for each channel
- We open 4-Nov-mK-3-3milliK CHAN 3
  - (Channel 3 of the milliK – Current Input)

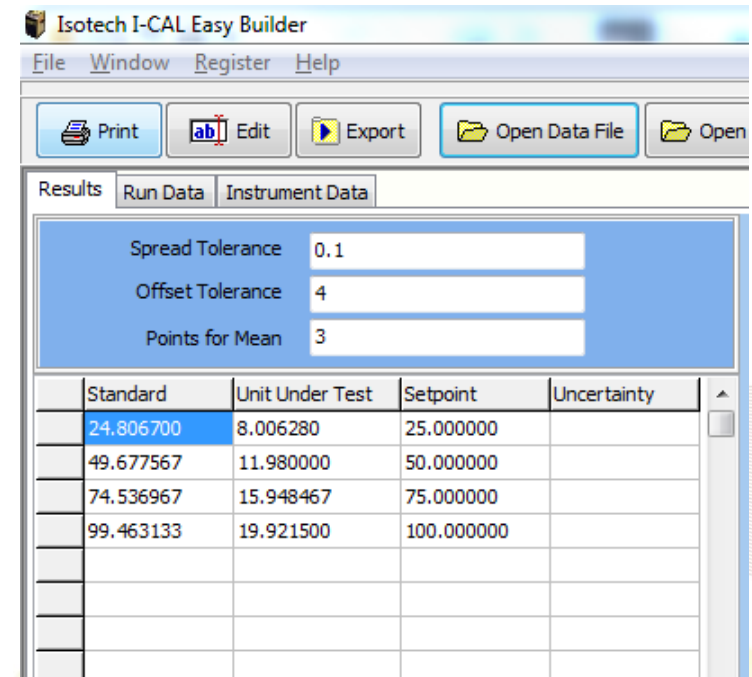
|                                                                                                                     |                  |                        |       |
|---------------------------------------------------------------------------------------------------------------------|------------------|------------------------|-------|
|  HelpHTML                          | 02/06/2015 09:10 | File folder            |       |
|  PDFHandbooks                      | 02/06/2015 09:10 | File folder            |       |
|  Sample Run Data                   | 02/06/2015 09:10 | File folder            |       |
|  Sample Templates                  | 02/06/2015 09:10 | File folder            |       |
|  4-Nov-mK-1-1milliK CHAN 1 COM1-  | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |
|  4-Nov-mK-2-2milliK CHAN 2 COM1- | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |
|  4-Nov-mK-3-3milliK CHAN 3 COM1- | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |
|  4-Nov-mK-4-4 ABlock Setpoint-   | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |
|  4-Nov-mK-5-5 ABlock Proc Var-   | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |
|  4-Nov-mK-6-6 ABlock Chan 1-     | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |
|  4-Nov-mK-7-7 ABlock Chan 2-     | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |
|  4-Nov-mK-8-8 ABlock Chan 3-     | 04/11/2015 14:33 | I-Cal Easy Result F... | 40 KB |

# Opening Channel 3

[illegible]

# Results Summary

- Here we see the standard value (milliK Channel 1) and the Unit Under Test (The transmitter on Channel 3)
- We also see the set point, the tolerances and number of points for the mean



The screenshot shows the 'Isotech I-CAL Easy Builder' software window. It has a menu bar (File, Window, Register, Help) and a toolbar with buttons for Print, Edit, Export, Open Data File, and Open. Below the toolbar, there are tabs for 'Results', 'Run Data', and 'Instrument Data'. The 'Results' tab is active, displaying a form with three input fields: 'Spread Tolerance' (0.1), 'Offset Tolerance' (4), and 'Points for Mean' (3). Below the form is a table with four columns: 'Standard', 'Unit Under Test', 'Setpoint', and 'Uncertainty'. The table contains four rows of data.

| Standard  | Unit Under Test | Setpoint   | Uncertainty |
|-----------|-----------------|------------|-------------|
| 24.806700 | 8.006280        | 25.000000  |             |
| 49.677567 | 11.980000       | 50.000000  |             |
| 74.536967 | 15.948467       | 75.000000  |             |
| 99.463133 | 19.921500       | 100.000000 |             |

# Reviewing the Test

- “Run Data” lets us review all the measurements – pre stability and the post stability – at all temperatures

[illegible]

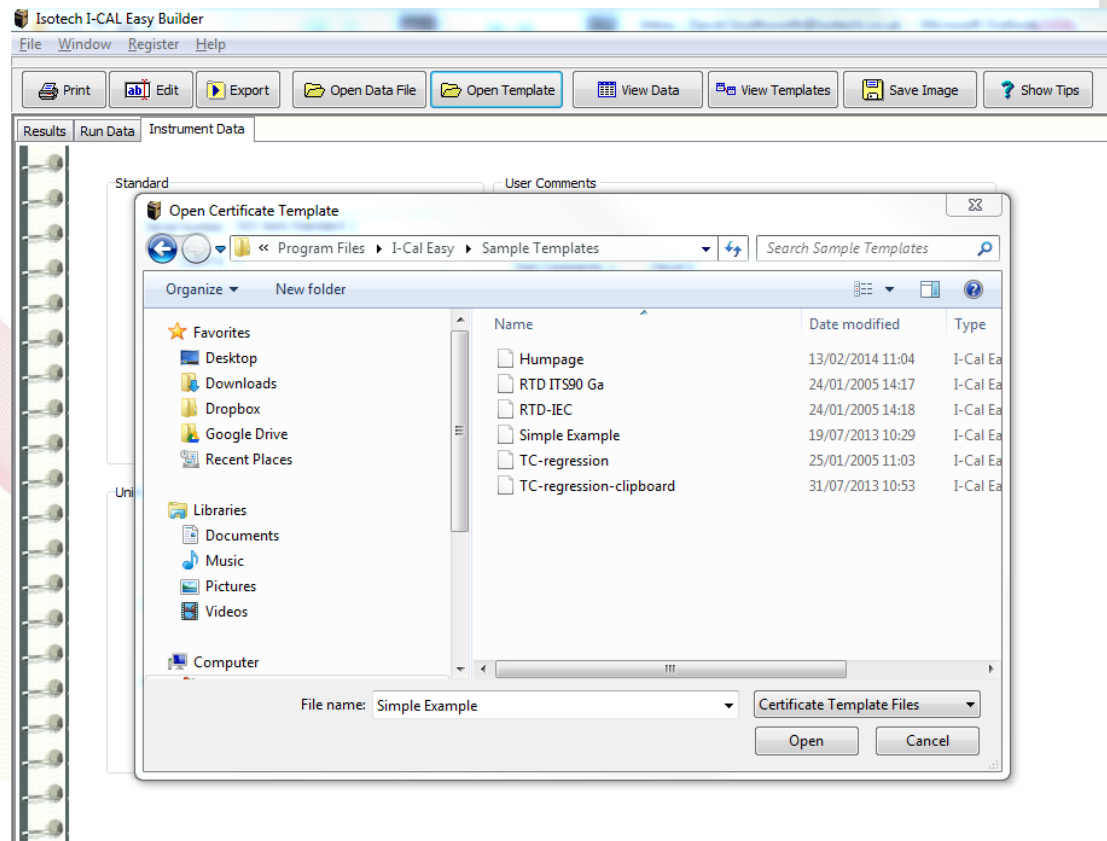
# Reviewing the Test

- Instrument Data has further information – we can select any of it to appear on the certificate

| Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Run Data | Instrument Data |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|
| <div> <div> <p>Standard</p> <p>Serial Number <input type="text" value="ISO Semi Standard 1"/></p> <p>Coeff A <input type="text" value="0"/></p> <p>Coeff B <input type="text" value="0"/></p> <p>Coeff C <input type="text" value="1"/></p> <p>Coeff D <input type="text" value="0"/></p> <p>ITS-90 WAI <input type="text" value="0"/></p> <p>ITS-90 Wtp <input type="text" value="0"/></p> </div> <div> <p>User Comments</p> <p>Test Comments 1: <input type="text" value="David S"/></p> <p>Test Comments 2: <input type="text" value="Using Procedure CAL 1"/></p> <p>Test Comments 3: <input type="text"/></p> <p>Test Comments 4: <input type="text"/></p> <p>Test Comments 5: <input type="text"/></p> <p>Test Comments 6: <input type="text"/></p> </div> </div> |          |                 |
| <div> <div> <p>Unit Under Test</p> <p>Type <input type="text" value=""/></p> <p>Serial Number <input type="text" value="Test Transmitter - xx"/></p> <p>Channel Name <input type="text" value="3milliK CHAN 3 COM1"/></p> <p>Model <input type="text"/></p> <p>Job Reference <input type="text" value="EG XYZ"/></p> <p>Comment <input type="text" value="4 - 20mA CurrentTransmitter / RTD"/></p> </div> <div> <p>Test</p> <p>Test Date <input type="text" value="11/4/2015"/></p> <p>Test Time <input type="text" value="12:35:20"/></p> <p>Test Memo <input type="text" value="Simple Demonstration with a milliK - Reference RTD n Cahnnel 1, Type N TC Channel 2 and 4-20mA on Cahnnel 3"/></p> </div> </div>                                                      |          |                 |

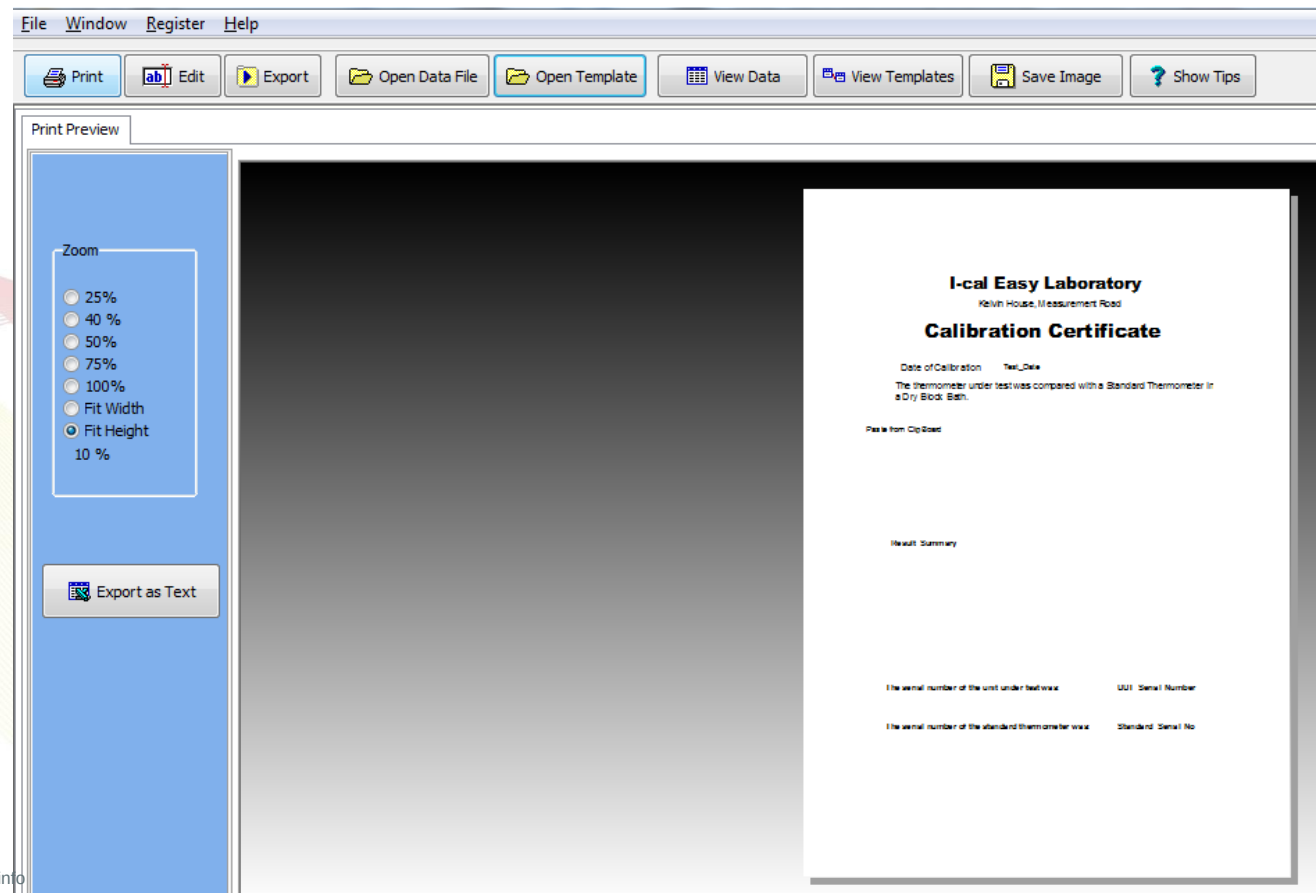
# Printing a Certificate

- Press Open Template
- Here "Simple Example"



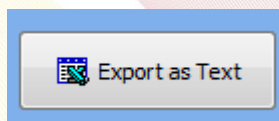
# Printing a Certificate

- Press Export to move the data to the template



# Printing a Certificate

- The template can be edited to meet individual requirements - and any of the data entered can be added - along with static test and logos
- You can export data from the certificate to Excel use this button



**I-cal Easy Laboratory**  
Kelvin House, Measurement Road

**Calibration Certificate**

Date of Calibration: 11/4/2015  
The thermometer under test was compared with a Standard Thermometer in a Dry Block Bath.

| Standard   | Unit Under Test | Setpoint   |
|------------|-----------------|------------|
| 24.50 6100 | 8.006280        | 25.000000  |
| 4.501 7501 | 11.980000       | 50.000000  |
| 74.53 6501 | 15.945467       | 75.000000  |
| 99.48 3133 | 19.921900       | 100.000000 |

The serial number of the unit under test was: Test Transducer - xx

The serial number of the standard thermometer was: ISO Semi Standard 1

# Other Sensor Types

- Here is the Type N Thermocouple on Channel 2

[illegible]

# Other Sensor Types

- I-Cal Easy can produce tables for SPRTs, PRTs and Thermocouples – it can also calculate coefficients for IEC 60751, ITS-90 and thermocouple correction curves

Calculation Type

Calendar Van Dusen

A

B

C

R0

Nom 0 TMean =

Nom 0 RMean =

Table

Create Table

|               | Standard | Unit Under Test |
|---------------|----------|-----------------|
| Nom 0°C (i)   |          |                 |
| Nom 0°C (ii)  |          |                 |
| Nom 0°C (iii) |          |                 |
| Minus Value   |          |                 |
| Plus (i)      |          |                 |
| Plus (ii)     |          |                 |

Clear

Swap

Calculate

Length:

The Callendar Van Dusen Equation

$$R_0(1 + AT + BT^2 - 100CT^3 + CT^4)$$

where: