

Introduction to DigiGage screens

From

Albion Devices, Inc.
www.AlbionDevices.com

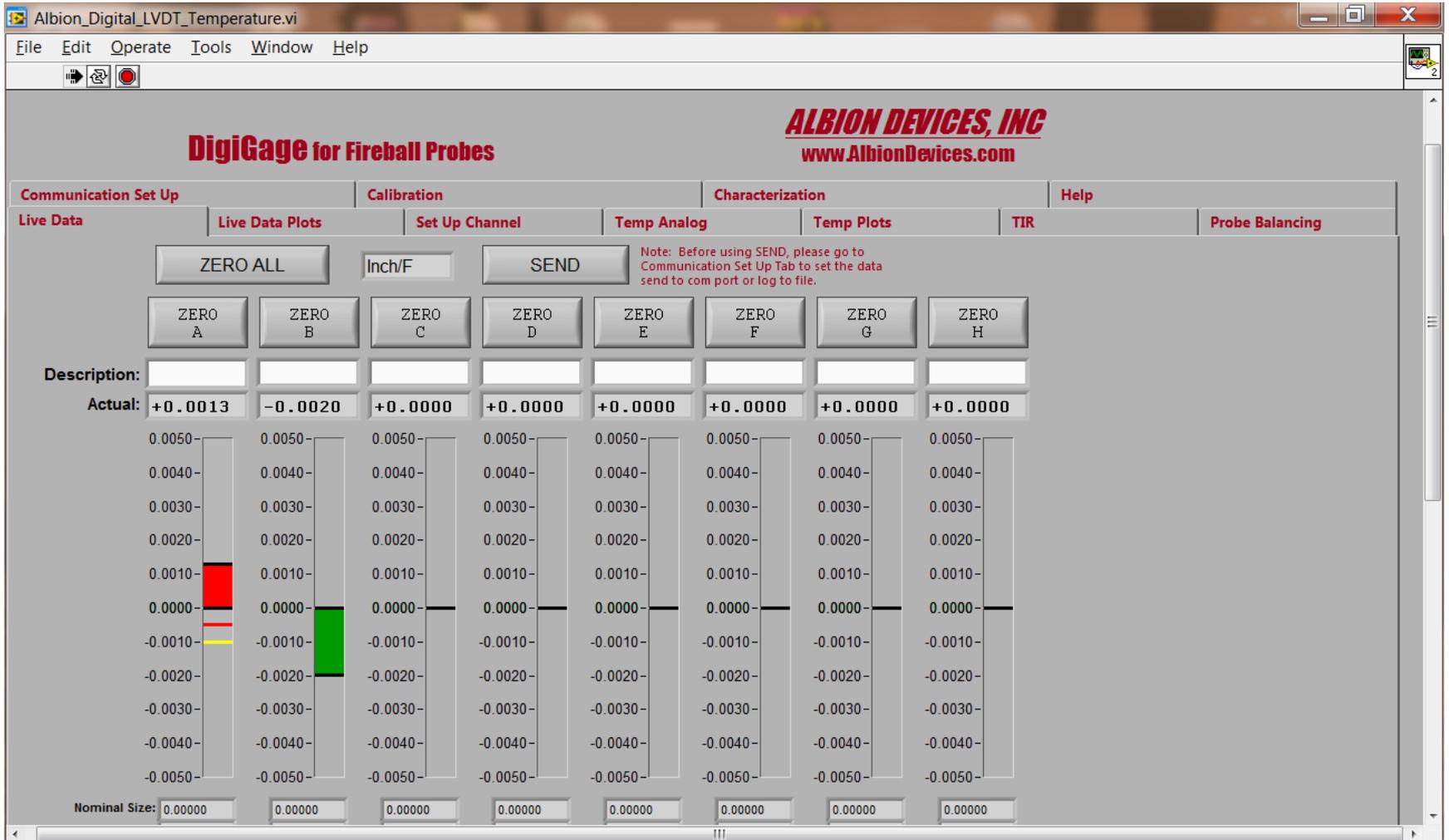
Purpose

The following screens are intended to provide an overview of the layout and scope of DigiGage software from Albion Devices, Inc.

DigiGage has multiple uses: Simple gaging software, temperature monitoring software or temperature compensated gaging software.

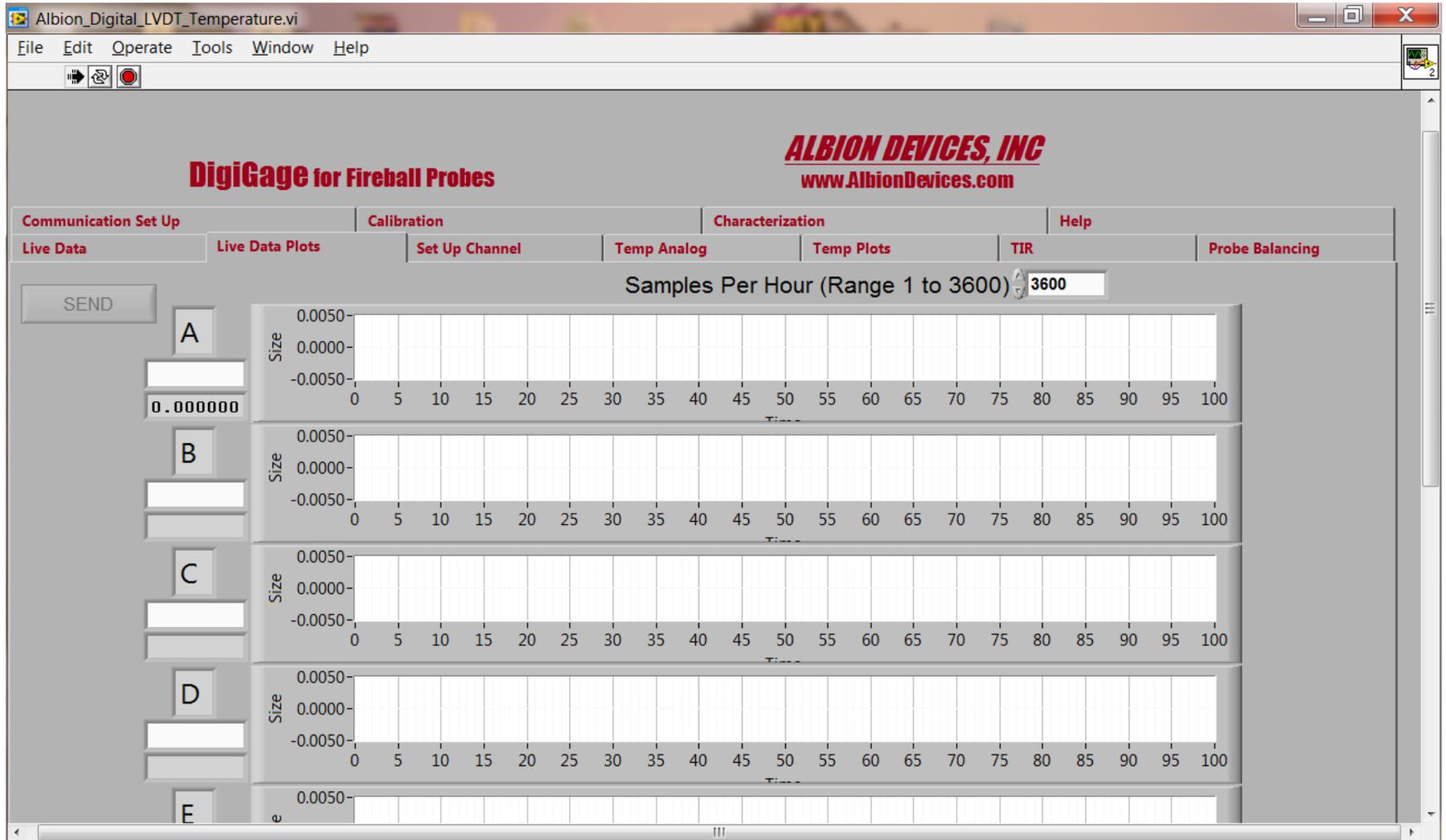
Live Data Screen

Used primarily when gage is running. Displays size measurements.



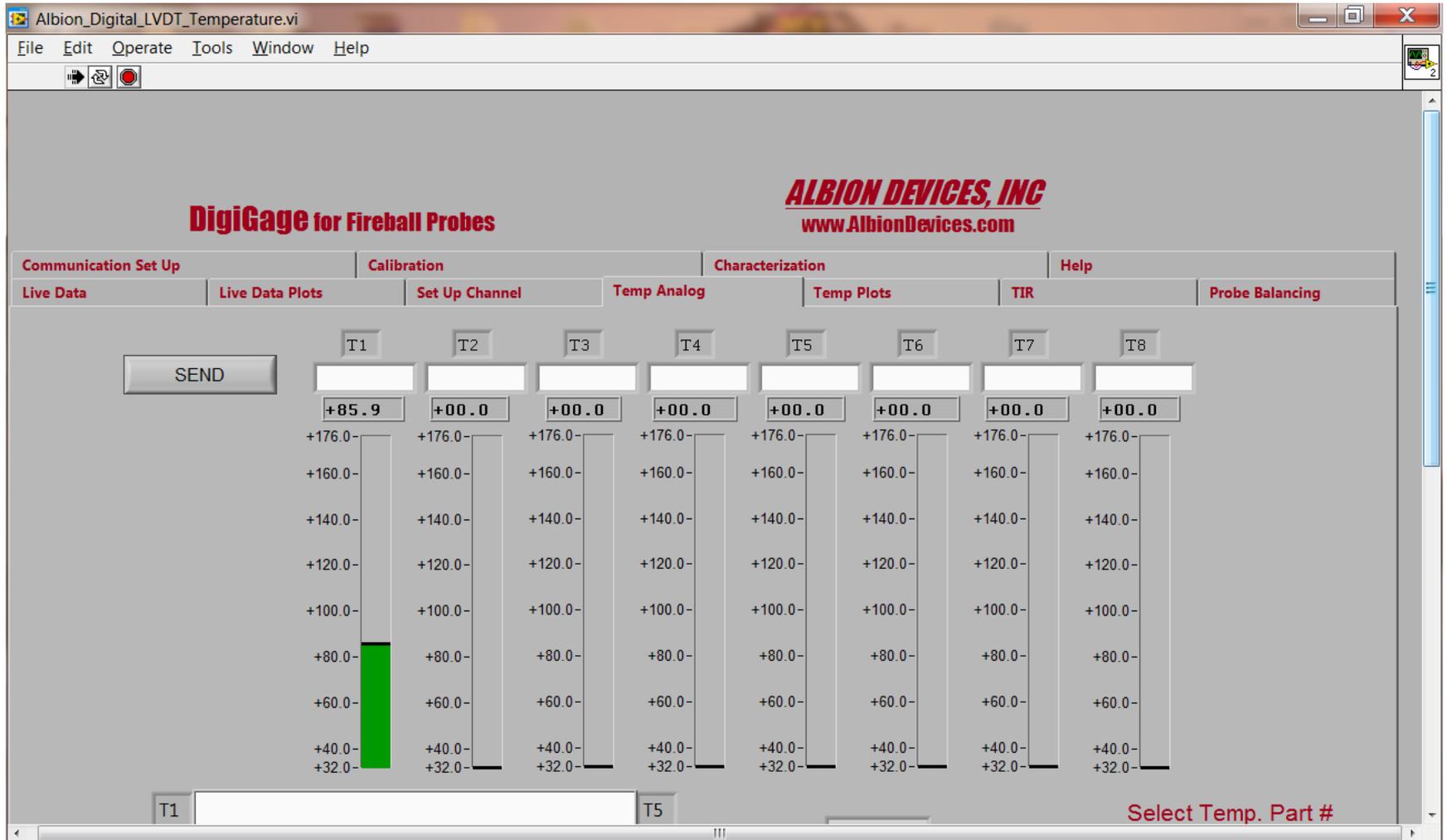
Live Data Plotting

Charts data when "sent" operator



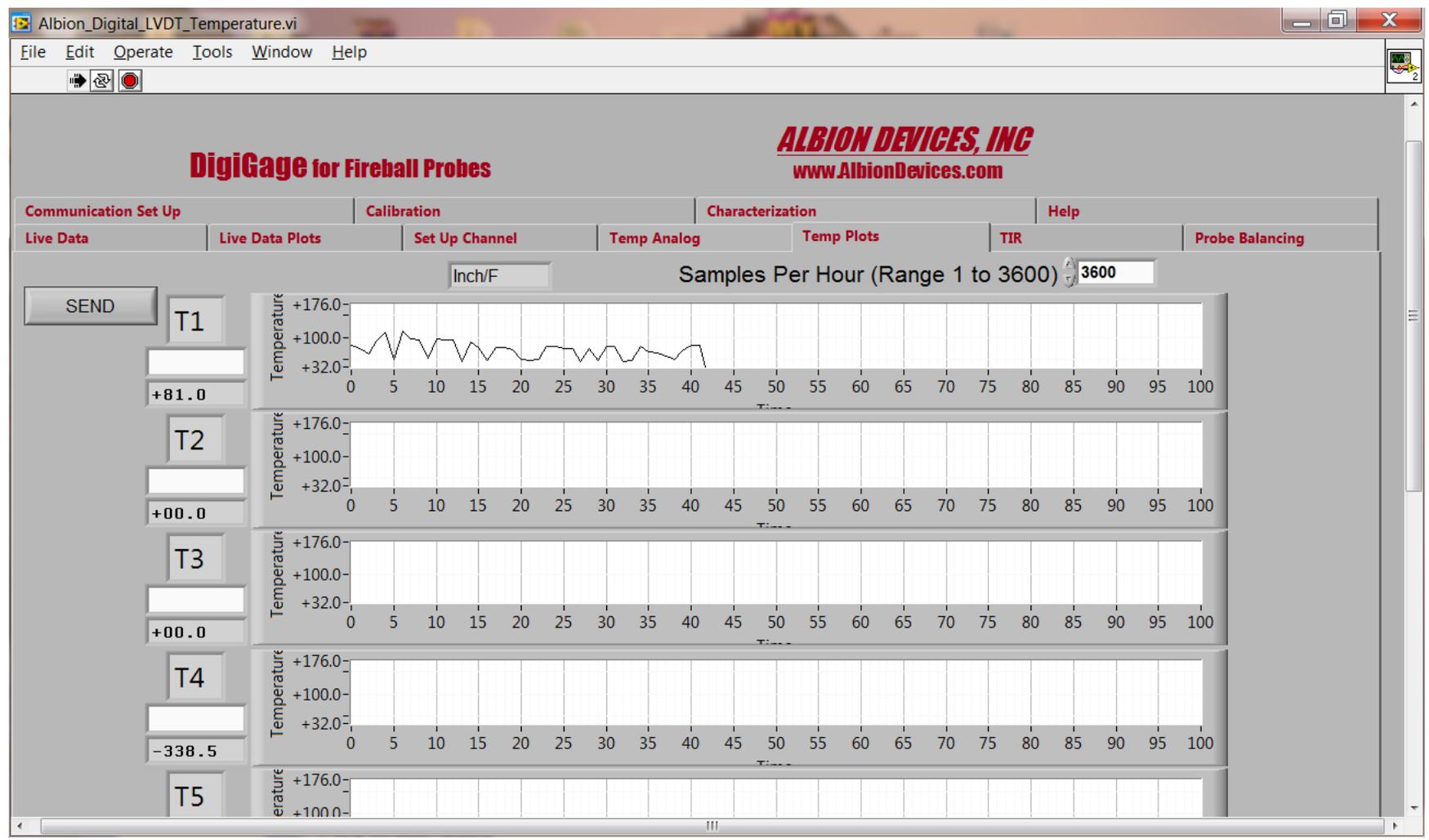
Temp Analog Screen

Display temperature readings when temperature sensors are in use



Temp Plots Screen

Plots temperature readings



TIR Screen

Used for displaying TIR (Total Indicator Readout)

The screenshot displays the 'TIR' tab within the 'DigiGage for Fireball Probes' software. The interface includes a menu bar (File, Edit, Operate, Tools, Window, Help) and a toolbar with icons for home, help, and power. The main area features the 'ALBION DEVICES, INC' logo and website address. A navigation bar contains tabs for 'Communication Set Up', 'Calibration', 'Characterization', and 'Help', with sub-tabs for 'Live Data', 'Live Data Plots', 'Set Up Channel', 'Temp Analog', 'Temp Plots', 'TIR', and 'Probe Balancing'. The 'TIR' sub-tab is active, showing a 'TIR Accumulator' field, a 'SEND' button, and a 'TIR Status' indicator (a red dot). A vertical scale on the left ranges from 0 to 0.01, with a red line at 0.002. The 'Live Data' field shows '+0.5', and there are 'ZERO', 'Max:', and 'Min:' buttons. On the left, there are input fields for 'TIR Tol' (00.0), 'Engl/Met TIR' (Metric), 'Range' (0.0), and 'Resolution TIR' (X.X). A 'TIR Procedure' note at the bottom states: 'Hit TIR button (right) to start TIR and...'. A 'TIR' button is partially visible at the bottom center.

Albion_Digital_LVDT_Temperature.vi

File Edit Operate Tools Window Help

DigiGage for Fireball Probes

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Communication Set Up Calibration Characterization Help

Live Data Live Data Plots Set Up Channel Temp Analog Temp Plots **TIR** Probe Balancing

Note: TIR operates off of channel #1 probe only

Note: Set the correct serial port (Communications tab) before using the SEND feature

TIR Accumulator SEND

TIR Tol:

Engl/Met TIR:

Range:

Resolution TIR:

TIR Status: ZERO

Max:

Min:

TIR Not Running

TIR Procedure:
Hit TIR button (right) to start TIR and

TIR

Channel Set Up Screen

Used to configure Live Data and Temperature screens for applications.

Albion_Digital_LVDT_Temperature.vi

File Edit Operate Tools Window Help

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Communication Set Up Calibration Characterization Help

Live Data Live Data Plots Set Up Channel Temp Analog Temp Plots TIR Probe Balancing

Show/Hide	Column Description	Math	Range	Upper Tolerance	Lower Tolerance	Approach Up Tolerance	Approach Lo Tolerance	Preset	Resolution	OD/ID
A		C1	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
B		C2	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
C		C3	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
D		C4	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
E		C5	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
F		C6	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
G		C7	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
H		C8	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID

Syntax for entering Math Formulas for Columns
 Input channels are designated Cx (where x is the input channel number, 1-8). Example, to map Channels 1 plus 2 to Column A, enter C1+C2 in the math box for Column A. To apply arithmetic, e.g. C1*1.5 will multiply Channel 1 times 1.5 and put the value in the Column you designate.
 *****Syntax errors in the formula will result in undetermined output data*****

Eng/Met
Inch

Discover Fireballs
QUERY

Ch #	COM #	Serial #	FW Rev
1			
2			
3			
4			
5			
6			
7			
8			

of Fireball's Attached
0

Ch #	COM #	Serial #	FW Rev
T1			
T2			
T3			
T4			
T5			

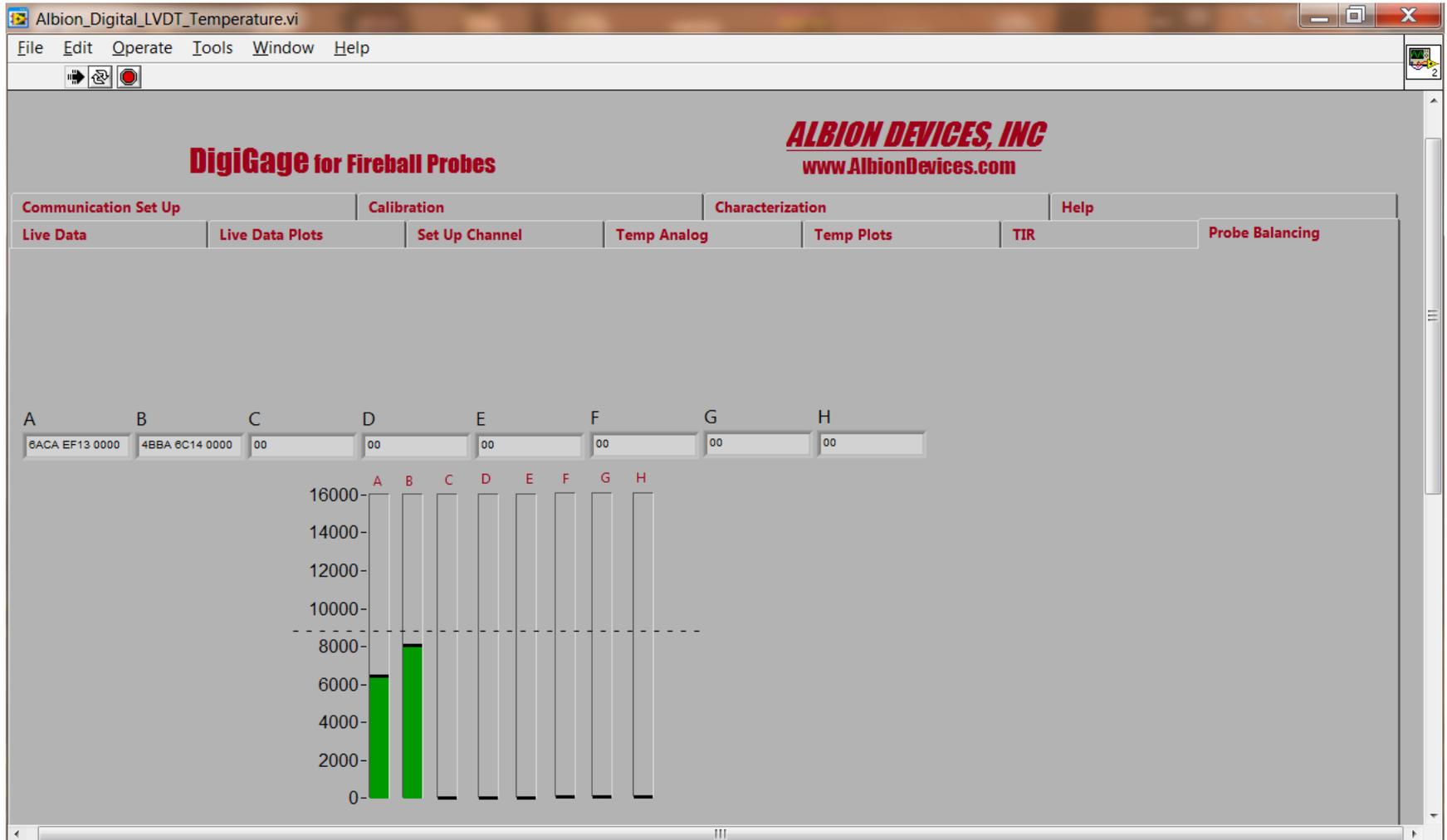
Saving and Loading Part Numbers
 Note: Enter a Part Number in the New Part Number Box prior to hitting the "Save New PN" button. Duplicate PN (PN already in the Select Part# list), will be overwritten without warning.

Select Part # Load Part # New Part Number Save New PN

Albion Default Load

Probe Balancing Screen

Displays raw output from measuring probes to allow proper positioning in fixture during application set up.



Communications Set Up Screen

Used to set up output from DigiGage software.

The screenshot shows the 'Albion_Digital_LVDT_Temperature.vi' window. The title bar includes 'File Edit Operate Tools Window Help' and standard window controls. The main interface features the 'DigiGage for Fireball Probes' logo and the company name 'ALBION DEVICES, INC' with the website 'www.AlbionDevices.com'. A navigation bar contains tabs for 'Live Data', 'Live Data Plots', 'Set Up Channel', 'Temp Analog', 'Temp Plots', 'TIR', and 'Probe Balancing'. Below this, a sub-menu highlights 'Communication Set Up', with other options like 'Calibration', 'Characterization', and 'Help'. The 'Communication Set Up' section includes a 'Select Logging Option' with a vertical slider set to 'OFF' (between 'Log To File' and 'Send to COM Port'), and an 'Action' dropdown set to 'No Action Required'. A 'File Location/Name for Data Logging' field is present. The 'Serial Port' is set to 'COM38', 'Baud Rate' is '57600', 'Data Bits' is '8', 'Parity' is 'Non', and 'Stop Bits' is '1'. The main content area is titled 'Communications Setup for Outgoing Data' and contains a list of instructions and settings.

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DigiGage for Fireball Probes

Live Data | Live Data Plots | **Set Up Channel** | Temp Analog | Temp Plots | TIR | Probe Balancing

Communication Set Up | Calibration | Characterization | Help

Select Logging Option

File Location/Name for Data Logging

Log To File
OFF
Send to COM Port

Action
No Action Required

Serial Port
COM38

Baud Rate
57600

Data Bits
8

Parity
Non

Stop Bits
1

Communications Setup for Outgoing Data

1. Start your application that will receive data from this program.
2. Select a com port that your program will use for communications.
3. Make note of the settings such as baud rate, number of bits, etc.

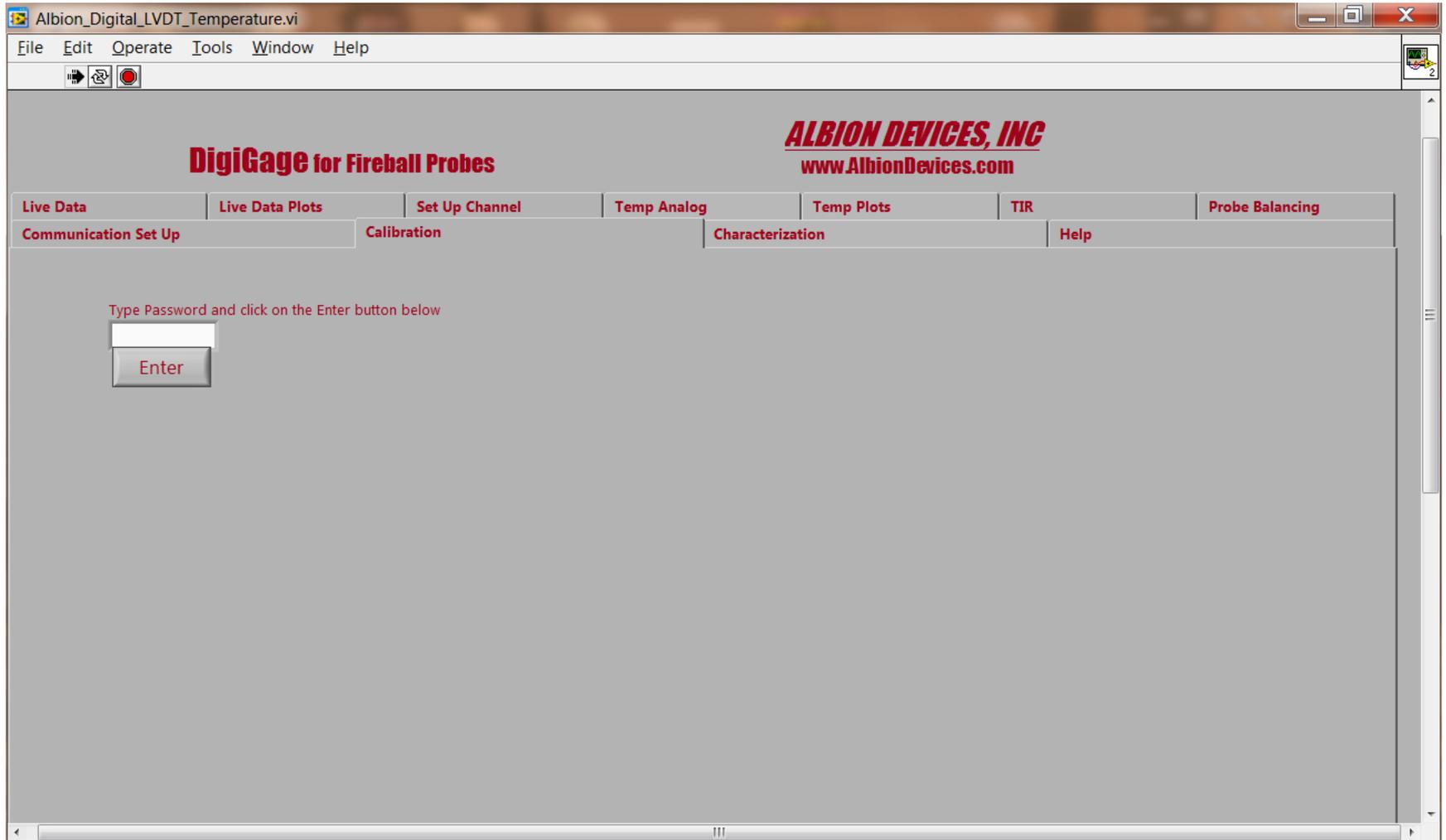
Be advised that the Albion DigiGage program uses the following settings:

- >Baud Rate = 57,600 maximum
- >8 data bits, no parity, 1 stop bit (8,N,1)
- >A carriage return and line feed will be sent
- >Data is sent in standard ASCII text format

4. Download a Virtual Com Port program such as can be found at: <http://www.eltima.com/products/vspdxp/>.
5. Open the program and choose a pair of com ports to set up as Virtual Com Ports. These ports will be used to send data out of the Albion DigiGage software and to your data collection software or other application. The program may, for example, choose com 1 & 3. Make sure you are not already using these ports. If you are, just choose another pair like com 2 & 4. This com port pair will be remembered so there is no need to go into the program again.
6. Next, go into the DigiGage program and then to the Communication Page.
7. Select a com port from the listing shown. You may have to wait a moment for the list to appear.
8. Select the com port that matches the com port that you set up in the Virtual Com Port program (set 5 above).
9. Go to the Live Data screen now and click on the SEND button. Data should be sent to your date collection application. If not, check your data collection.

Calibration Screen

Password protected screen for calibration of probes. Primarily for factory use only.



Characterization Screen

Used to determine correction coefficients for temperature compensation applications only.

Albion_Digital_LVDT_Temperature.vi

File Edit Operate Tools Window Help

DigiGage for Fireball Probes **ALBION DEVICES, INC**
www.AlbionDevices.com

Live Data | Live Data Plots | Set Up Channel | Temp Analog | Temp Plots | TIR | Probe Balancing

Communication Set Up | Calibration | **Characterization** | Help

Characterization (determination of Correction Coefficients)

Input Channel: Size **C1** Temperature **T1**

Size: **-0.05022** Temperature: **+34.9**

Inch/F/mm/C
mm/C

ZERO

Capture

Baseline (Zero)	Size	Temp	CCC	Avg
0.00000	00.0	00.0	0.000000	
Sample #1	0.00000	00.0	0.000000	
Sample #2	0.00000	00.0	0.000000	
Sample #3	0.00000	00.0	0.000000	
Sample #4	0.00000	00.0	0.000000	
Sample #5	0.00000	00.0	0.000000	
Sample #6	0.00000	00.0	0.000000	
Sample #7	0.00000	00.0	0.000000	
Sample #8	0.00000	00.0	0.000000	
Sample #9	0.00000	00.0	0.000000	

Avg. Calculated Correction Coefficient: **0.000000**

Abbreviated CCC: **00.0**

Save Results Clear

Enter Nominal Size Here: **00.00000**

Note: A value of Inf for CCC is likely a result of a Nominal Size of 00.00000 or a temperature not changing from baseline to sample #. Hit clear and re-run the test with these corrections.

Use the green/red selectors to include or exclude CCC's from the running avg.

Procedure for determining effective coefficients of expansion or "Calculated Correction Coefficient" (CCC) for a part of workpiece:

1. Select input channels for Size (the dimensions for which a coefficient is to be determined) and Temperature (the sensor input that will measure the temperature variation for the dimension for which a coefficient is to be determined)

Show desktop

Help Screen

Intended as helpful guidelines to DigiGage software users.

Albion_Digital_LVDT_Temperature.vi

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PC SW Rev
71

DigiGage for Fireball Software Procedures

Install Fireball Software

If you are reading this in the "DigiGage" Help menu then installation is already complete.

1. Download DigiGage for Fireball from www.AlbionDevices.com (click on "Software" under "Fireball Products", top left of screen) or load from other media if available.
2. Install on computer.
3. Note: When the software is opened the **Start**, **Run continuously** and **Stop** symbols display in the top left corner of the screen from left to right respectively. They can be used to halt and restart the program. (Some versions may not have these buttons.)

Live Data Screen

This screen displays live data to the user and will generally be the only screen required during normal operation.

1. **Zero x:** (where x= column) zeros just that column (on master).
2. **Zero All:** Zeros all columns.
3. **Send:** Transmits data to attached devices or software. (See "Communications screen").

Channel Set Up Procedure

Connect Fireball probes:
Be sure to follow these step by step instructions in the correct order. Failure to do so may result in communications errors that will result in software malfunction. In such an event, exit software, shut down computer and start again.

Thank You

Please visit our website or contact us directly for assistance in obtaining and applying this unique, user friendly software.

Albion Devices, Inc.
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