

Running the IFA300 with my own Data Acquisition System

Frequently Asked Question #11

Question:

I am using an existing DAQ system to capture the bridge voltages from the IFA300 and so I am not using the data acquisition card that came with the system. Therefore, I am not using any of the calibration and DAQ capabilities of the ThermalPro software. Since I am not using these features, I need to use ThermalPro only to set up the probe (set operating resistance, temp, etc.) and to turn it on and off.

What I need is this: Can you please tell me in your own words the procedure for using the ThermalPro software to setup a new probe and turn it on and off? I just need to know the essentials and not worry about all the other functions.

Answer:

Create a dummy calibration for any probe you want to use. To do this start from the generic probe file "linf.cl" or "linw.cl" for a film or wire sensor, respectively. Enter the cable resistance and operate resistance for the actual probe. Set Offset = 0, Gain = 1. Then save this as the S/N of the probe.

Now, instead of using the "Next Screen" button to send the parameters to the system, just go the Calibration - Conditions Setup screen through the menu-bar. Don't collect any data, just go directly to "Next Screen" to view the data and look at the plots.

This creates a dummy linear calibration (1 volt = 1 m/s).

Now this probe and other dummy probes can be loaded into the Acquisition - Probe Table as normally done. By clicking Next Screen, all the correct data will be sent to the IFA300 to get the probe running. At this point everything is set except the low-pass filter. This needs to be set on the Conditions Setup screen. Once set, you can acquire the analog voltage data in any way you like.



For operating temperature, we supply a recommended operating resistance that sets the sensor temperature to 250°C for air probes or 67°C for water probes. You can adjust the temperature by adjusting the operate resistance. To make the correlation between operate resistance and temperature, use the data on the probe box. It has the resistance at 0°C and the change in resistance from 0 to 100°C on the label. The relationship is linear, so you can just use a point-slope formula to find the resistance for any other sensor temperature.

TSI Incorporated - 500 Cardigan Road, Shoreview, MN 55126-3996 USA
USA Tel: +1 800 874 2811 E-mail: fluid@tsi.com Website: www.tsi.com
UK Tel: +44 149 4 459200 E-mail: tsiuk@tsi.com Website: www.tsiinc.co.uk
France Tel: +33 491 95 21 90 E-mail: tsifrance@tsi.com Website: www.tsiinc.fr
Germany Tel: +49 241 523030 E-mail: tsigmbh@tsi.com Website: www.tsiinc.de
Sweden Tel: +46 8 595 13230 E-mail: tsiab@tsi.com Website: www.tsi.se
India Tel: +91 80 41132470 E-mail: tsi-india@tsi.com
China Tel: +86 10 8260 1595 E-mail: tsibeijing@tsi.com

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