

## HFS DAQ System Description

The HFS DAQ is a low-cost data acquisition system that is designed and packaged together to accurately measure the small analog DC voltage signals that are outputted from HFS heat flux sensors and their integrated thermocouples. The HFS DAQ enables precise measurement resolution at a fraction of the cost to other currently available systems.

## Key System Features

- 8 differential input channels for simultaneous measurements of both heat flux and temperature from 4 HFS sensors.
- Free software for computer-based user interface and data recording through a USB cable connection.
- Automatic zeroing of current bias error for increased accuracy, especially while using high impedance sensors.



## HFS DAQ System Specifications

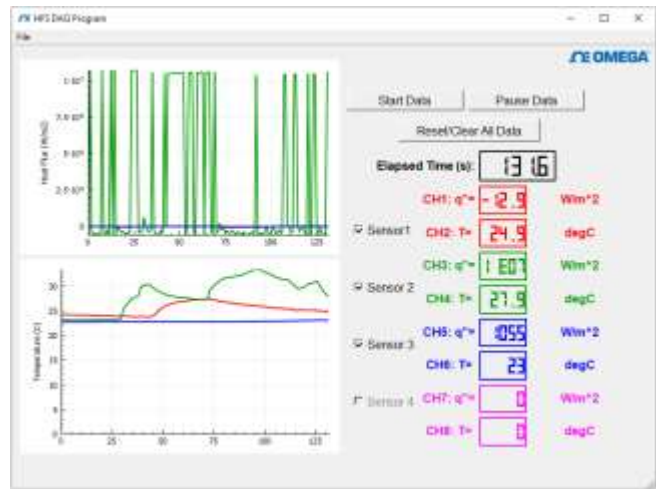
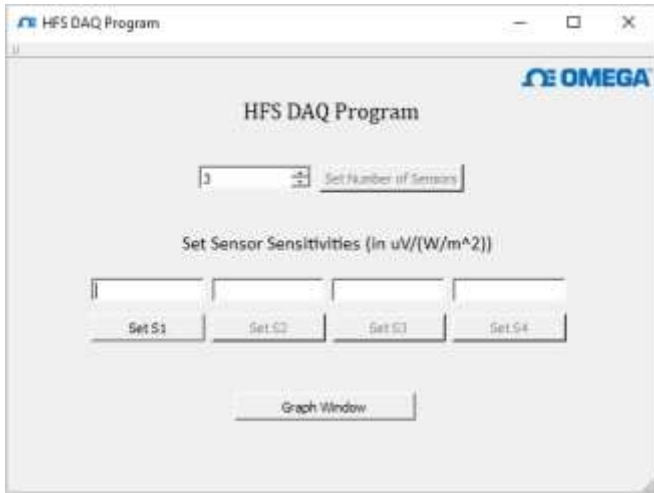
<b>Input Voltage Resolution</b>	< 1 $\mu$ V
<b>Number of Input Channels</b>	8 differential
<b>Cold Junction Compensation</b>	Yes, provided by on-board thermistor
<b>CJC Thermistor Accuracy</b>	2 °C absolute accuracy
<b>Input Voltage Range</b>	+/- 2.048 Volts
<b>Analog-to-Digital Converter Type</b>	24-bit Delta-Sigma
<b>Output Voltage Noise</b>	0.85 $\mu$ V <sub>RMS</sub>
<b>Computer Interface Type</b>	USB cable
<b>Overall Package Dimensions*</b>	4.8" x 4.1" x 3.4" (9.6 x 10.4 x 8.7 cm)
<b>Maximum Sampling Rate**</b>	Approximately 3 Hz
<b>Standard Thermocouple Type</b>	Type-T

\*Dimensions are specified for our largest HFS DAQ system that includes all the additional features. The height dimension of lower functionality versions may be smaller than specified.

\*\*Dependent on the number of channels/sensors that measurements are being taken from simultaneously.

## HFS DAQ Software Description

The simple, user interface allows for easy control of the software features. While the HFS DAQ is connected to a computer using a USB cable interface, the heat flux and temperature sensor measurement signals can be viewed and recorded simultaneously using our free software. The setup window and real-time plots of the measurement signals are shown.



Once the measurements are complete, the data is outputted to a file location of your choice in a standard .csv file format for analysis that will be performed later on.