

DATAPAQ Reflow Tracker for the Solar Cell Process

Temperature profiling for the photovoltaic solar cell manufacturing process

Datapaq, the world leader in temperature profiling, makes it easy to set up and prove your contact firing process. And profiling can identify quality impacting factors such as temperature differences across the width of the furnace or time/temperature combinations that reduce contact resistance. Datapaq temperature profiling systems accurately monitor every detail of the contact firing process without disrupting normal production.

Our easy-to-use profiling system is comprised of a data logger, thermal barrier, and Insight™ Analysis Software. A custom designed data logger travels through the process measuring the wafer temperature. The logger is protected from the heat of the furnace by a thermal barrier. Insight software takes the data gathered by the logger, quickly and easily interprets the information, and provides the analysis you need instantly.



Photograph courtesy of ECN Solar Energy, Netherlands



BENEFITS

- Ensure your product meets specifications
- Highlight any hot or cold spots in your process
- Save time & money setting up the furnace
- Maximize your product throughput

INSIGHT SOFTWARE

Insight Software is the latest development in temperature profiling software, combining ease of use with in-depth analysis. Wizards guide you step by step through the profiling process, while the built in alarms alert you when something has gone wrong. With Insight, temperature profiling has never been so easy.

FEATURES:

In-depth Process Analysis - All the process data you need is at your fingertips. Insight tells you, run after run, if your process is in specification. Peak temperature, time above temperature, slopes and Delta T data appears on the Results summary screen. Simple tables let you drill down for in-depth analysis of any parameter.

Alarms - Use the alarm feature to alert you when something goes wrong. Set up alarms for any of your numerical analysis fields. If any of the values exceed the limits then an alarm shows on the screen, eliminating any possible operator error.



Technical Specifications



THERMAL BARRIERS

Datapaq thermal barriers offer the best data logger protection available.

TB2038

Weight: 2.8 lbs / 1.25kg
Dimension (HWL): 0.91" x 6.5" x 8.82"
23mm x 165mm x 224mm

Thermal Duration:

Temperature (°C)	200	400	600	800
(°F)	400	750	1115	1475
Duration (mins)	19	5.5	4.5	3.5

TB2040

Weight: 2.2 lbs / 1.0kg
Dimension (HWL): 0.77" x 6.50" x 9.21"
19.5mm x 165mm x 234mm

Thermal Duration:

Temperature (°C)	200	400	600	800
(°F)	400	750	1115	1475
Duration (mins)	6.5	2	1.5	1.0



DATA LOGGER

The Datapaq Q18 logger features rugged, reliable and accurate data acquisition circuits, clear status indicators and an intelligent battery management system. The logger is accurate to $\pm 0.5^{\circ}\text{C}$ and comes telemetry ready.

Sampling Interval: 0.05 seconds to 10 minutes
Accuracy: $\pm 0.9^{\circ}\text{F}$ / $\pm 0.5^{\circ}\text{C}$
Resolution: 0.1°F / 0.1°C
Maximum internal operating temperature: 185°F / 85°C
Temperature Range: -328°F to 2498°F / -200°C to 1370°C
Total Memory: 18,000 data points per channel
Data collection start: Start/stop buttons, time or temperature trigger
No. of Channels: 6
Battery: NiMH rechargeable
Thermocouple Type: K

REFERENCES

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