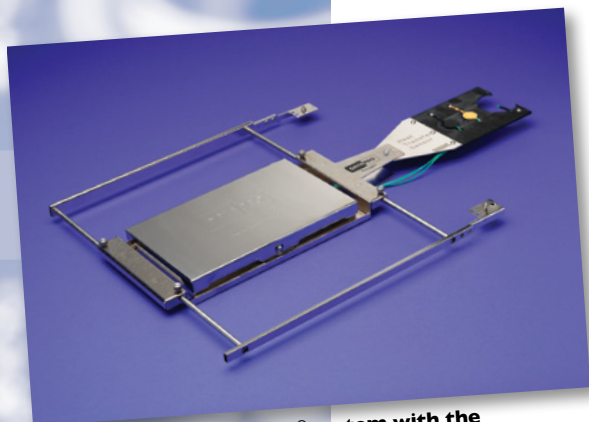
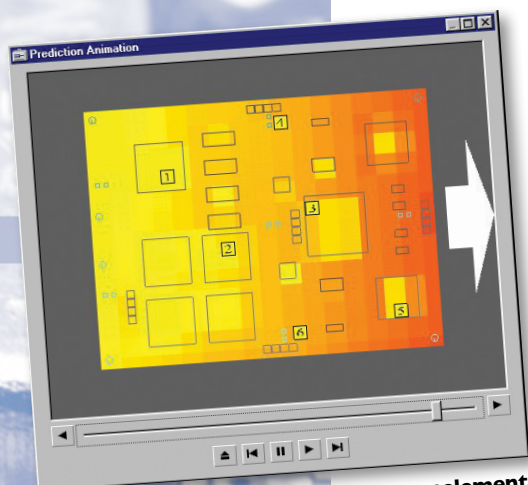


# RapidOvenSetup(ROS)

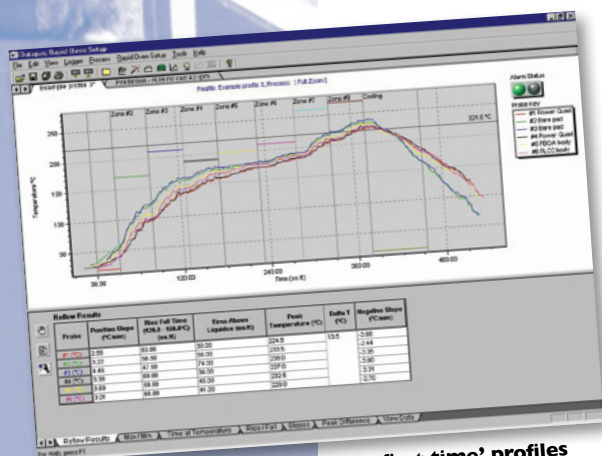
for use with Insight™ software for Reflow Tracker®



Datapaq® Reflow Tracker® system with the Rapid Oven Setup Heat Transfer Sensor



A thermal profile is calculated for every element of the product



Rapid Oven Setup ensures 'right first time' profiles

**Rapid Oven Setup (ROS) is an innovative modeling tool that calculates optimum reflow oven settings for a given product and profile quickly, easily and accurately.**

Every time a new product or solder paste is introduced, the reflow oven settings have to be optimized – a time consuming process. Rapid Oven Setup (ROS) from Datapaq® automates this process by calculating the optimum oven settings for any combination of oven, product and target profile. ROS accomplishes in seconds an operation that can take even an experienced process engineer hours to achieve.

## RAPID OVEN SETUP:

- Ensures the optimum profile is found
- Reduces scrap levels
- Saves time and money
- Speeds up the changeover to new profiles (lead free)
- Enables users to check product and oven compatibility offline
- Works on all reflow ovens, old or new, infrared or convection

## HOW DOES RAPID OVEN SETUP WORK?

There are two unique features that enable the ROS system to achieve unrivalled accuracy:

**The Heat Transfer Sensor measures the actual performance of each oven.**

This ensures that the system will work accurately in any oven.

**ROS can read information directly from CAD files.**

This enables it to automatically produce a detailed thermal model of the product, removing any possible operator error.

The collage consists of three images:

- Top Image:** Three blue heat transfer sensors connected by green wires to a PCB. The sensors are labeled "Heat Transfer Sensor".
- Middle Image:** A screenshot of the "PCB Preview" window in Altium Designer. It shows a 3D isometric view of a green PCB with various components. The window has a toolbar with icons for "Show Labels", "Show Holes", "Show Grid", "Show Components", "Show Probes", "Board Outline", and "Show 3D".
- Bottom Image:** A screenshot of the "Target Profile Wizard - Edit Target Profile" window. It shows a graph of Temperature (°C) vs. Time (min:ss) with a blue line representing the profile. The graph has a y-axis from 100 to 200 and an x-axis from 00:00:00 to 03:00:00. Below the graph is a table with parameters for Ramp, Soak, and Solder regions.

The photograph shows three green cables connected to a black PCB labeled 'Heat Transfer Sensor'. The cables are plugged into three blue connectors on the left side of the PCB. The PCB has a circular cutout and some text, including 'Heat Transfer Sensor' and 'Sensortec'.

The ROS system can read the CAD files used to design the product. It uses this information to create a detailed thermal model. This innovative approach enables ROS to calculate thermal profiles for every location on the product. It then uses finite difference methods to calculate a thermal profile for every location on the product. This can all be achieved without having to connect thermocouples to a test PCB, saving time and money.

Target Profile Wizard - Edit Target Profile

Temperature (°C)

Time (min @ 80)

183°C

Release Start

Release End

Click on the Region names to edit them.

Left Region

Right Region

Baseline Region (183°C)

Range	Slope	Target Duration
64 - 120	120	150
Min Slope (°C/s)	1.0	
Max Slope (°C/s)	6.3	
Target Slope (°C/s)	2.0	
Target Duration (s)	28	

Range	Slope	Target Duration
150 - 220	220	150
Min Slope (°C/s)	3.0	
Target Slope (°C/s)	1.6	
Target Duration (s)	45	

Min Temperature (°C)	Target Temperature (°C)	Min Time Above Liquidus (s)	Target Time Above Liquidus (s)
120	120	230	230
150	150	30	30
180	180	30	30
210	210	30	30

Help Cancel OK Cancel

The ROS system has an easy-to-use, wizard-based interface for defining target profiles. The dual display of graph and analysis allows the user to either click and drag on the graph or enter the numerical data. This approach enables the user to easily and quickly create target profiles that comply not only with solder paste specifications, but also with any other company or component requirements.

*Rapid Oven Setup is designed for use with Insight™ software for Reflow Tracker®. It is compatible with the full range of Databaq® Q18 loggers.*

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Fluke Process Instruments offers services, including repair and calibration. For more information, contact your local office.

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