

- ◆ Eliminates manual periodic profiling
- ◆ Reduces production downtime
- ◆ Recovers labor time resources
- ◆ Automatically documents profile data
- ◆ Improves product quality
- ◆ Easy to use
- ◆ A low cost system

Automatic Profiling System for Your Reflow Oven

Eliminate manual periodic profiling

Checking whether your thermal process is in-spec involves manually running a periodic profile. This necessary procedure disrupts your production and requires allocation of labor time. The KIC Vision™ system completely eliminates the burden of manual periodic profiling.

Automatically documents profile data

For each new product, you initially establish a “baseline” product profile using a KIC profiler. During production, the KIC Vision system uses embedded sensors to correlate the baseline profile to the process data from these sensors – called a Virtual Profile (VP). The VP is automatically recorded and includes all critical process data, such as:

- Date and time
- Time/Temperature thermal profile graph
- The profile’s fit to the available process window (Process Window Index or PWI)
- Process statistics such as ramp rate; soak time; peak temperature, time above liquidous, etc.

This provides you with automated documentation of profile data that can easily be retrieved and viewed at any time.

Improve product quality

Typically periodic profiling is done only on occasion because it is time consuming and interrupts production. Frequent profiling is more ideal, allowing you to catch an out-of-spec process before it leads to defects. The KIC Vision automatically profiles your process as often as once per hour, significantly increasing your potential product quality while saving you time and money.

Easy to use

A modern, step-by-step graphical design makes operating and training on the KIC Vision easy – versus a traditional, more complicated pull-down menu design. Best of all, when production starts, the system runs in the background continuously and automatically.

A low cost system

The KIC Vision is a cost-effective alternative to manual profiling. Although economically priced, the KIC Vision system features some of the core technologies invented by KIC that are included in our high-end, complete thermal management system. The KIC Vision offers great value, while eliminating the unproductive and costly manual periodic profiling.

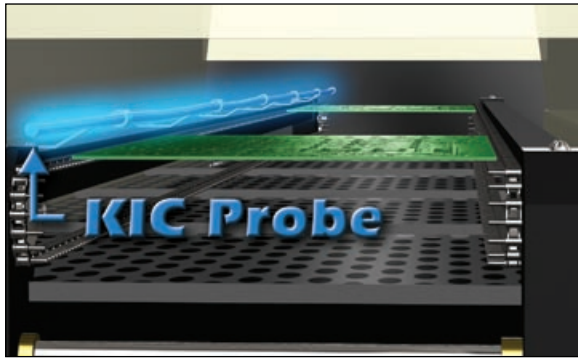
KIC®
VISION™



Automatic
Profiling
System



KIC VISION SYSTEM



Base System Components

KIC Probe: Contains 15 internal thermocouples for monitoring process temperature. The probe runs the length of the process and is installed at the product level (see KIC PROBE diagram).

Sensor/Encoder: The Sensor tracks the position of product as it passes through the oven. The Encoder continuously measures conveyor speed.

eTPU: The ethernet Thermocouple Processing Unit acquires data from the probe and sensors. It is connected to a PC via Ethernet cable and transmits the data to the KIC Vision software.

Communication cables: Cables are included for connecting the eTPU to the KIC Probe, Product Sensor, Encoder and PC. A USB adapter is included for Ethernet connection.

Software and User Manual

eTPU/KIC Probe

Accuracy: ±1.2°C

Sensor readings/sec: 13

Automatic Profiling: Once per hour to Once per week, in one hour increments

Thermocouples:..... Type K

Temperature Range: -150°C to 450°C

Dimensions:

eTPU (LxWxH mm):... 308.6 x 173.5 x 35.8

KIC Probe: length and TC spacing is customized to each oven

Communications:..... Ethernet, RJ-45 connector

Computer Capability: .. PC

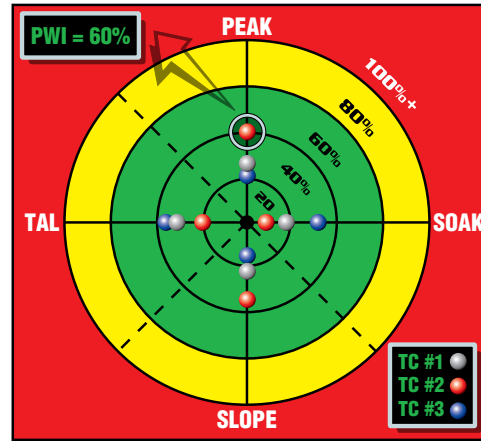
Power Requirements:.... 12V AC @ 300mA

Notes

The KIC Vision System requires a SlimKIC® 2000 Thermal Profiler. See the SlimKIC 2000 product data sheet for complete product details and specifications.

The KIC Vision can interface directly with the oven controller. Setpoints are automatically sent to the oven eliminating the need for separate data entry. The number of direct-link ovens is growing; consult your oven supplier to determine availability.

THE PROCESS WINDOW INDEX™



Profiling Reduced to a Single Number

The PWI measures the profile's fit to the process window in a mathematical and objective manner by using a single number. This aids in optimizing the process by comparing and ranking alternative profiles in terms of their fit to the available process window. The lower the PWI, the more efficient and stable the process! (See the PWI data sheet for a detailed explanation)

COMPUTER CONFIGURATION

Minimum System Requirements

- 400 MHz Processor / Celeron / 256 Mb RAM¹
- 2 Gb available storage (for product history)
- Video 1024 x768 resolution / 16-bit
- 1 NIC (Network Interface Card) or 1 USB with Ethernet adapter
- 1 available USB port
- Microsoft® Windows® 2000, XP²

¹ When KIC Vision is running on the same computer as the Oven software, and/or when additional KIC Vision options are installed, a faster CPU and more RAM may be required.

² Contact KIC for issues with operating systems other than those listed.

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