



# X<sup>5</sup>™

## Intelligent Thermal Profiler

### X<sup>5</sup> Advantages

- Robust Hardware
- Process Optimization
- Ease of Use
- 2 Year Warranty
- 24 Hour World Class Customer Support



#### Robust and Compact Hardware with 2 Year Warranty

This new and improved hardware is designed to withstand the roughest and toughest daily handling. In addition, the electronic circuitry has been changed to tolerate a higher level of voltage spikes that occur occasionally in some ovens and wave solder machines. KIC is putting its money where its mouth is by offering a standard two year warranty on this durable profiler.

The X<sup>5</sup>™ is available in 7, 9, and 12 channel versions using standard type K thermocouple connectors. Acquiring more data in a small unit is only the beginning. The X<sup>5</sup>'s industry leading performance provides better data acquisition to precisely identify what is going on with each thermal profile and process in the factory. Thermal profile data are conveniently transferred to your computer via a USB connection. The X<sup>5</sup>'s RF version transfers the profile data in real time to the PC via wireless radio frequency transmitters. Standard AAA batteries power the X<sup>5</sup> and you have the option of using rechargeable batteries if you prefer. The X<sup>5</sup> is also powered via the USB cable when connected to a computer, bypassing the batteries, thus extending the duration of their use.

#### Data Intelligence Software

The X<sup>5</sup>'s software uses a modern, graphical interface that quickly and intuitively guides you through the task of profiling. All your critical profile and process data are measured including

slope, peak temperature, time above liquidous, etc. In addition, the software measures the Process Window Index™ (PWI) statistic. The PWI mathematically and objectively identifies your profile's 'fit' to the established process window. A PWI less than 100 indicates an in-spec profile. The PWI is lower as your process is centered within the process window. Therefore, the lower your PWI, the deeper in the sweet spot of the process window.

The PWI also instantly reveals where your process or the oven needs to be adjusted. Manual prediction capability comes standard with the X<sup>5</sup> allowing you to instantly view the expected change in the profile to changes in the oven setpoints. The X<sup>5</sup> dual mode includes the passive profiling recording functionality and the active oven setup and process optimization capability. The Navigator Power™ software feature automates process improvement and optimization for you and ships standard with the X<sup>5</sup>. Within seconds, the Navigator Power will identify the single best oven setup based on your choice of 3 optimization criteria:

- Center of the process window
- Maximum conveyor speed
- Minimum electricity use

The X<sup>5</sup> also comes standard with SPC charting software that helps reveal changes in the profile over time. The X<sup>5</sup> hardware and software establish a new generation of profiler to improve your production quality, productivity, and documentation.

### Thermal Profiler



**Technical Support**  
**24 Hours Every Day**  
**Everywhere**

#### RiskFree Guarantee

All KIC products are designed to give maximum value and fast payback by streamlining your thermal process. Investment in a KIC product is a step toward total process control and quality management. All KIC products come with a no questions asked, 30 day money back guarantee.

For more information on any of our products or service please visit us on the Web at: [www.kicthermal.com](http://www.kicthermal.com) or [www.kic.cn](http://www.kic.cn).

#### Service Available

Technical Support  
 Installation and Setup  
 Application Support  
 Hardware Support  
 Guaranteed Warranty



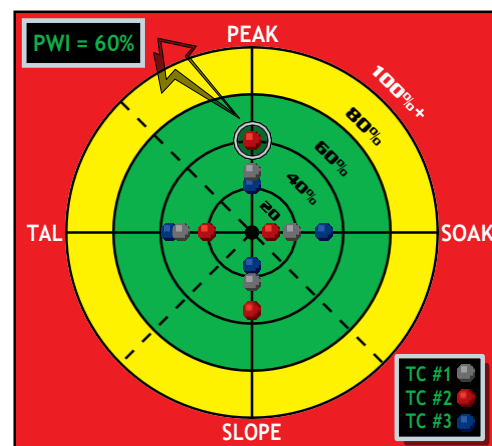
Accuracy .....  $\pm 0.5^{\circ}\text{C}$   
 Resolution: .....  $0.1^{\circ}\text{C}$   
 Internal Operating Temp .....  $0^{\circ}\text{C}$  to  $85^{\circ}\text{C}$   
 Sample Rate ..... 0.002 to 10 readings/sec  
 Data Points ..... 224,640  
 PC Connection: ..... USB 2.0 (Std-A/Mini-B)  
 Power Requirements: (3) AAA batteries  
     USB cable when connected to a computer  
 Radio Frequency (RF): 433.92 MHz  
 Thermocouple Compatibility:  
     7, 9, 12 Channel Unit:      Type K, Standard  
 Temperature Range:..  $-150^{\circ}\text{C}$  to  $1050^{\circ}\text{C}$   
 Dimensions (L x W x H mm):  
     7 Channel Unit: .... 202.0 x 60.0 x 17.0  
     9 Channel Unit: .... 202.0 x 75.0 x 17.0  
     12 Channel Unit: .. 208.0 x 98.0 x 17.0  
 Thermal Shields ..... See *Temperature Tolerance Table* below for specifications.

**Datalogger Model:** data are downloaded to the computer through a USB cable after the run.

**Dual Unit Model:** data are sent to the computer in real-time during the run. Data are also stored internally for USB download after the run.

*Note: The Profiling Software may interface directly with some oven controllers, eliminating the need for manual setpoint data entry. Please consult your oven supplier for availability. The Profiling Software is dongle protected. Accuracy based on factory calibration.*

## 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)

## TEMPERATURE TOLERANCE TABLE

(maximum endurance in minutes at specified temperature)

CONFIGURATION	DIMENSIONS (mm) (Length x Width x Height)	150°C	200°C	250°C	300°C	350°C	400°C
Cool Touch Stainless Steel Shield, 7CH	302 x 75 x 23	17.5	12.0	9.0	7.7	6.5	
Cool Touch Stainless Steel Shield, 9 CH	312 x 90 x 23	18.1	13.1	10.1	8.4	6.7	
Cool Touch Stainless Steel Shield, 12 CH	323 x 113 x 23	17.7	12.0	8.9	7.4	6.1	
HT Shield 400	298 x 106 x 29	24.9	17.6	14.0	11.5	10.1	9.2

## COMPUTER CONFIGURATION

### Minimum System Requirements

Dual Core / 1 GHz Processor PC with 2 GB RAM  
 2 GB available storage  
 Video 1024 x 768 resolution / 16-bit  
 1 available USB port (for data download)  
 1 available USB port (for software key)  
 Visit our website at <http://kicthermal.com/support-download/os-compatibility-chart> for product compatibility with Windows operating systems.

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#### X<sup>5</sup> Kit Contents

Profiler	Carrying Case
Thermal Shield	Thermocouples*
Software on USB Flash Drive	Electronic User Manual
Software Protection Dongle	Electronic Hardware Guide
USB Cable (A Male/Mini-B)	Gloves
AAA Batteries (6)	Getting Started Guide
Scissors	Calibration Certificate
Base Station (Receiver/Transmitter)*	Cable USB Gold A Male/ A Female Ext*

\* These items may vary according to specific models ordered.

#### Authorized Distributor

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