



# SPS Smart Manual Profiler

*The smart profiler for reduced cost, improved quality and convenient data sharing*



## SPS Advantages

- **Advanced Materials and Design**
- **Smart Oven Setup Software**
- **Compatible with KIC ecosystem**
- **2 Year Warranty**
- **24 Hour World Class Customer Support**



## Smart Manual Profiler

### Smart Capabilities

- Connectivity to factory level communication and analytics
- Integrated Navigator Power oven setup software. The standard Navigator software does an exhaustive search on all available oven setup combinations and selects the most optimum based on the user's criteria
  - » Center of process window
  - » Max conveyor speed
  - » Lowest electricity use
- PWI - Instant process analysis with a single number
- Unique process specifications for each thermocouple
- Mobile device accessibility
- Real-time profiling
  - » (Except the SPS 7 TC model which is also available in datalogging only)
- Intelligent software that condenses large data volumes into simple actionable information and insight

### Optional Smart Capabilities

- Auto-Focus Power software with intelligent database to enable oven setup recommendations prior to running a profile
- Expandable to the KIC smart factory ecosystem
  - » SPS acts as the programming tool to KIC's real-time and automatic process transparency & traceability systems
  - » SPS can connect to KIC's factory level database model
    - ✓ Analytics
    - ✓ Data sharing
    - ✓ MES connectivity and more
- Sweet spot optimization. The most common optimization is to seek the mid point between the process window's high and low limits
  - » The sweet spot optimization enables the user to select a target point within the process window limits

### Basic Features

- Fast and accurate manual profiling
- Single screen overview
  - » Profile graph
  - » Key profile data such as peak temperature
  - » Oven settings
  - » Suggested improved oven settings
- Intuitive user interface
- Solder paste specification library
- SPC and Cpk charting
- Profile stacking capabilities for multiple profile runs between data sharing. 30 profile capability.
- Available in 7, 9 and 12 TC versions

### Hardware

- LCP (Liquid Crystal Polymer) enclosure for better heat protection and faster cool-down between profiles
- Robust and durable enclosure and shields tested to 5 foot drops onto cement floor
- Long lasting NiMH rechargeable batteries for a reliable and safe power source. Enables wall socket charging and USB charging direct from computer

### Built-In Convenience

- Real-time profiling enabled via Smart Dock pairing (included with the real-time units) using ANT technology
- Record fast cooling to minimize wait between profile runs
- Secure and easy thermal shield opening and closing
- Instant profile analysis
  - » How well the profile accommodates the process window



# SPS SMART PROFILER

Accuracy: .....±0.5°C  
 Resolution: .....0.1°C  
 Internal Operating Temp: ..0°C to 85°C  
 Sample Rate: .....0.1 to 50 per second  
 Data Points: .....72K per channel  
 Temperature Range: .....-150°C to 1050°C  
 PC Connection: .....USB 2.0 (Std-A/Micro-B)  
 Power: .....Internal rechargeable NiMH battery  
     USB cable connected to PC or power supply  
     10 minute fast recharge for a single profile  
 Wi-Fi: .....2.4 GHz  
 ANT: .....2.4 GHz  
 Thermocouple Compatibility:  
     7, 9, 12 Channel Unit: ..Type K, Standard  
 Dimensions (L x W x H mm):  
     7-Channel Unit: .....188.0 x 60.0 x 17.0  
     9-Channel Unit: .....188.0 x 75.0 x 17.0  
     12-Channel Unit: .....188.0 x 98.0 x 17.0  
 Thermal Shields: .....See *Temperature Tolerance Table* below for specifications.  
 Vacuum compatibility: .....1.12kPa (8.40 torr) up to 45 minutes

SPS Smart Profiler Kit Contents	
Smart Profiler	Software CD
Smart Dock (Wi-Fi - ANT)*	USB Software Protection Dongle
USB Cable (A-Male/Micro-B)	Electronic User Manual
Thermal Shield*	Electronic Hardware Guide
Gloves	Getting Started Guide
Thermocouples*	Calibration Certificate
Scissors	Carrying Case
Power Supply	

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

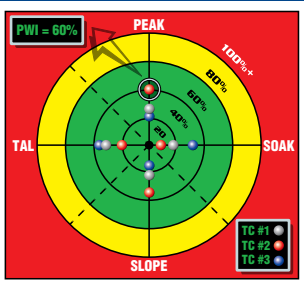
**Datalogger Model:** data are downloaded to the computer through a USB cable after the run.  
**Wi-Fi Model:** data are sent via Wi-Fi to the computer in real-time during the run. Data are also stored internally for USB download after the run.

*Note: The SPS Smart Profiler software, Profiling Software 2G, may interface directly with some oven controllers, eliminating the need for manual setpoint data entry. Please consult your oven supplier for availability.*  
 Accuracy based on factory calibration.

## 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
Stainless Steel Shield, 7 CH	317.0 x 75.0 x 23.0	19.5	14.3	12.7	11.0	9.6
CoolTouch Stainless Steel Shield, 7 CH	317.0 x 77.0 x 25.0	23.5	16.8	13.7	11.6	10.6
Stainless Steel Shield, 9 CH	317.0 x 100.0 x 23.0	23.5	17.5	14.5	12.5	11.5
CoolTouch Stainless Steel Shield, 9 CH	317.0 x 102.0 x 25.0	25.8	18.2	15.4	13.6	11.9
Stainless Steel Shield, 12 CH	317.0 x 114.0 x 23.0	22.5	17.6	15.1	13.7	11.3
CoolTouch Stainless Steel Shield, 12 CH	317.0 x 116.0 x 25.0	24.2	19.1	16.1	14.6	12.0

## 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*)



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### 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 or Smart Dock)  
 1 available USB port (for software protection dongle)  
 Visit our website at <http://kicthermal.com/support-download/os-compatibility-chart> for product compatibility with Windows operating systems.



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