EIA

solderstar*

SLX Profiling Systems

for Soldering Applications

Reflow Profiling   Wave Soldering   Selective Soldering   Vapour Phase

Featuring the

smartlink*

connection System

www.solderstar.com

OUR UNIQUE APPROACH

At the heart of our profiling systems is the versatile Solderstar SLX data-logger; a unique instrument that provides unprecedented flexibility, measurement performance and durability in what is the industry's smallest footprint. Small, light and robust, this reliable harsh-environment data-logger allows accurate data capture from any soldering process.

Packed with advanced features, the Solderstar SLX provides power, communications and memory to a range of process specific devices via the innovative SmartLink connector system.

This interface allows docking to a range of heat-shields and process specific accessories to form a versatile and scalable solution.

Solderstar's one logger, multi-process concept maximises your investment and offers real world savings through reduced training and on-going service or calibration costs

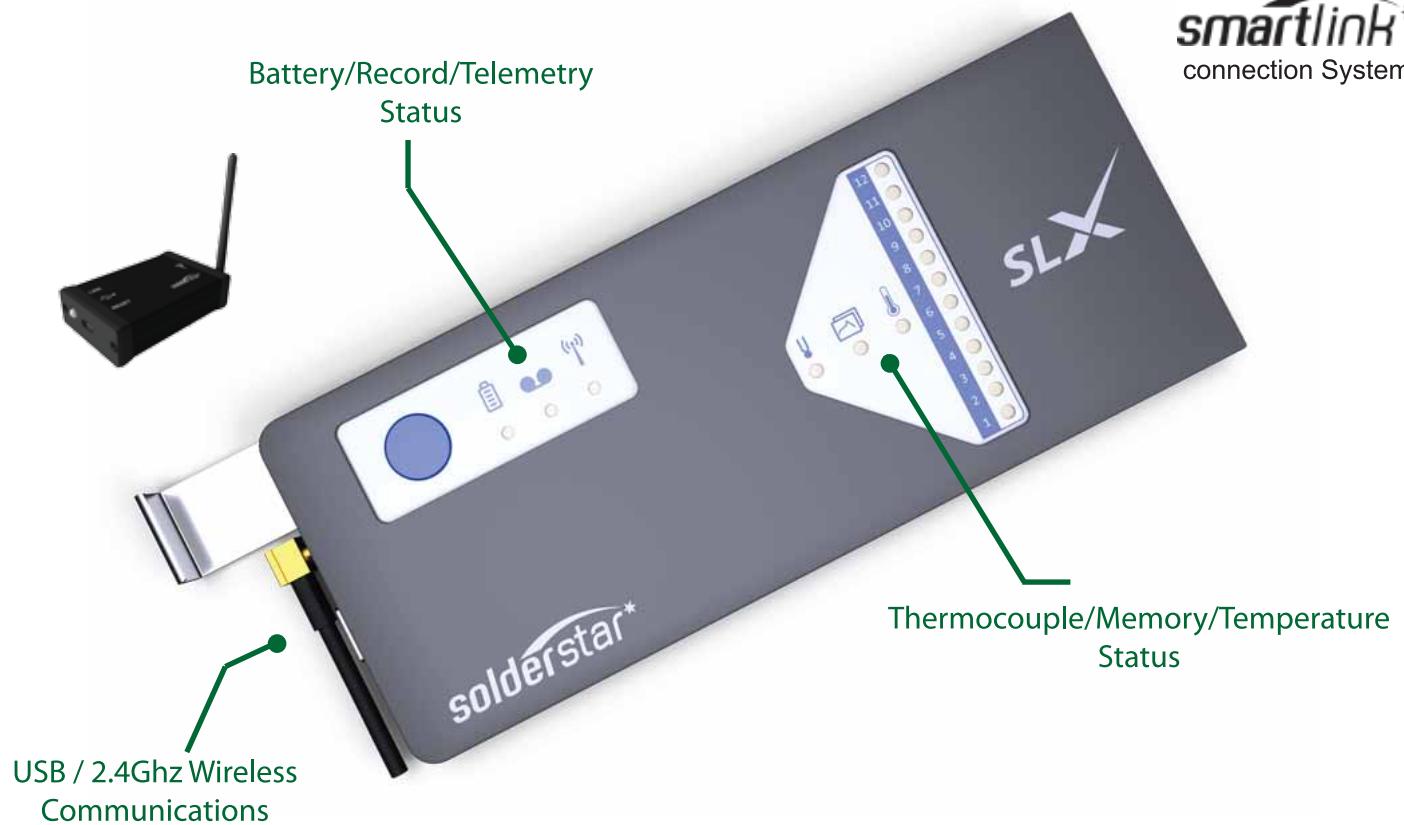## UNRIVALLED ACCURACY FOR MULTIPLE SOLDERING PROCESSES

With the emergence of lead free soldering within the electronic manufacturing industries, one company had the vision, experience, industry knowledge and technical ability to create the new generation of advanced, instrumentation capable of providing the standard of process monitoring technology required across all soldering processes. Solderstar has continued to develop newer, even more innovative solutions and today the Solderstar Pro provides the ultimate in versatility.

It is the only device you need, providing easy-to-use, fully affordable thermal quality-control for Reflow, Wave, Selective and Vapour phase processes.

The NEW SLX Profiling Datalogger

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Battery/Record/Telemetry Status

Thermocouple/Memory/Temperature Status

USB / 2.4Ghz Wireless Communications

Zero Setup, Multi-memory profiler

The new Solderstar SLX is an accurate, robust, ultra-compact, battery powered datalogger used for measuring and recording process parameters from any soldering process.

Requiring minimal user setup the SLX unit can be docked onto any SMARTLink reflow heatshield or other process accessory and the system will auto-configure itself for data capture.

The logger, sensor and memory status are displayed conveniently for the user via status indicators and a multi-bar graph display.

The new unit features many improvements and real performance, with USB download speeds 10 times faster than previous models, 2.4Ghz telemetry options along with increased measurement range all while still maintaining +/- 0.5 C accuracy.

The SLX can be ready to profile from as little as a ten minute charge from your PC, and has an impressive 15 hours profiling time from a two hour USB charge. The new internal high temperature battery system is user replaceable and can be changed if required in seconds.

New Features

- Zero user setup for error free data capture

- Ultrafast USB downloading + 2.4Ghz Wireless Telemetry option

- User replaceable high temperature battery

- Multiple memories for profile storage

- Automatic thermocouple and temperature status checking

- +/- 0.5°C accuracy from -200 to 1372 °C

Reflow Soldering

Thermocouple Adapters availablein 6,9,or 12 Channel versions

Solderstar's range of low-height heatshields,provide maximum thermal protection for the Solderstar SLX datalogger while passing through the reflow oven.

Manufactured from stainless steel, and utlising high performance micro-porous lightweight insulation results in high thermal protection and rapid cool-down cycles.
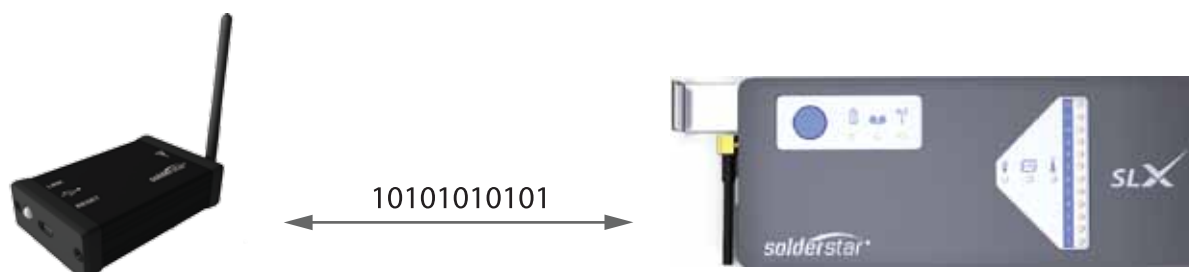
A range of innovative Smartlink based thermocouple adapters, allow you system to be extended for measurement upto 12 Type-K channels.
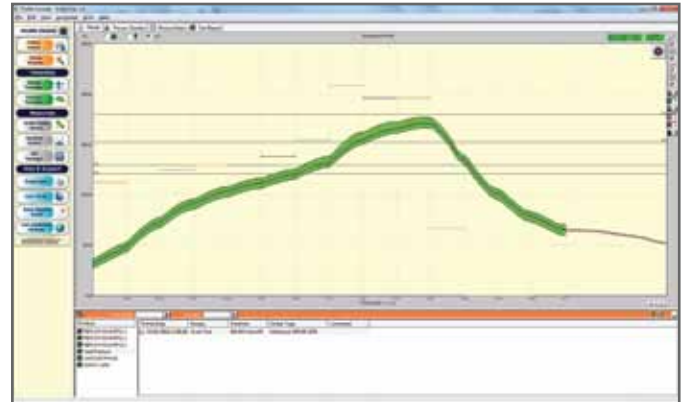

Adjustable offset via Pillar height

Conveyor pin

Adjustable reflow transporters are available in a range of sizes to carry your profiling system thorugh your oven with ease.

Two way Wireless Telemetry

The Solderstar SLX dataloggers can be supplied with an optional wireless telemetry system. Live profile information can be received to the PC software while the datalogger is passing through the soldering process. This special system uses a 2-way protocol, resulting in error free data transmission. The transmission channel can be adjusted to allow multiple dataloggers to operate within the same area. The system operates with the 2.4Ghz band and is approved for use all around the world.

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Reflow Oven Verification

PC Analysis Software with
Tolerance Band Functions

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Precise verification and SPC for reflow soldering

The Solderstar DeltaProbe removes the need to use fragile test boards for periodic profiling required for ongoing control of the reflow process.

With fixed sensors and no test card or long trailing wires, the DeltaProbe is a robust and convenient platform for generating highly repeatable oven measurements.

Although process setup requires a temperature profile captured from a real test PCB, ongoing process monitoring can be achieved by measuring the difference from an established process baseline. Periodically the DeltaProbe is passed through the process to allow oven verification and SPC data to be captured. Process change, due to variations in convection levels, conveyor speed or zone setpoints, are instantly and accurately detected and the operator is notified visually.

Integrated SPC tools allow the operator to produce process control charts for ongoing process control measurement, evaluation and corrective action.

A 'golden profile' for each process is established in 3 easy steps:

1 The optimum oven settings are first established by product profile capture and simulation

2 The DeltaProbe is then passed through the reflow oven to capture a 'golden process profile'

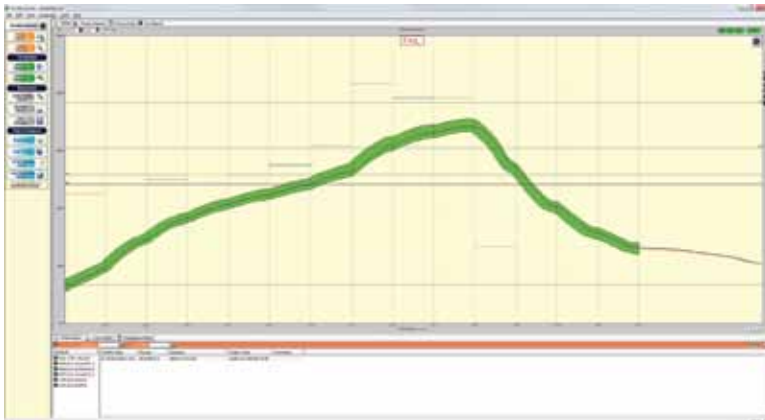3 Tolerance limits can now be set around temperature traces and process parameters

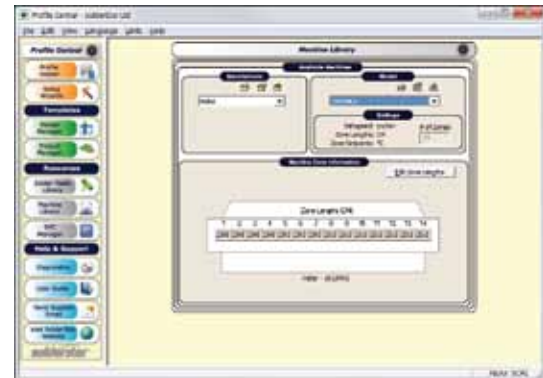# Reflow software and optimisation

Solderstar's class leading, industry focussed software tools provide a comprehensive, easy to use analysis and process documentation solution for all manufacturers of electronic assemblies.

Built on intelligent database technology, these tools simplify the process of managing, storing, searching and saving product information, recipes and profiles. Data centralisation also eases multi access, transfer, relocation and back up of process data on local or remote network drives.

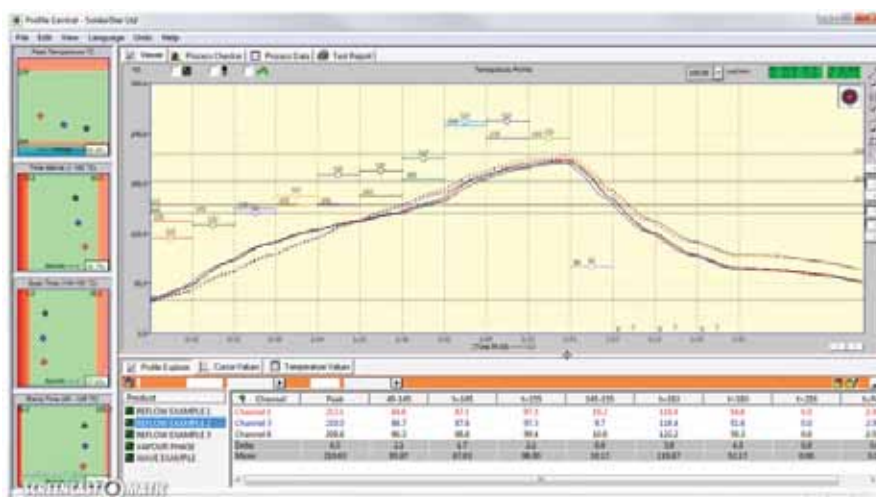## Detailed Profile Analysis

Pre-defined Information Libraries

Professional Test Reports

Download
Demo Software at
www.solderstar.com

Automatic Reflow Profile Optimisation

- Find more optimal profiles
- Search for faster throughput
- Evaluate lower energy solutions

*Scan QR to see
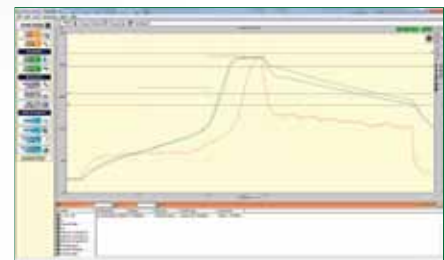Autoseeker video*

See AutoSeeker in action at :- https://youtu.be/403RFnmL2hk

Vapour Phase

Low mass vacuum
capable shield

PC Analysis Software with
Vapour Phase process support

2.4Ghz Telemetry available providing datalink
within vacuum stage machine

Vapour Phase Profiling for batch and inline machines

The Solderstar SLX - VP system allows users of batch and in-line vapour phase soldering machines to fully profile their products in the same way as a conventional reflow oven.

The system includes the Solderstar SLX data-logger combined with a sealed light-weight heat shield capable of operating in the pre-heat, vapour reflow and vacuum stages of the machine.
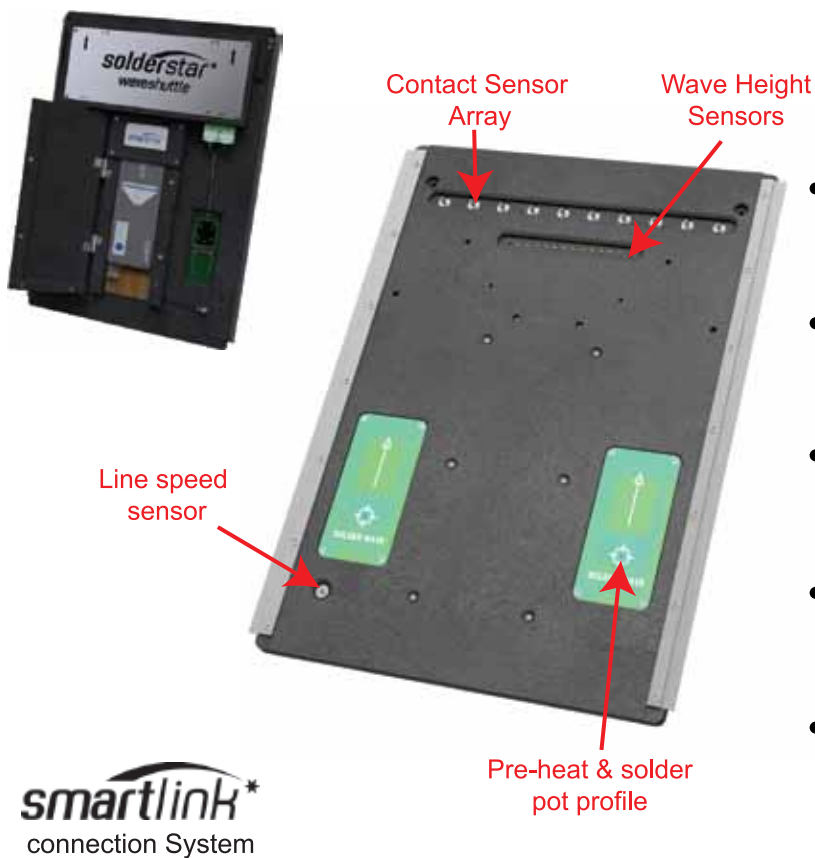
Data can be passed to a nearby PC via wireless telemetry allowing the profile to be viewed in real-time by the user.

Once data capture is complete the heat shield can be opened and the datalogger removed, allowing rapid cool down cycles and minimising the risk of overheating the profiling unit.

System Advantages

- Standard data logger and heat shield solution maximised datalogger protection

- Extendable for control of wave / selective or reflow soldering

- Unique SmartLink connection system provides quick datalogger connection to a range of products and accessories

- Low mass thermal shield provides minimal impact to process

- Error free Wireless Telemetry with automatic offload and catchup ensure no gaps in data transmission

- Extendable Wireless range > 100 Metres from machine

Wave Soldering

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Contact Sensor Array

Wave Height Sensors

Line speed sensor

Pre-heat & solder pot profile

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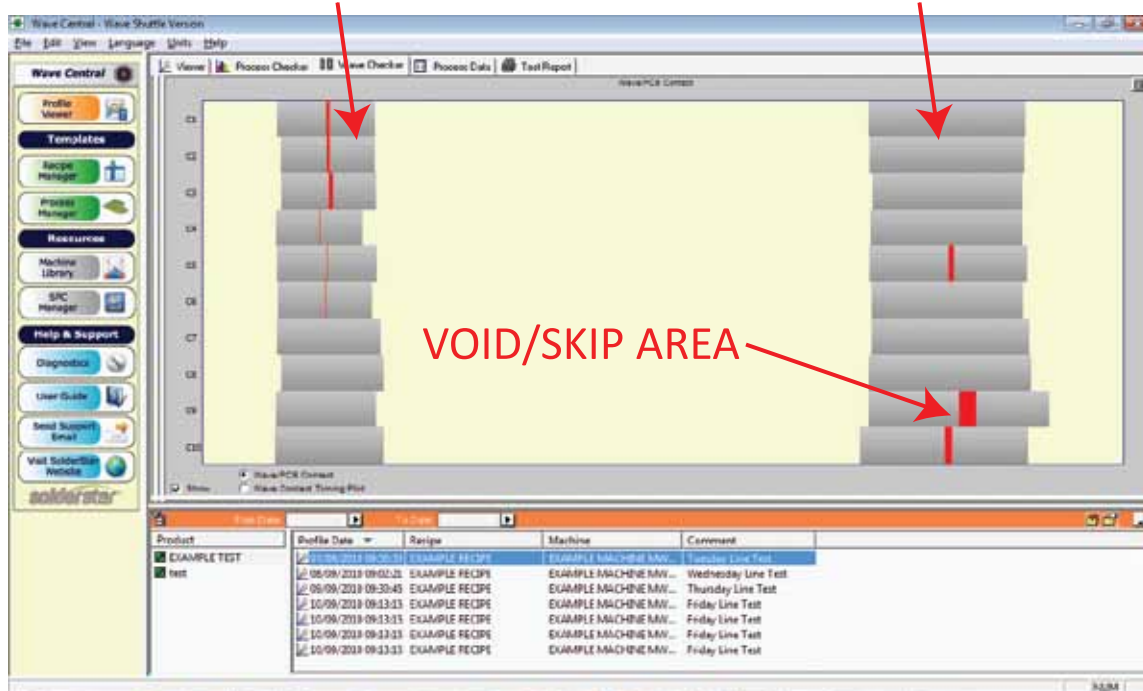connection System

System Advantages

- High quality 10mm fixture provides a robust platform for initial process set up, plus periodic checking and comparison

- Underside titanium contact sensors give highest measurement accuracy on Wave Height, Main and Chip wave parameters

- Custom widths and sensor positions available for fixed width production lines or special applications

- Connectivity via standard USB cables or 2.4Ghz Wireless Telemetry

- Dedicated Wave Central PC analysis software with integrated SPC charting package

Measure all key wave solder parameters in a single pass

The WaveShuttle SLX is an intelligent fixture that measures all key parameters from a single pass through the wave soldering machine. Thermocouples are combined with titanium contact sensors, allowing manufacturers to gain a true performance measurement of the wave soldering process.
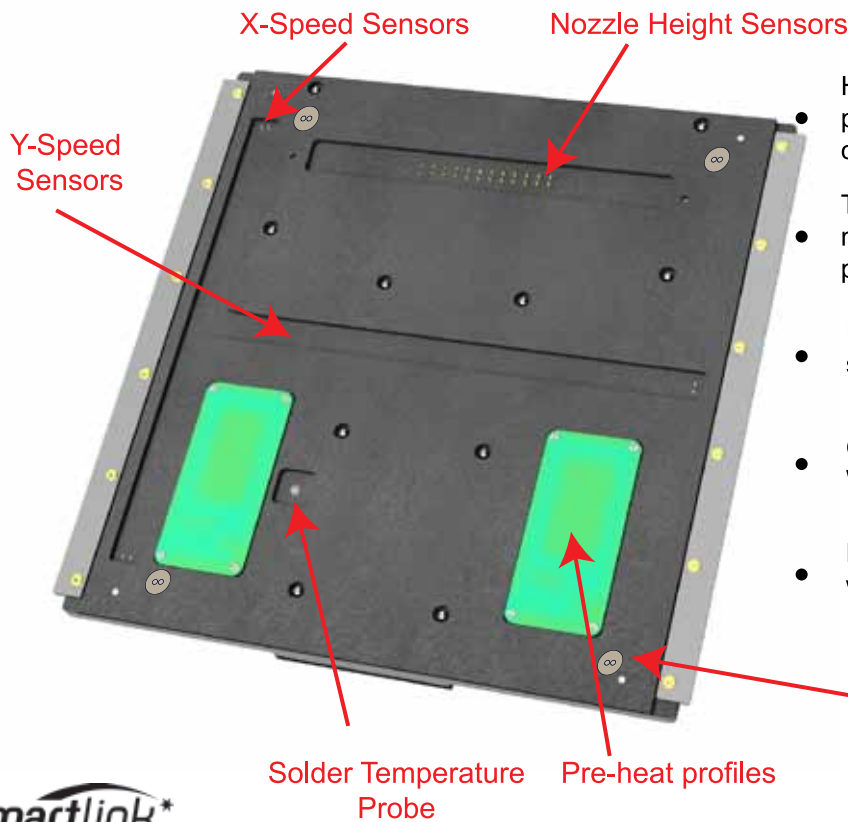
CHIP WAVE
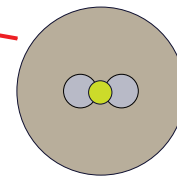CONTACT AREA

MAIN WAVE
CONTACT AREA

VOID/SKIP AREA

Mini-wave Selective Soldering

X-Speed Sensors

Nozzle Height Sensors

Y-Speed Sensors

System Features

- High quality 10mm fixture provides a robust platform for initial process set up, periodic checking and comparison

- Titanium contact sensors give highest measurement accuracy Solder Nozzle performance

- Fully enclosed and protected measurement system ideal for hotter lead-free processes

- Connectivity via standard USB cables or 2.4Ghz Wireless Telemetry

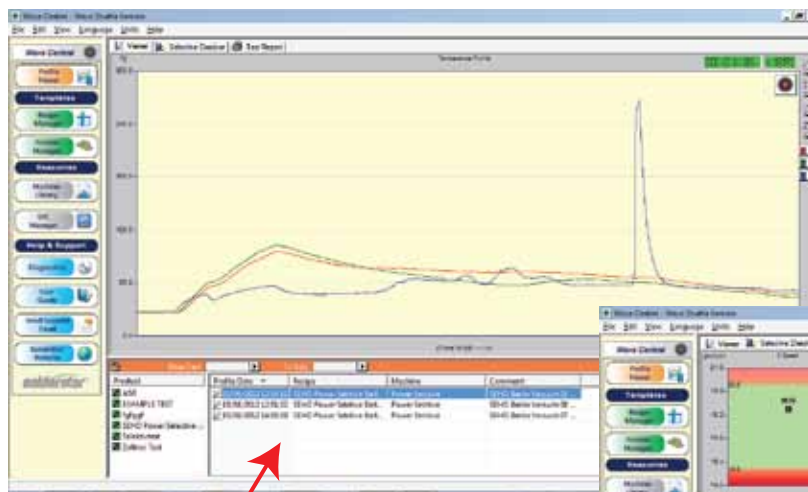- Dedicated Wave Central PC analysis software with integrated SPC charting package

Flux Sensing Option

Solder Temperature Probe

Pre-heat profiles

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Precise measurement and control for Mini-Wave

The Solderstar Wave-Selective provides detailed analysis of all key parameters from the selective soldering process.Pre-heat temperature profiles, solder pot and solder nozzle measurement sensors are combined in one easy to use measurement fixture, this unique tool allows manufacturers to quickly perform setup and verification profiles of their selective soldering machines

SELECTIVE PROCESS CHECKER CHARTS FOR RAPID GOOD/BAD ANALYSIS

PROFILE GRAPH AND DATA MANAGEMENT TOOLS

Multi-wave Selective Soldering

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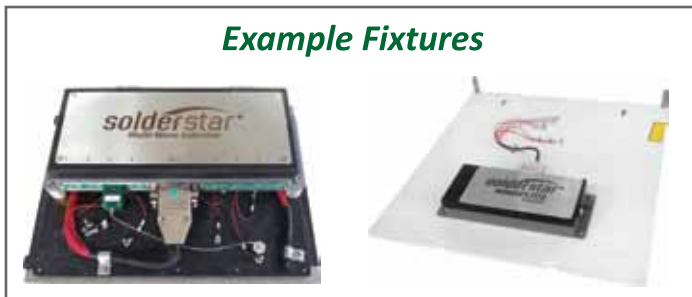connection System

System Features

- 24 x Titanium contact sensors and interface looms alow cost effective manufacture of custom fixtures

- 8 x Type K measurement channels

- Connectivity via standard USB cables or 2.4Ghz Wireless Telemetry

- Dedicated analysis software with data managment tools and integrated SPC charting package

Example Fixtures

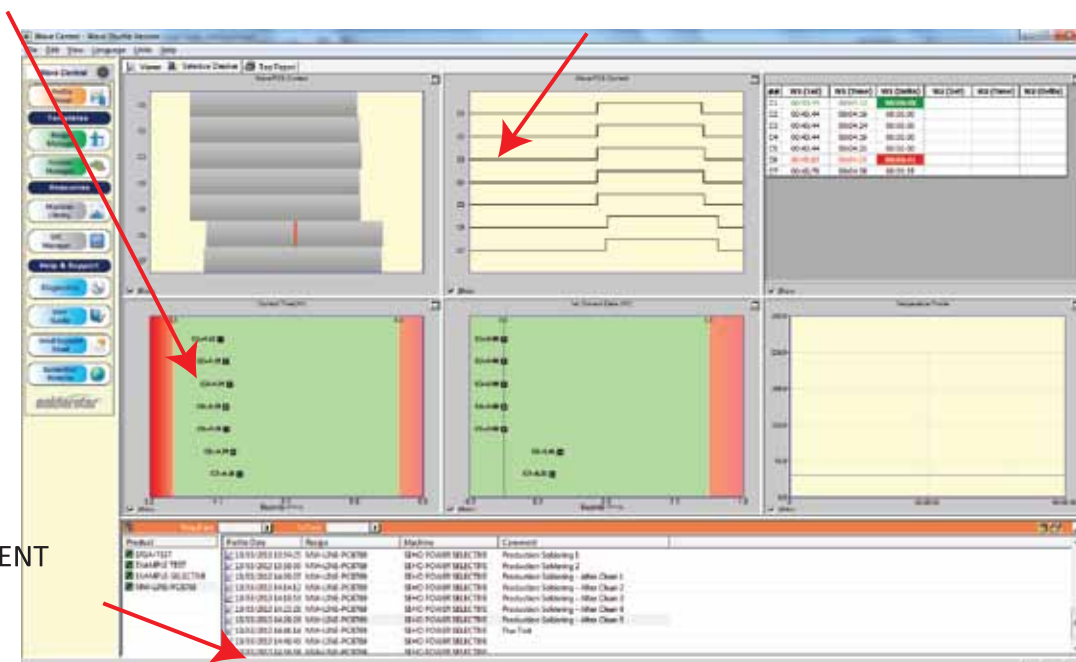## Flexible Analysis of Multi-wave / Dip Solder Processes

The MultiWave SLX is a compact and flexible instrument allowing dedicated test fixtures to be produced quickly and cost effectively for multi-wave soldering machines.

Measurement sensors are fitted to customer specific locations which correspond to the soldering areaswithin the multi-wave solder pot tooling, this technique provides contact time and difference data to quickly allow engineers to identify any problem areas within the tool design.

INSTANT GOOD/BAD
ANALYSIS OF PROCESS

ACCURATE MEASUREMENT
OF NOZZLE/PCB CONTACT

DATA MANAGEMENT
TOOLS

Support

Solderstar customers enjoy the benefit of knowing that you have invested in a professional solution which has already proved itself, in 1000s of facilities around the world, in being able to stand up to the rigours of daily use.

Our products are available in every major manufacturing market through our chain of experienced industry partners who provide localised sales support and training.

Calibration and service functions are available at most local distributors or via centralised support capabilities in the UK, Germany, Hong Kong and the USA.

Product support and response time to field problems is second to none.
If you have a problem, we will react promptly and with professionalism, all Solderstar software and hardware is developed in-house and problems will be quickly resolved by experienced engineering staff, with most problems fixed and implemented within the same day.

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