DATAPAQ®

A Fluke Company

EasyTrack2 with **insight** software
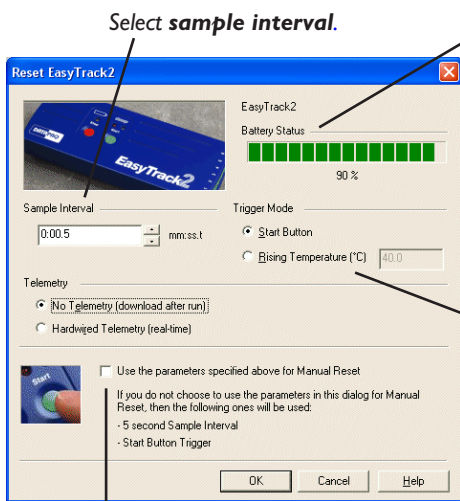
Quick Reference Guide

Running a temperature profile

1 **If...** *EITHER* you are making the first profile run with a new EasyTrack2, *OR* you want to change the reset conditions (sample interval or start trigger), first connect the logger to the PC and **reset the logger with Insight™**.

*Select **sample interval**.*

*Check **battery status**.*

| GREEN: OK |
| YELLOW: Caution |
| RED: Replace battery |

Reset EasyTrack2

EasyTrack2

Battery Status

90 %

Sample Interval: 0:00.5 — mm:ss.t

Trigger Mode:
- ◉ Start Button
- ○ Rising Temperature (°C) 40.0

Telemetry:
- ◉ No Telemetry (download after run)
- ○ Hardwired Telemetry (real-time)

☐ Use the parameters specified above for Manual Reset

If you do not choose to use the parameters in this dialog for Manual Reset, then the following ones will be used:
- 5 second Sample Interval
- Start Button Trigger

[OK] [Cancel] [Help]

*Using **temperature as the trigger**, data-recording starts when the temperature of any probe rises to the specified value.*

*Check this option to ensure that future **manual resets** (i.e. using only the Start button) will use the conditions specified in this dialog.*

Next...

Press green Start button to start data-recording.

To use the same reset conditions as in the previous run, there is no need to connect to the PC: simply press the Start button.

2 **Place logger in thermal barrier** and **attach thermocouples** to product or test piece.

Installing the software

1. Ensure you are logged into Windows in Administrator mode.
2. Place the Insight DVD in the drive and follow the on-screen instructions. You will need your license number.
3. Remove the DVD, and use the communications lead to connect the logger to a USB port on the PC; the red LED on the logger should flash five times. Drivers will then install automatically.

ⓘ **Found New Hardware**
Your new hardware is installed and ready to use.

EN

3
- **Send through oven.**
- **Collect at exit.**
- **Remove logger from thermal barrier.**

CAUTION
Wear heat-resistant gloves.

4 **Press red stop button, connect communications lead** and...

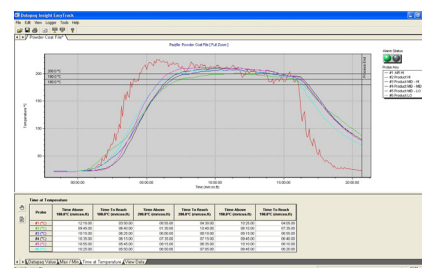...**download to PC.** After download, disconnect communications lead to conserve logger battery.

5 View the temperature profile and **save the data**.

Print a report.

Key functions of Insight EasyTrack software

Quick-access toolbar buttons
Use in sequence to perform a quick test from scratch (see below).

Threshold temperatures
User-selectable.

User-corrected oven start
To make data consistent between runs, set the zero time as the point where the system enters the oven.

Color-coded probe buttons
Click to select which probe results are viewed and reported.

Run alarms
Pass
Fail

Mouse-operated zooming
Drag out an area to zoom into. The data grid and analysis then apply to that section of the data alone.

Movable splitter bar
Choose how much of the screen to devote to the graph or to the data.
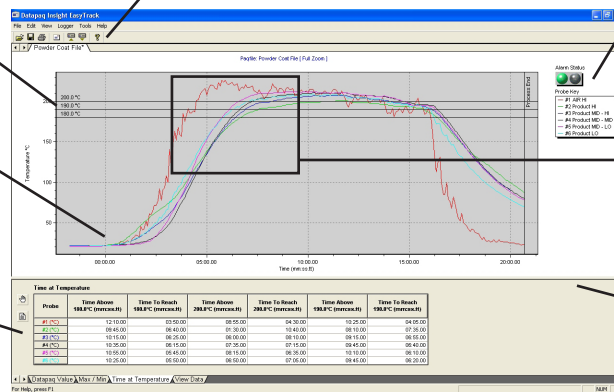
Program the logger
Check **battery status**: **green** battery OK, **yellow** caution, **red** replace battery.
Select **sample interval**: manual (green start button) or temperature trigger.

Download data
Transfer collected temperature data from the run to the PC for reporting.

Make notes on your process
Write notes to describe where the thermocouples are attached to the product. Add useful details relating to the test and the process (product, operator, process, etc.).

Save results
Save the results of your profile run as a **paqfile** for future use.

Auto setup for new process
When a paqfile is saved, the process details for that application (e.g. oven used, probe locations, product, target cure schedule) are retained as the default, ready for data from the next run to be downloaded. This saves setup and analysis time when repeating a run for the same application.

To change the process details when about to perform a run for a different application, simply **open a paqfile for an appropriate application saved previously**. If necessary, you can edit the process details before the new profile run data is downloaded.

Email the results
Send the profile results as an email. In case the email recipient does not have Insight, the email contains a link to download free **Paqfile Viewer** software with which to view the temperature profile.

Print report
Print a single-page report, providing all the above graphical and numerical analysis information.

Mouse right-click
Right-click on the graph to show a menu of commonly used options:

Overlay   Overlay two temperature profiles on the same graph to compare graph shapes and analysis results (e.g. Datapaq Value). Ideal for process optimization.

Adjust Oven Start   Allows you to position the markers for oven start and process end in a paqfile.

Copy   Exports a paqfile's data to the Windows clipboard – as text or as spreadsheet data.

Show Full Zoom   Sets the graph zoom to show all the data in the paqfile.

**Show Process Zoom**   Sets the graph zoom to show all the data between oven start and process end.
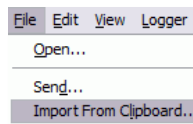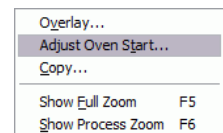
Import non-Datapaq files
Opens the **Clipboard Paste Wizard**, which guides you through the process of selecting data in a spreadsheet application and importing it to a new or existing paqfile.

Help
On any dialog, press the **Help button** for information specific to the operation you are performing.
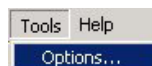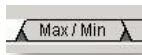
Options
Select options for system operation, including Units, Run Alarms and Calibration Alarm.
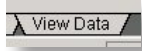
The analysis options

Max/Min Temperature

| Max / Min |

Calculate the maximum temperature and time achieved for each probe location on the product measured.

- Use Max/Min information to calculate temperature slopes over a selected zoom.

View raw data

| View Data |

Display the product or air temperature at any point in the process.

- Click the left-hand mouse button on the trace of interest.
- Using the mouse, move cursor bar to the appropriate position and read time and temperature information.

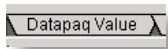## Time at Temperature calculation

| Time at Temperature |

Calculate the time at which a product reached a specified temperature, and the dwell time the product was held at, or above, that temperature.

- Click on the Options button to select up to three threshold temperatures.

Datapaq Value

| Datapaq Value |

Calculate the index of cure value against coating supplier cure specifications using all temperature data from the profile graph that contributes to the cure process.

- Click on the Options button and input the cure schedule information obtained from your coating supplier.

Three coating cure schedules (low, mid and high Time at Temperature settings).

Analysis Options

Datapaq Value

Parameters

	LOW		MID		HIGH		Min Temp (°C)	Max Temp (°C)
	☑ Time Above		☑ Time Above		☑ Time Above			
	Temp	Time	Temp	Time	Temp	Time		
1	190.0	12:00.00	200.0	10:00.00	210.0	09:00.00	160.0	220.0

OK   Cancel   Help

*Temperature at which curing (cross-linking) starts.*

Temperature above which coating damage is possible.

Find the acceptable range of Datapaq Values (e.g. 90–140), which give you the coating cure quality you require from physical QA tests:

- Generally **near 100** indicates **cure OK**
- Significantly **less than 100** indicates **under-cure**
- Significantly **greater than 100** indicates **over-cure**

Use Datapaq Value as an ideal process control or optimization indicator. If Datapaq Value falls within your specified range (e.g. 80–140), the process is in control – continue production with confidence.

Alarms
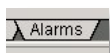
| Alarms |

See when a FAIL alarm condition is triggered and what was the cause of the alarm, e.g. logger over temperature, low battery, invalid measurements.
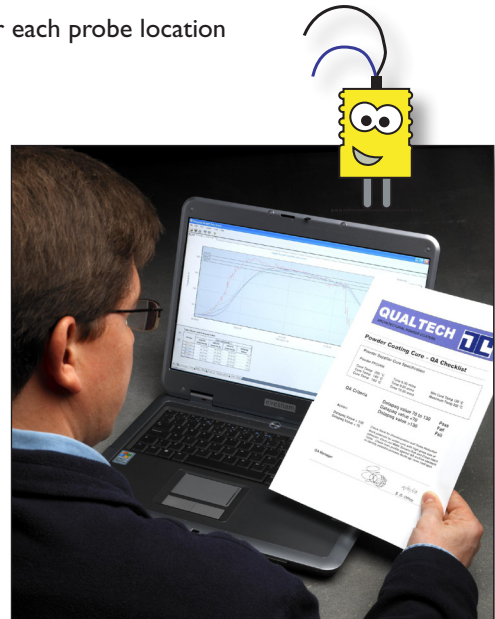
The logger's battery

The EasyTrack2 logger requires a 9V PP3 alkaline battery.

It is important to use only good-quality, branded batteries, e.g. Duracell Plus or Procell.

Do not use zinc-carbon or zinc-chloride batteries, rechargeable batteries, batteries that may have been used previously, or batteries outside their shelf life.

The EasyTrack2 employs non-volatile memory, so – even when the battery is replaced – data stored in the logger will not be lost.

Fitting batteries

1. Open the battery compartment by releasing the magnetic catch on the battery compartment.
2. Remove the old battery by gently pulling the white connector block.
3. Replace with a new alkaline 9V PP3 battery.
4. Replace the battery compartment lid.

For the first profile run after replacing the battery, you must reset the logger using Insight (see first page).

Battery status LEDs

During a profile run, or immediately after the communications lead is inserted, battery status is as shown below.

Battery Status LED – **Yellow**	Logger Status LEDs **Red**/**Green**	Meaning
Flashing	Flashing or off	Battery low: replace
Off	Off	Battery dead: replace
Off	Flashing (red or green)	Battery OK

Battery Status LED
Yellow

Logger Status LEDs
Red
Green

Saving Battery Life

To limit power consumption and maximize battery life, the logger will power itself down (all LEDs off) at the following times.

- When the communications lead is removed from the logger after a download.
- Five minutes after the red Stop button has been pressed if the data is not downloaded.
- When the communications lead is plugged into the logger, and the logger detects no activity for 5 minutes.

To **power down the logger manually**, press the green and red buttons simultaneously and hold them for 3 s.

To **power up the logger**, either plug in the communications lead or (to start a profile run) press the green Start button. If the logger has data in memory that has not yet been downloaded, pressing the Start button will not start a new run or delete data but will simply power the logger up; the red LED will then flash every 5 s to indicate that data needs to be downloaded.

Logger status LEDs

Red	**Green**	Meaning	Action
5 flashes, alternating with **green** LED	5 flashes, alternating with **red** LED	Logger successfully reset	None
Flashing, alternating with **green** LED, at sample interval	Flashing, alternating with **red** LED, at sample interval	Logger awaiting trigger (either Start button or temperature)	None
Flashing together with **green** LED	Flashing together with **red** LED	All probes are above trigger temperature, and thus data-recording cannot be triggered by rising temperature	Reset Temperature Trigger from PC
Off	Flashing at sample interval	Logger acquiring data	None
Flashes 5 times (once per second)	Off	Connection between communications lead and logger has been made	None
Flashing every second	Off	Serious internal error	Contact Datapaq
Flashing every 5 seconds	Off	Logger has data in memory which has not been downloaded	Download to PC, or perform a PC reset to delete data
2 quick flashes every second	Off	Logger too hot to start logging (after pressing Start button)	Allow logger to cool