# Oven Tracker®
Insight™ Software
Making a difference – the benefits of Insight Professional

Datapaq® powerful Insight™ analysis software has been designed specifically to convert raw temperature data into meaningful information that can be used to understand, control and optimize your cure process.

Choose the level of functionality to suit your needs:

- **Insight Professional** – full Insight package. Includes the ability to choose which functions remain active and which ones to hide. Reintroduce features as and when your process requirements change.
- **Insight Basic** – basic Insight package. Just as accurate and efficient as Insight Professional, but with reduced functionality. Ideal for new users or for situations where collecting data for use by others is the only requirement.
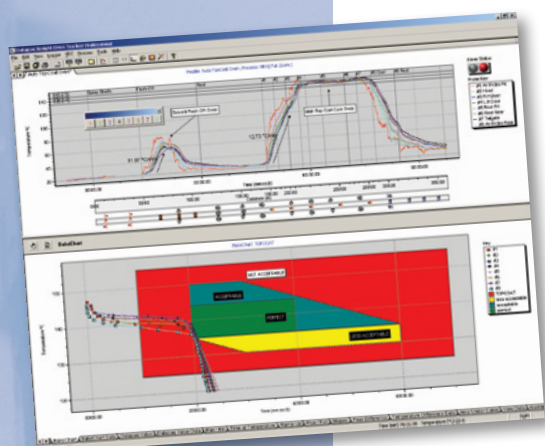
SmartPaq – Pre-program MemoryPaq with process pass/fail criteria based on either Datapaq Value, Time at Temperature or Maximum Temperature.

Integrated SPC – Integrated Statistical Process Control (SPC) function used to monitor process variability of key analysis parameters. Predict oven process problems before they occur. Summarize the performance of your oven with a single report.

Digital BakeChart – Create a digital version of your paint suppliers BakeChart cure specification. Report Time at Temperature data direct from the profile against the cure window to see instantaneously if your process is in specification. Apply the unique Datapaq ISO cure function to derive from the BakeChart all Datapaq Value parameters and pass/fail criteria.

Customized reporting – Create your own comprehensive, customized profile report and add further required supplementary test/process information. Share data easily by exporting to a PDF.

Probe Map with linked Photo Archive – Place thermocouple markers on a digital image of an automotive car body shell to show exact placement.

Process files – Use the Process Template file to describe the oven process, product and coating cure parameters. Set up analysis and alarms, create once and then use as default, eliminating time-consuming parameter input.

Datapaq Value – The industry accepted Index of Cure calculation. A value of 100 represents a perfect match between your production run and the paint supplier's cure requirements. Easy-to-use Wizards to help with parameter input. Create and share a library of Datapaq Value parameter files for the range of coatings you use.

Process Optimization Tool – Automatically and accurately predict the effect of altering profile data such as product temperature and line speed on the process performance using the Datapaq Value analysis tool. Make informed theoretical process change recommendations without need for a costly tedious repeat testing (trial and error) approach to process optimization.

Automotive analysis tools – Designed to satisfy the most demanding of automotive oven control and monitoring procedures:

- Ramp Up Analysis – meet paint suppliers specifications to eliminate solvent pop issues
- Temperature Difference Probe – check to confirm that temperature variations from opposite sides of the car are within specification
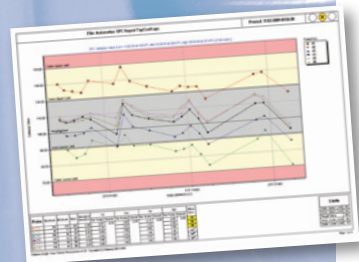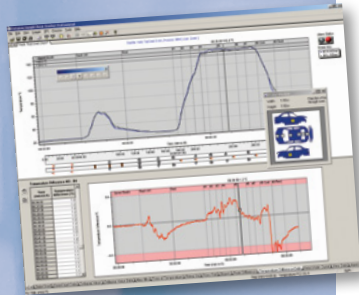
Insight Analysis Software V7.3 or higher	Basic Insight	Professional Insight
Access to cut down basic software	Yes	Yes
Software customization	No	Yes
SmartPaq pass/fail set-up	Yes	Yes
Advanced security	No	Yes
Auto logger detection	Yes	Yes
Onboard calibration data	Yes	Yes
Probe Map with linked photo archive	No	Yes
Datapaq Value Wizard	Yes	Yes
Datapaq Value parameter file (.DPV)	Yes	Yes
Multi run – intelligent download	No	Yes
Logger/probe correction factors	No	Yes
SPC – extrapolation feature	No	Yes
PDF report generator	Yes	Yes
Onboard quick reference guide/animated tutorials	Yes	Yes
Onboard service diagnostics	Yes	Yes
Ramp Up Analysis tool	No	Yes
Temperature Difference Probe Tool	No	Yes

Basic Functions	Basic Insight	Professional Insight
Windows 32 (Explorer File Handling)	Yes	Yes
Selectable Probe Traces	Yes	Yes
View Temperature Data	Yes	Yes
Maximum Temperature/Time Reached	Yes	Yes
Time @ Temperature	Yes	Yes
Datapaq Value 'Index of Cure'	Standard	Advanced
Process File	Simplified (6 zones)	Full
Logger Alarms (Low Battery, Over Temperature, Invalid Data)	Yes	Yes
Calibration Expiry Warning	Yes	Yes
Oven Start Correction Manual	Auto (Time/Temp)	Auto (Time/Temp)
Probe Alignment Correction	Manual	Manual
Context Sensitive Help	Yes	Yes
Wizard Operation	Yes	Yes
Operator Mode	No	Yes

Data Analysis	Basic Insight	Professional Insight
Multiple File Handling	Yes	Yes
Import Data	Yes	Yes
Analysis Alarms	Yes	Yes
Graph Overlay	up to 3	up to 10
Tolerance Curve	No	Yes
Process Optimization Tool	No	Yes
Ideal Curve "Cure Predicition"	No	Yes
Advanced Process File	No	Yes
Advanced Analysis (Slope)	No	Yes
Advanced Analysis (Rise/Fall & Peak Difference)	Yes	Yes
Thermograph/3D Graph	Yes	Yes
Contour Plot	No	Yes
BakeChart	No	Yes
ISO Cure Function 'Datapaq Value'	No	Yes
SPC	No	Yes
Paqfile Merge/Extract	No	Yes
Area Under Curve	Yes	Yes
1st Derivate	No	Yes
Virtual Probe	No	Yes
Oven Mimics	No	Yes

Data Reporting	Basic Insight	Professional Insight
Profile Report Fixed	Customizable	Customizable
SPC Report	No	Yes
BakeChart Report	No	Yes
Print Preview	Yes	Yes
Data Export	Yes	Yes
Paqfile Viewer	Yes	Yes
E-mail	Automatic	Automatic
Report Generator Wizard	No	Yes

Technical Data

Datapaq® DP5

First of a new generation of profiling solutions from
Fluke Process Instruments

The Datapaq DP5 range of loggers is intended for use in short and medium duration thermal processes; the design is optimized for low height and fast reading capabilities.

The Datapaq DP5 has been designed to ensure minimum cost of use and achieves this by making use of 'off the shelf' charging and communication leads.

In addition all of the Datapaq DP5 loggers feature a rechargeable and user replaceable NiMH battery pack, combining ease of use with lowest running costs. The user replaceable battery charges from flat to usable in just five minutes. A full charge takes only 90 minutes and can provide 20 profile runs.
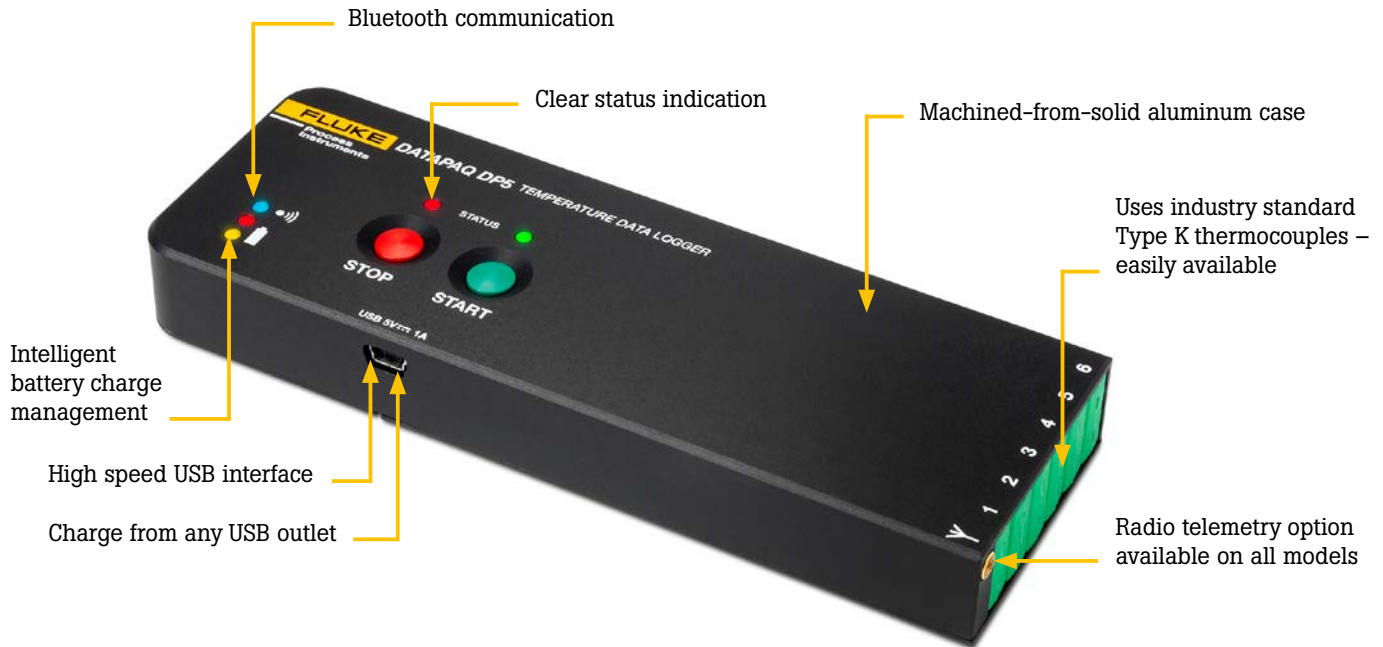
Available in 6 and 12 channel configurations, with logger height as low as 11.7 mm (0.46 in) and as narrow as 57 mm (2.24 in) — choose the unit to fit your process.

- Communication with the Insight software is via USB or Bluetooth
- Compatible with the TM21 radio telemetry system enabling real time data collection from the harshest of environments.*

The Datapaq DP5 is available in a number of formats ensuring the best match of profiler to process restrictions.

* Contact Fluke Process Instruments for availability of telemetry/Bluetooth in your country.

Data Logger Datapaq DP5

Bluetooth communication

Clear status indication

Machined-from-solid aluminum case

Uses industry standard Type K thermocouples – easily available

Intelligent battery charge management

High speed USB interface

Charge from any USB outlet

Radio telemetry option available on all models

Rugged
The Datapaq DP5 is housed in a 'machined from solid' aluminum case ensuring maximum protection for the electronics when used in an industrial environment.

Easy to use
The simple color coded two button interface ensures the system is easy to use.

Ready for use
The ability to recharge from any USB outlet results in a logger that is always ready for use. The USB charging combined with a logging time in excess of 24 hrs, on a single charge, ensures Datapaq DP5 is ready when needed.

Time saving – multiple profile capability
The logger can store up to 10 profile runs before being returned to the PC for download and detailed analysis. This enables rapid verification of a number of ovens with no wasted time

Immediate results – from within the process
The powerful built-in & harsh-environment radio transmitter provides real time data from within the process opening a 'window' into the process, speeding up fault finding and process optimizations.

DP5660
The most frequently specified version of the Datapaq DP5, the DP5660, is used in short duration low height processes in electronics and coating curing applications.

DP5661
The DP5661 is used where height and width are both severely limited.

DP5662
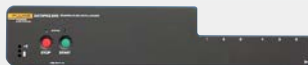The DP5662 is used where width is limited.

DP5612
The DP5612 offers 12 channel capability in an easy to use and rugged package using standard thermocouple connectors.

DP5622
The DP5622 a 12 channel logger for use where width is limited.

Technical Specifications

Data Logger Datapaq DP5

Model	DP5660	DP5661
Height	11.7 mm (0.46 in)	11.7 mm (0.46 in)
Width	106 mm (4.10 in)	60 mm (2.30 in)
Length	150 mm (5.90 in)	301 mm (11.8 in)
Weight	0.3 kg (0.66 lbs)	0.3 kg (0.66 lbs)

Model	DP5662	DP5612	DP5622
Height	20 mm (0.70 in)	20 mm (0.70 in)	20 mm (0.70 in)
Width	57 mm (2.20 in)	106 mm (4.10 in)	60 mm (2.3 in)
Length	165 mm (6.40 in)	165 mm (6.40 in)	237 mm (9.3 in)
Weight	0.3 kg (0.66 lbs)	0.3 kg (0.66 lbs)	0.3 kg (0.66 lbs)

Number of channels	6 or 12
Thermocouple types	Type K using industry standard miniature sockets (N and T versions are available to order)
Temperature measurement range	–100 °C to 1,370 °C (–148 °F to 2,498 °F)
Accuracy	+/– 0.5 °C (+/–0.9 °F) (for sampling interval > 0.4 seconds)
Resolution	0.1 °C (+/– 0.18 °F)
Sampling speed	50 ms to 10 minutes
Maximum operating temperature	85 °C (185 °F) *NOTE: to preserve the accuracy of the readings the logger will switch off at this temperature and warn the operator.*
Start triggers	Manual, rising temperature and time triggers can be used to start the logger
Stop triggers	Manual and falling temperature to stop the logger
Memory size	50,000 readings per channel (fixed)
Battery life	Up to 25 hours continuous measurements at 1 second sampling or 20 profile runs at 0.5 second with download to PC
Battery charge time	1.5 hours from flat using USB power outlet, 14 hours from PC
Multiple run capability	Up to 10 profile runs before returning to PC
Communication	USB A to USB mini B connection cable
Bluetooth	Up to 5 m (16 ft) range can be used for reset/download and real time data collection

The Fluke Process Instruments Guarantee

Each Fluke Process Instruments system is supported with a full one year warranty.
Service contracts available: Complementing the warranty, we offer a yearly service and recalibration contract, which includes free software updates and loan equipment for guaranteed peace of mind.

Fluke Process Instruments

TB2003 – thermal barrier

Weight:	1.5 kg / 3.3 lb
Dimensions (HWL):	40 x 162 x 216 mm / 1.6 x 6.4 x 8.5 in.
Suitable Logger:	DQ1860
Suitable Heatsink:	N/A
Thermal Duration:	

| Temperature	(°C)	100	150	200	250	300	400	500	800
	(°F)	200	300	400	475	575	750	925	1475
Duration (mins)		45	25	20	18	15	-	-	-

THERMOCOUPLES

Probe-clamp Kit for ET3 Logger

Clamps thermocouples together for easy one-step connection to the logger. Accepts thermocouple plugs with either one or three holes.

CS3191   For use with 4-channel ET3 logger ET4043.
CS3192   For use with 6-channel ET3 logger ET6063.
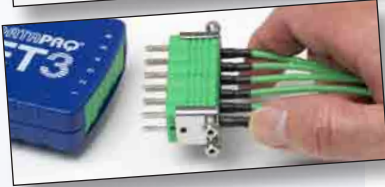
Exposed-junction Thermocouples

Taped, spot-welded or soldered direct to components for measuring surface temperature. Can also be used to measure air/environmental temperature.

PTFE-insulated cable, maximum 265°C/509°F
PA0063   1.5 m/5 ft
PA0065   2.0 m/6.5 ft
PA0064   3.0 m/10 ft

Glass-fiber-insulated cable, maximum 500°C/932°F
PA0182   1.5 m/5 ft
PA0181   2.0 m/6.5 ft
PA0180   3.0 m/10 ft

HT0090   High-temperature Adhesive Tape

For securing exposed-junction and patch thermocouples. Pressure-sensitive silicone adhesive. Maximum 400°C/752°F. 30-m/98.4-ft reel. (*Available in USA only.*)

PA0980   MicroMag Thermocouple Mount

For securing exposed-junction thermocouple to ferrous substrate to measure temperature of air or (using high-temperature tape) substrate.

Adhesive-patch Thermocouple

Attaches directly to light-gauge metal or plastic with adhesive patch and/or high-temperature tape. Ideal where fast response is required or in infra-red processes. PTFE-insulated cable. Maximum 265°C/509°F.
PA0060   1.5 m/5 ft
PA0062   3.0 m/10 ft

MicroMag Magnetic Thermocouples

Attaches directly to ferrous substrate using strong SmCo magnet with diameter only 17 mm/0.67 in. Ideal for measuring temperature in tightest of recesses (aluminum knob can be removed). PTFE-insulated cable. Maximum 265°C/509°F.

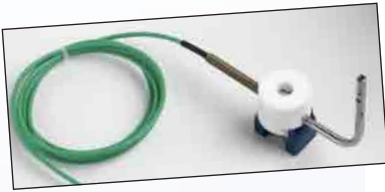| *Air Thermocouple*		*Surface Thermocouple*	
PA0995	1.5 m/5 ft	**PA0973**	1.5 m/5 ft
PA0996	3.0 m/10 ft	**PA0974**	3.0 m/10 ft
PA0999	6.0 m/20 ft	**PA0975**	6.0 m/20 ft

Surface Offset Magnetic Thermocouple

Attaches directly to flat ferrous substrate to measure surface temperature. PTFE-insulated cable. Maximum 265°C/509°F.
PA0053   1.5 m/5 ft
PA0054   3.0 m/10 ft
PA0050   6.0 m/20 ft

Air Magnetic Thermocouple

Attaches directly to ferrous substrate to measure air/environmental temperature. PTFE-insulated cable. Maximum 265°C/509°F.

PA0055 1.5 m/5 ft
PA0056 3.0 m/10 ft
PA0059 6.0 m/20 ft

Washer Thermocouple

Screwed directly to large heavy metal substrate. PTFE-insulated cable. Maximum 265°C/509°F.

PA0081 1.5 m/5 ft
PA0082 3.0 m/10 ft

Clip Surface Thermocouple

Clips to non-ferrous component to measure surface temperature.

PTFE-insulated cable, maximum 265°C/509°F
PA0011 1.5 m/5 ft
PA0012 3.0 m/10 ft
PA0016 6.0 m/20 ft

Glass-fiber-insulated cable with stainless-steel outer braid, maximum 400°C/752°F
PA1710 1.5 m/5 ft

Clip Air Thermocouple

Clips to non-ferrous component to measure air/environmental temperature.

PTFE-insulated cable, maximum 265°C/509°F
PA0021 1.5 m/5 ft
PA0022 3.0 m/10 ft
PA0025 6.0 m/20 ft

*Glass-fiber-insulated cable with stainless-steel outer braid, maximum 400°C/752°F*
PA1720 1.5 m/5 ft

IRMag Surface Thermocouple

Magnetic attachment (maximum 300°C/572°F), to measure surface temperature of ferrous substrate in infra-red cure oven. Easy attachment and fast thermocouple response. High-temperature glass-fiber-insulated cable with stainless-steel outer braid prevents damage from infra-red heaters (maximum 400°C/752°F).

PA1361A 1.5 m/5 ft
PA1362A 3.0 m/10 ft
PA0980 Replacement mount
PA1371 1.5 m/5 ft Replacement cable and guide
PA1372 3.0 m/10 ft Replacement cable and guide
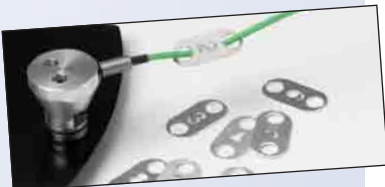
PA2051 Thermocouple ID Tags

Aluminum tags fitted to sensor end of thermocouple cable to allow clear identification of probe number even when thermal barrier is closed. Set numbered 1–8.

BAGS AND CASES

CC0048   **Soft Carry-bag**

With shoulder strap, to provide convenient transportability for a complete Reflow Tracker system, including a thermal barrier