FLUKE®

Process Instruments

Reflow Tracker®

The Profiling Solution for the Electronics Assembly Industry

Robust

Versatile

Intuitive

Datapaq® Reflow Tracker® System

LOWEST COST OF USE

- 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.
- Packaged in an aluminum case and with conformally coated electronics the Datapaq DP5 is designed to survive harsh environments.
- Communication with PC is via standard USB A to mini B cable — no more expensive custom communication cables.
- Rechargeable from flat in 90 minutes, from any USB outlet or even a power bank.
- Slow charge from PC maximizes battery charge — ensures system is always ready for use.
- Up to 50,000 readings per channel and multi-profile capability before download — multiple ovens can be profiled back to back, with no PC download needed for each profile.
- Bluetooth communication provides instant cable free download of the results — saves time and reduces complexity.

The robust, versatile and intuitive solution ... saving you time and money

The first Datapaq profilers were supplied in 1984, always designed to provide the complete solution in the harshest of environments. Datapaq systems have become the temperature profiler of choice in all industries from food cooking through coating curing, electronics assembly to metal heat treatment and ceramics firing. Now part of Fluke Process Instruments the latest generation profiler, the Datapaq DP5, continues the tradition whilst at the same time making use of the latest technology to improve ease of use and reduce the cost of ownership.

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Datapaq DP5 Data Loggers

The most advanced and versatile family of Datapaq loggers from Fluke Process Instruments

Whether you need low height, an incredibly narrow footprint, or up to 12 channels with rapid sampling, a Datapaq DP5 logger is your best choice. Housed in a machined aluminum case and fully conformally coated, the Datapaq DP5 loggers will provide years of reliable profiling.

- Ultra-fast USB connection
- Small footprint: less than 57 mm (2.5 in) wide, 11.7 mm (0.5 in) high
- Rapid charging

The user replaceable high temperature NiMH battery charges from flat to usable in just five minutes. A full charge takes only 90 minutes and can provide 20 profile runs. That eliminates daily recharging and the need to store batteries. And with 'hot data' protection, data cannot be accidentally erased before downloading.

Datapaq DP5 data loggers

Thermal Barrier Range

Widest choice of sizes for the electronics industry

30 years of design experience in processes of up to 1,100 °C has resulted in the class leading thermal protection for the electronics industry.

The widest range of thermal barriers in the industry means there is a system to match your process and oven.

The most effective insulation available is combined with a stainless steel case and dual latch locks, ensuring maximum thermal protection in a robust lightweight package.

Open-flat design enables rapid cooling and fastest possible reuse.

Thermal barriers

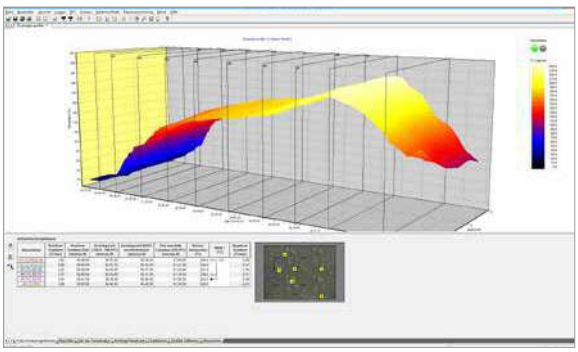
Insight Software

Flexibility with ease of use

All of the variants of the Reflow Insight software benefit from an intuitive user interface, with wizards to guide the infrequent user if needed.

A single screen presents the full results for the reflow or wave profile with alarms to indicate any out of limits results — so no time is wasted when analysing the data.

Included in Reflow Insight is the Easy Oven Set up (EOS) recipe calculation tool. EOS automatically calculates and informs the user of the optimum oven settings for a given product — saving time at every new product introduction.



Insight software

The Reflow Insight Professional software includes the EOS tool and adds process profiling capability with the addition of the Surveyor functionality. Adding the Surveyor adjustable frame and sensors* will provide an easy to use process monitoring tool that measures oven stability at the product level. This enables unskilled operators to obtain consistent data quickly, easily and repeatably, the basis for all statistical analysis.

* *An extra cost optional feature*

The Reflow Tracker system can be used to monitor the full range of soldering processes including:

Wave soldering – with the CS5006 and CS5012 wave pallets, offering up to 9 contact sensors and 3 preheat sensors, the Reflow Tracker system offers a low cost process monitoring solution for all wave soldering applications. The software transforms the raw temperature readings into actionable data including contact times and parallelism.

Selective soldering – used to measure either product temperature via thermocouples or process stability using the unique PA2200 selective soldering sensor the reflow tracker is small enough to fit in many selective soldering processes.

Vacuum soldering – increasingly used to reduce voids in the joints. The small size and low thermal mass of the thermal barriers means the Reflow Tracker system can be used in most vacuum soldering ovens. With radio telemetry, real time data from within the sealed chamber, can be processed and analyzed.

Vapour phase soldering – a range of sealed and lighter weight thermal barriers enable users to profile this process with minimal process disturbance.

Rework stations – the ability to monitor at high speed in real time, either via the USB cable or Bluetooth connection, ensures the Datapaq DP5 is the ideal solution for monitoring rework stations of any type.

Radio telemetry provides reliable real time data

The Datapaq DP5 data logger can be specified with the optional TM21 radio telemetry system. This system has been designed specifically for use in high temperature conditions and providing the temperature readings in real time has proven its value in application from food cooking to steel slab reheating.

Datapaq DP5 data logger in thermal barrier

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.

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Worldwide Service
Fluke Process Instruments offers services, including repair and calibration. For more information, contact your local office.

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5/2018 Bro_Reflow_Tracker_EN_Rev A

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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.*

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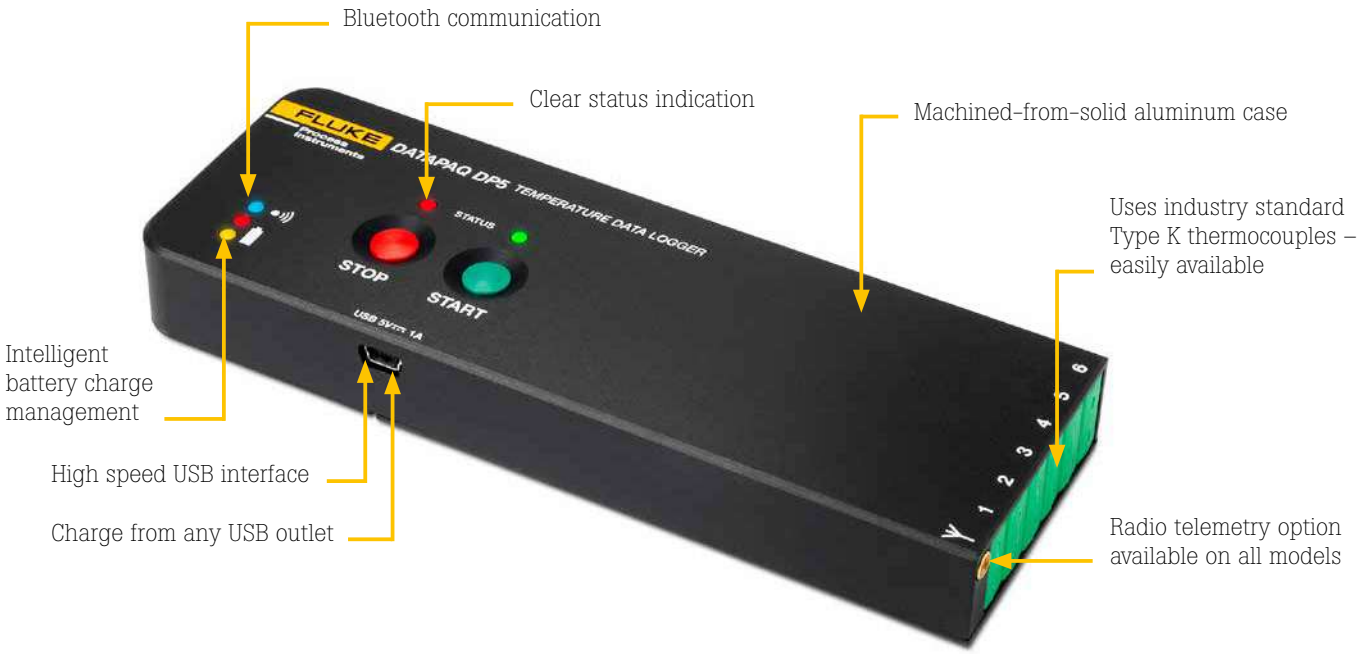
Data Logger Datapaq DP5



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.

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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
Height	20.0 mm (0.70 in)	20.0 mm (0.70 in)
Width	57 mm (2.20 in)	106 mm (4.10 in)
Length	165 mm (6.40 in)	165 mm (6.40 in)
Weight	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

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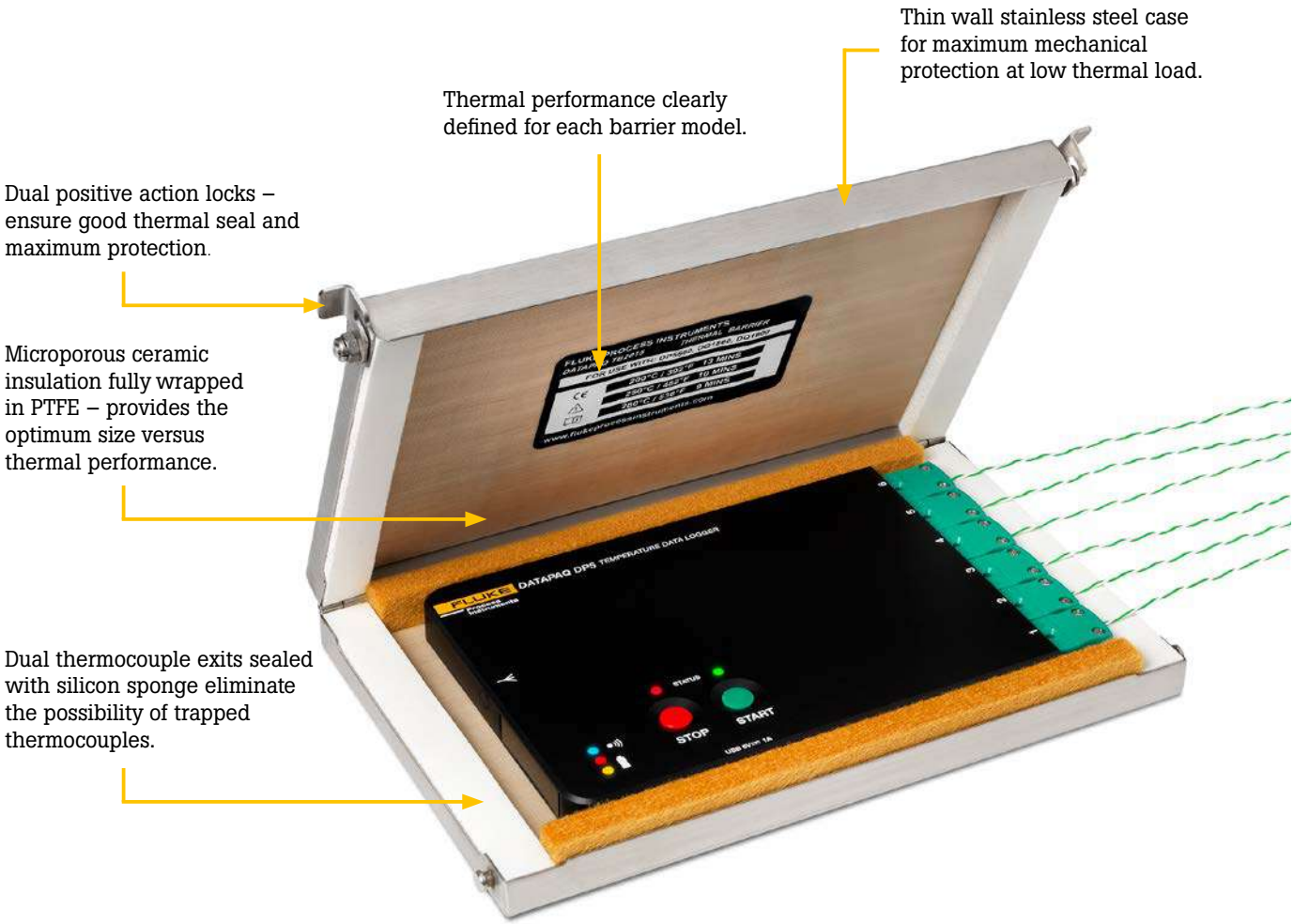
Technical Data

Thermal Barriers

for Datapaq DP5 6 & 12 channel

Our rugged stainless steel thermal barriers are incredibly lightweight and constructed using microporous ceramic insulation that ensures maximum protection and service life. Our most popular barrier weighs only 0.7 kg (1.6 lb) and can survive temperatures of 300 °C (572 °F) for over eight minutes.

These thermal barriers routinely withstand the harshest industrial environments. They are made of the same insulation used in an airplane's 'black box' and are proven to protect your data logger run after run, day after day.



THERMAL BARRIERS SUITABLE FOR 6 CHANNEL DATA LOGGER – DP5660

TB2064 – Low height thermal barrier
A low height barrier for profiling ovens with very tight clearances. If rapid re-use is required or a longer than standard process is to be profiled, then consider TB2015 or TB2065.

Weight	0.6 kg (1.3 lb)		
Dimensions (H × W × L)	20 × 133 × 210 mm (0.8 × 5.2 × 8.3 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	9	8	6

TB2015 – Standard thermal barrier
The standard workhouse barrier used in thousands of facilities worldwide. If height is limited, consider the TB2064. If very frequent, heavy use is planned, consider the TB2065.

Weight	0.68 kg (1.5 lb)		
Dimensions (H × W × L)	25 × 133 × 210 mm (1.0 × 5.2 × 8.3 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	13	10	9

TB2065 – Long duration thermal barrier
Designed for longer duration and higher temperature processes. The choice when frequent profiling is needed and cool down time is limited.

Weight	0.68 kg (1.5 lb)		
Dimensions (H × W × L)	29 × 133 × 210 mm (1.1 × 5.2 × 8.3 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	13	11	10

THERMAL BARRIERS SUITABLE FOR 6 CHANNEL NARROW DATA LOGGER – DP5662

TB2020 – Low height narrow thermal barrier.
For profiling small products where oven width and height are limited.

Weight	0.5 kg (1.1 lb)		
Dimensions (H × W × L)	28 × 84 × 223 mm (1.1 × 3.3 × 8.8 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	10	8	7

TB2021 – Narrow thermal barrier
Narrow for limited width with enough insulation for rapid re-use. If height is limited, then consider the TB2020.

Weight	0.65 kg (1.4 lb)		
Dimensions (H × W × L)	35 × 84 × 223 mm (1.3 × 3.3 × 8.8 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	13	11	10

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THERMAL BARRIERS SUITABLE FOR 6 CHANNEL SUPER SLIM DATA LOGGER – DP5661

TB2066 – Low height, slim thermal barrier

Created to profile very narrow and low height assemblies.

Weight	0.65 kg (1.4 lb)		
Dimensions (H × W × L)	20 × 87 × 328 mm (0.8 × 3.4 × 12.9 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	8	6	6

TB2067 – Standard slim thermal barrier

Standard height, yet slim for frequent profiling of narrow processes. If height is limited, consider the TB2066. If very heavy use is planned, consider the TB2068.

Weight	0.75 kg (1.7 lb)		
Dimensions (H × W × L)	25 × 87 × 328 mm (1.0 × 3.4 × 12.9 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	11	10	8

TB2068 – Long duration slim thermal barrier

For longer duration and higher temperature processes, or when frequent profiling is needed and cool down time is limited.

Weight	0.8 kg (1.8 lb)		
Dimensions (H × W × L)	29 × 87 × 328 mm (1.1 × 3.4 × 12.9 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	13	11	10

THERMAL BARRIERS SUITABLE FOR 12 CHANNEL DATA LOGGER – DP5612

TB2100 – Low height 12 channel thermal barrier

Designed primarily for use in convection or IR reflow soldering processes, where the process height is restricted and 12 thermocouple channels are required.

Weight	0.7 kg (1.5 lb)		
Dimensions (H × W × L)	28 × 134 × 225 mm (1.1 × 5.3 × 8.9 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	10	8	7

TB2101 – Standard 12 channel thermal barrier

Designed primarily for use in convection or IR reflow soldering processes.

Weight	0.8 kg (1.8 lb)		
Dimensions (H × W × L)	35 × 134 × 225 mm (1.3 × 5.3 × 8.9 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	13	11	10

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THERMAL BARRIERS SUITABLE FOR 12 CHANNEL DATA LOGGER – DP5622

TB2081 – Low height 12 channel thermal barrier

Designed primarily for use in convection or IR reflow soldering processes, where the process height is restricted and 12 thermocouple channels are required.

Weight	0.6 kg (1.3 lb)		
Dimensions (H × W × L)	28 × 88 × 288 mm (1.1 × 3.4 × 11.3 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	10	8	7

TB2082 – Standard 12 channel thermal barrier

Designed primarily for use in convection or IR reflow soldering processes.

Weight	0.7 kg (1.4 lb)		
Dimensions (H × W × L)	35 × 88 × 288 mm (1.3 × 3.4 × 11.3 in)		
Thermal Duration			
Temperature	200 °C (392 °F)	250 °C (482 °F)	280 °C (536 °F)
Duration (mins)	13	11	10

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.

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12/2019 DS_Thermal_barriers_EN_Rev B

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Technical Data

Thermocouples

for use in electronics assembly industry

PA0210 – Fast responsive exposed junction

This is the standard thermocouple used throughout the reflow industry and is constructed from type K thermocouple wire. Each conductor is PTFE insulated and then twisted together to prevent tangling in use. The wire diameter is 0.2 mm (.007 in), providing a good compromise between size and strength. The thermocouple tip is pre-tinned to ease soldering to the PCB. We recommend the use of an activated flux and high temperature solder to attach this thermocouple to the PCB assembly.

Thermocouple material	Type K special limits of accuracy
Accuracy	±1.1 °C or 0.4 % of the reading (whichever is greater)
Length	800 mm (31.4 in)
Conductor diameter	0.2 mm (.007 in)
Temperature	265 °C (509 °F) maximum

PA1683 – Fine wire

This thermocouple has been developed specifically for use with BGA and ultra fine pitch surface mount components. The type K thermocouple conductors are 0.1 mm (.003 in) in diameter, each insulated with PTFE. The two conductors are then over-wrapped with a single outer PTFE sheath to prevent tangling in use. The recommended attachment method is activated flux and high temperature solder. For BGA, the accepted practice is to drill through the PCB and insert the tip until it touches a ball, and then bond the thermocouple wire in place.

Thermocouple material	Type K to British Standard Class 1
Accuracy	±1.5°C or 0.4 % of the reading (whichever is greater)
Length	500 mm (19.6 in)
Conductor diameter	0.1 mm (.003 in)
Temperature	265 °C (509 °F) maximum

PA1571 – Ultra fine diameter, mineral insulated

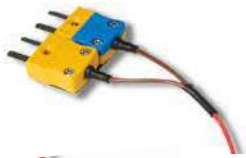
The PA1571 is intended for use in high temperature applications. It is a Type K mineral insulated thermocouple with an Inconel outer sheath. The overall diameter is 0.5 mm (.01 in). It can operate to 1000 °C (1832 °F). Attachment method will depend on the application, but can include ceramic cement or mechanical fixtures.

Thermocouple material	Type K to British Standard Class 1
Accuracy	±1.5 °C or 0.4 % of the reading (whichever is greater)
Length	600 mm (23.6 in)
Conductor diameter	NA (outer sheath is 0.5 mm / .01 in)
Temperature	1,000 °C (1832 °F) maximum

PA0215 – Fiber insulated probe
Exposed junction type K thermocouple constructed from 0.2 mm (.007 in) wire with glass fiber insulation. This probe is designed for continuous use up to 500 °C (932 °F) and is therefore ideally suited to high temperature soldering applications. For best results, we recommend that the probe is attached using an activated flux and high temperature solder.

Thermocouple material	Type K special limits of accuracy
Accuracy	±1.1 °C or 0.4 % of the reading (whichever is greater)
Length	800 mm (31.4 in)
Conductor diameter	0.2 mm (.007 in)
Temperature	500 °C (932 °F) maximum

PA0885 Surveyor sensor (horizontal plugs) long for use with DP5660 and Surveyor PA0883
Surveyor sensor using type K thermocouples to ANSI MC96.1 special limits of error.
Dual horizontal thermocouple plugs fitted to mounting plate.



PA0886 Surveyor sensor (dual vertical plug) for use with DP5662 and DP5612 and Surveyor PA0884
Surveyor sensor using type K thermocouples to ANSI MC96.1 special limits of error.
Fitted with dual vertical plug.

PA1321 Wave solder contact sensor 420 mm long to be used on CS5006, CS5012 wave soldering pallets.

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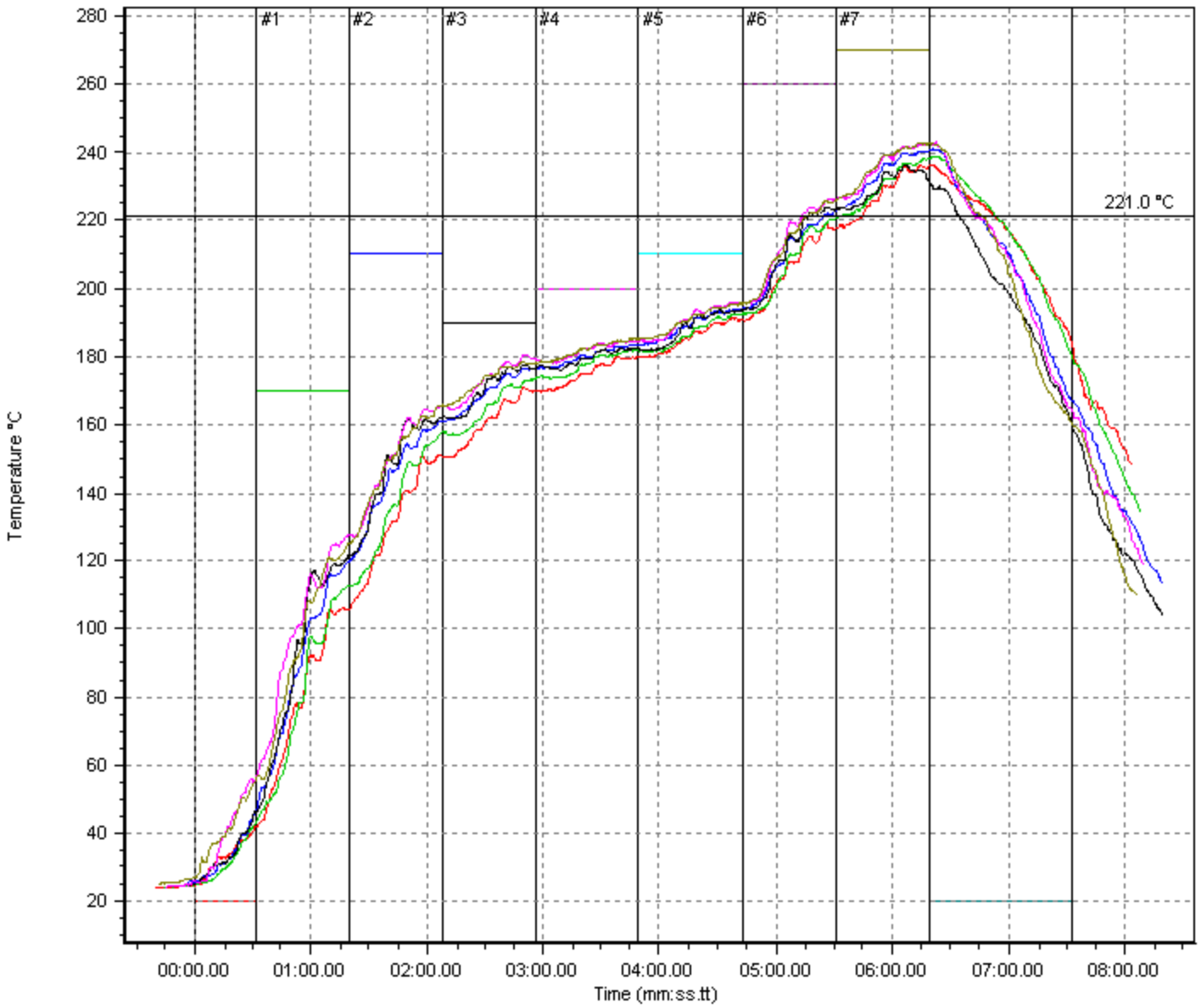
5/2018 DS_Reflow_Thermocouples_EN_Rev A

File: Example profile 1.paq	Company: Datapaq	
Site: Cambridge	Process: Lead free Test PCB	Product: Simple test board



Line Speed:	Zone:		#1	#2	#3	#4	#5	#6	#7	
45.0 cm/min	Length (cm):	24.0	36.0	36.0	36.0	40.0	40.0	36.0	36.0	56.0
	Upper (°C):	20.0	170.0	210.0	190.0	200.0	210.0	260.0	270.0	20.0
	Lower (°C):	20.0	170.0	210.0	190.0	200.0	210.0	260.0	270.0	20.0

Data Collection Details:

Created By	Download
Number of Probes	6
Sample Interval	0:00.50 (mm:ss.t)
Data Loaded	20/11/2001 16:31:00
Collection Started	20/11/2001 15:16:16
Max. Internal Temp.	75.0 °C
Logger ID	#8307
Operator	
Process	Lead free Test PCB
Oven	Medium Oven
Recipe	Lead free solder
Product	Simple test board
Time Printed	29/06/2011 16:17:55

Notes:

Seven heated zones and 1 cooling zone consisting of fans in the exit chamber
Example recipe supplied with Insight.
Mixture of PLCC and SOIC on 1.6mm FR4

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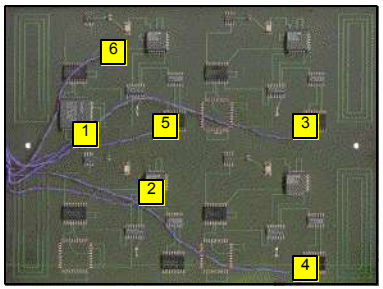
Approved By:

Probe Map:



20.2x15.2 cm

	x	y
#1	15.9	7.0
#2	12.4	10.2
#3	4.0	6.6
#4	4.0	14.3
#5	11.6	6.6
#6	14.4	2.6

Direction of travel through oven

File: Example profile 1.paq	Company: Datapaq	
Site: Cambridge	Process: Lead free Test PCB	Product: Simple test board

Probe	Reflow Results									Time at Temperature			
	Positive Slope (°C/sec)	Positive Slope Time (mm:ss.tt)	Rise Time (120.0 - 160.0°C) (mm:ss.tt)	Rise Time 50.0°C to Peak (mm:ss.tt)	Mean Slope to Peak (°C/sec)	Time Above Liquidus (221.0°C) (mm:ss.tt)	Peak Temperature (°C)	Delta T (°C)	Negative Slope (°C/sec)	Time Above 221.0°C (mm:ss.tt)	Time To Reach 221.0°C (mm:ss.tt)	Time Above 230.0°C (mm:ss.tt)	Time To Reach 230.0°C (mm:ss.tt)
#1 (°C) PLCC 44	3.62	00:57.00	00:57.00	05:36.50	0.53	01:09.00	236.0	7.0	-2.96	01:09.00	05:44.50	00:34.00	05:55.50
#2 (°C) PLCC 28	4.96	00:57.50	00:51.50	05:40.50	0.52	01:22.50	238.5		-2.01	01:22.50	05:32.00	00:45.00	05:54.50
#3 (°C) SO-18	2.83	00:49.00	00:44.00	05:47.00	0.50	01:20.00	241.0		-1.85	01:20.00	05:24.50	00:47.00	05:46.50
#4 (°C) SO-18	4.72	00:57.50	00:30.50	05:31.00	0.49	01:18.50	236.0		-2.31	01:18.50	05:17.00	00:27.50	05:54.00
#5 (°C) SO-16	4.54	00:42.50	00:39.50	05:58.50	0.49	01:29.50	243.0		-2.48	01:29.50	05:14.00	00:49.00	05:45.50
#6 (°C) PCB	3.88	00:56.00	00:40.50	05:46.50	0.51	01:30.50	242.5		-2.41	01:30.50	05:16.00	00:53.00	05:43.00

Probe	Peak Difference		
		Peak Difference (°C)	Time Reached (mm:ss.tt)
#1 (°C) PLCC 44	152.0		
#2 (°C) PLCC 28			
#3 (°C) SO-18		38.0	08:01.00
#4 (°C) SO-18			
#5 (°C) SO-16			
#6 (°C) PCB	114.0		

Alarms			
	Analysis	Probe	Alarm Description
1	Time at Temperature	#3	#2: Time above (mm:ss.tt) is greater than the maximum (00:47.00 > 00:45.00)
2	Time at Temperature	#5	#2: Time above (mm:ss.tt) is greater than the maximum (00:49.00 > 00:45.00)
3	Time at Temperature	#6	#2: Time above (mm:ss.tt) is greater than the maximum (00:53.00 > 00:45.00)

FLUKE
Process Instruments

Datapaq Reflow Tracker®
Accessories List

DATA LOGGERS

Datapaq DP5 Logger

The Datapaq DP5 data logger is designed for use in a wide range of heat-treatment applications.

- A range of **model sizes**, including narrow and low-height versions (see below), to suit different ovens and applications.
- Six or 12 **thermocouple channels** (depending on model) for maximum data collection on each run.
- Huge **memory capacity** for detailed process analysis: a total of 50,000 data-points over each data-channel.
- Can be specified for use with **thermocouple types** K, N or T.
- Powered by user-replaceable **rechargeable NiMH batteries**.
- High **accuracy** for compliance to tight specifications: ±0.5°C/0.9°F for most purposes.
- **USB** communication and charging.
- **Hardwired telemetry** and (if specified for use with optional TM21 system) **radio telemetry** for monitoring in real time – both with full analysis functions and alarms to warn the user if the process is out of specification.
- Aluminum case and rugged electronics allow operation in **harsh environments** of dust, pressure and vacuum.
- **Multiple-run** capability.

	DP5 Standard 6-channel DP5x60[1]	DP5 Narrow 6-channel DP5x62	DP5 Super-slim 6-channel DP5x61	DP5 12-channel DP5x12
Height	11.7 mm 0.46 in.	20 mm 0.8 in.	11.7 mm 0.46 in	20 mm 0.8 in.
Width	106 mm 4.2 in.	57 mm 2.2 in.	60 mm 2.4 in.	106 mm 4.2 in.
Length	150 mm 5.9 in.	165 mm 6.5 in.	301 mm 11.9 in.	165 mm 6.5 in.

[1] Second numeral in part number (x) represents thermocouple type: 2 = type T, 6 = type K, 9 = type N.

DQ1804 Q18 Micro Logger

A reduced-size but powerful four-channel logger, for processes where space is especially limited.

- Capacity for **32,000 data-points** over each channel.
- For **type K** thermocouples.
- Powered by user-replaceable **rechargeable NiMH batteries**.
- **Hardwired telemetry**.
- **Dimensions**: 17.3 × 35 × 149 mm/0.68 × 1.4 × 5.9 in.

LOGGER CABLES, CHARGER AND BATTERIES

CI1150 USB Communications/Charging Lead for Datapaq DP5 Logger

Connects logger to PC to enable logger reset, data download or display of real-time data-collection. Permits charging from charger CH0080 or from USB port of PC.

CI3029 USB Communications Lead for Q18 Logger

Connects logger to PC to enable logger reset, data download or display of real-time data-collection. NB Charging of Q18 logger is done only by using CH0070 charger, not via communications lead.

CH0080 Charger/Power-supply Unit for Datapaq DP5 logger

Can be used as an alternative to charging the DP5 logger via a PC's USB port. Requires also the CI1150 USB communications/charging lead.

CH0070B Charger/Power-supply Unit for Q18/TM21

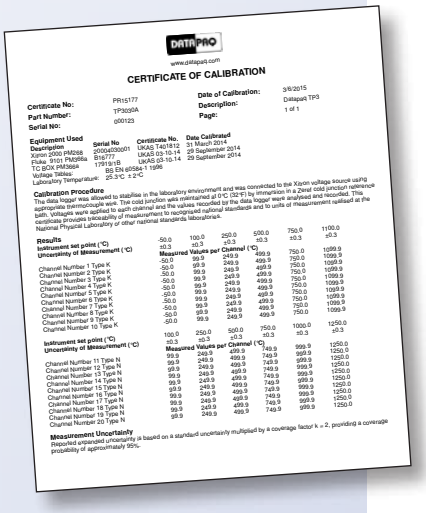
For Q18 logger (p. 1), and TM21 primary receiver (p. 7).

BP1080 Battery-pack for Datapaq DP5 Logger

NiMH rechargeable battery-pack, 2.4 V, 500 mAh. Can be replaced by user. *Only Datapaq battery-packs are suitable for this logger.*

BP1077 Battery-pack for Q18 Micro Logger DQ1804

NiMH rechargeable battery-pack, 2.4 V, 500 mAh. Can be replaced by user. *Only Datapaq battery-packs are suitable for this logger.*


DATAPAQ

www.dataqat.com

CERTIFICATE OF CALIBRATION

Certificate No: PR15177
Part Number: TP3090A
Serial No: p00123
Date of Calibration: 3/6/2015
Description: Datapaq TP3
Page: 1 of 1

Equipment Used

Description	Serial No.	Certificate No.	Date Calibrated
Xenon 2000 PM266	2009400001	UKAS T401812	31 March 2014
Fluke 9101 PM286a	819177	UKAS 03-10-14	29 September 2014
TC BOX PM3984	1991b1B	UKAS 03-10-14	29 September 2014
Voltage Tables:	BS EN 60584-1 1996		
Laboratory Temperature:	25.3°C ± 2°C		

Calibration Procedure

The data logger was allowed to stabilise in the laboratory environment and was connected to the Xeon voltage source using appropriate thermocouple wire. The cold junction was maintained at 0°C (32°F) by immersion in a Zero° cold junction reference bath. Voltages were applied to each channel and the values recorded for the data logger were analysed and recorded. This certificate provides traceability of measurement to recognised national standards and to units of measurement realised at the National Physical Laboratory or other national standards laboratories.

Results

Instrument set points (°C)	-50.0	100.0	250.0	500.0	750.0	1100.0
Uncertainty of Measurement (°C)	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3
Measured Values per Channel (°C)						
Channel Number 1 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 2 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 3 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 4 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 5 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 6 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 7 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 8 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 9 Type K	-50.0	99.9	249.9	499.9	750.0	1099.9
Channel Number 10 Type K						

Instrument set points (°C)	100.0	250.0	500.0	750.0	1000.0	1250.0
Uncertainty of Measurement (°C)	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3
Measured Values per Channel (°C)						
Channel Number 11 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 12 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 13 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 14 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 15 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 16 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 17 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 18 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 19 Type N	99.9	249.9	499.9	749.9	999.9	1250.0
Channel Number 20 Type N						

Measurement Uncertainty

Reported extended uncertainty is based on a standard uncertainty multiplied by a coverage factor k = 2, providing a coverage probability of approximately 95%.

CALIBRATION AND SERVICE

RC0001 Recalibration of Datapaq DP5 Data Logger

Comprises:

- Electronic calibration and adjustment of logger.
- Issue of calibration certificate traceable to national standards.
- Full test of functionality including battery testing, 14-hr thermal-stress testing and temperature-stability testing.

RC0005 Fixed Standard Recalibration/Service of Datapaq DP5 Data Logger

As RC0001 (above), plus minor repairs such as replacement of electronic components.

RC0006 Fixed ISO 17025 Recalibration/Service of Datapaq DP5 Data Logger

As RC0005 (above), including issue of ISO 17025 accredited calibration certificate.

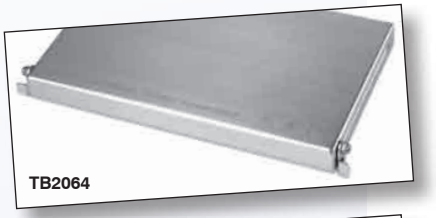
SC0002 Service Contract, 12 months, for Datapaq DP5 Data Logger

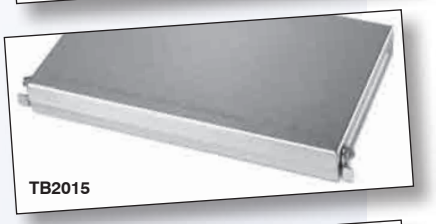
Comprises:

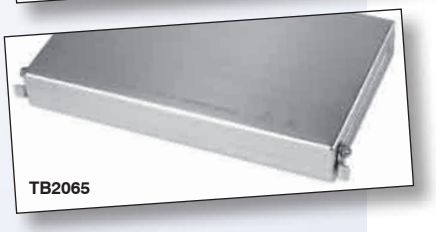
- Use of loan equipment in case of any failure or damage.
- Electronic calibration and adjustment of logger.
- Issue of ISO 17025 accredited calibration certificate if applicable.
- Full test of functionality including battery testing, 14-hr thermal-stress testing and temperature-stability testing.
- Annual full service of equipment.
- Logger firmware and Insight software updates.
- Minor logger repairs.

THERMAL BARRIERS

Thermal barriers to suit an extensive range of applications are available from stock or can be designed and built to order. Contact Fluke Process Instruments directly for guidance on barriers appropriate to the specific needs of your process.







Barriers for Datapaq DP5 Logger Standard, 6-channel, DP5x60

These barriers also fit Q18 standard 6-channel logger, DQ1860.

TB2064 Low-height thermal barrier

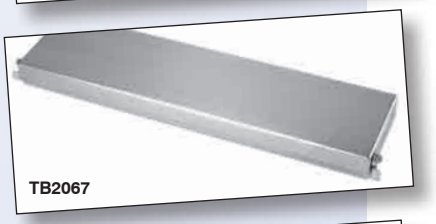
Temp. °C	100	150	200	250	280
Duration (mins)	25	12	9	8	6
Dimensions	Height 20 mm 0.8 in.	Width 133 mm 5.2 in.	Length 210 mm 8.3 in.	Weight 0.6 kg 1.3 lb	

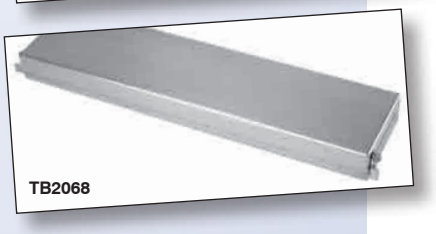
TB2015 Most reflow soldering processes including lead-free

Temp. °C	100	150	200	250	280
Duration (mins)	32	16	13	10	9
Dimensions	Height 25 mm 1.0 in.	Width 133 mm 5.2 in.	Length 210 mm 8.3 in.	Weight 0.7 kg 1.5 lb	

TB2065 Increased protection for frequent use or for long-duration processes

Temp. °C	100	150	200	250	280
Duration (mins)	35	18	13	11	10
Dimensions	Height 29 mm 1.1 in.	Width 133 mm 5.2 in.	Length 210 mm 8.3 in.	Weight 0.7 kg 1.5 lb	





Barriers for Datapaq DP5 Logger Super-slim, 6-channel, DP5x61

These barriers also fit Q18 super-slim 6-channel logger, DQ1861.

TB2066 Low-height thermal barrier

Temp. °C	100	150	200	250	280
Duration (mins)	21	11	8	6	6
Dimensions	Height 20 mm 0.8 in.	Width 88 mm 3.5 in.	Length 334 mm 13.1 in.	Weight 0.65 kg 1.4 lb	

TB2067 Most reflow soldering processes including lead-free

Temp. °C	100	150	200	250	280
Duration (mins)	28	15	11	10	8
Dimensions	Height 25 mm 1.0 in.	Width 88 mm 3.5 in.	Length 334 mm 13.1 in.	Weight 0.75 kg 1.7 lb	

TB2068 Increased protection for frequent use or for long-duration processes

Temp. °C	100	150	200	250	280
Duration (mins)	32	18	13	11	10
Dimensions	Height 29 mm 1.1 in.	Width 88 mm 3.5 in.	Length 334 mm 13.1 in.	Weight 0.8 kg 1.8 lb	

Barriers for Datapaq DP5 Logger Narrow, 6-channel, DP5x62

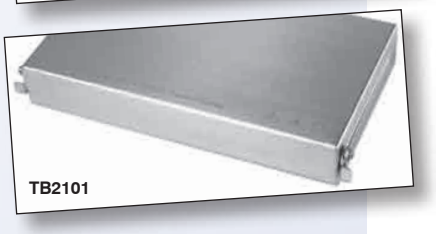
These barriers also fit Q18 narrow 6-channel logger, DQ1862.

TB2020 Low-height thermal barrier

Temp. °C	100	150	200	250	280
Duration (mins)	25	13	10	8	7
Dimensions	Height 28 mm 1.1 in.	Width 84 mm 3.3 in.	Length 241 mm 9.5 in.	Weight 0.5 kg 1.1 lb	

TB2021 Most reflow soldering processes including lead-free

Temp. °C	100	150	200	250	280
Duration (mins)	36	18	13	11	10
Dimensions	Height 35 mm 1.4 in.	Width 84 mm 3.3 in.	Length 241 mm 9.5 in.	Weight 0.65 kg 1.4 lb	



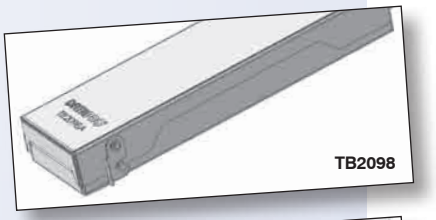
Barriers for Datapaq DP5 Logger, 12-channel, DP5x12

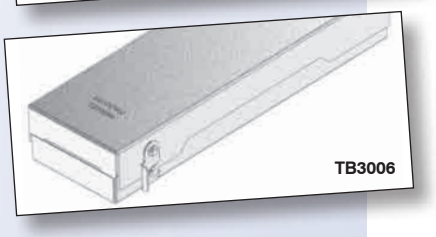
TB2100 Low-height thermal barrier

Temp. °C	100	150	200	250	280
Duration (mins)	25	13	10	8	7
Dimensions	Height 28 mm 1.1 in.	Width 133 mm 5.2 in.	Length 243 mm 9.6 in.	Weight 0.69 kg 1.5 lb	

TB2101 Most reflow soldering processes including lead-free

Temp. °C	100	150	200	250	280
Duration (mins)	36	18	13	11	10
Dimensions	Height 35 mm 1.4 in.	Width 133 mm 5.2 in.	Length 239 mm 9.4 in.	Weight 0.77 kg 1.7 lb	





Barriers for Q18 Micro Logger DQ1804

TB2098 Reflow soldering processes
Duration 10 mins at 200°C.

Dimensions	Height 27 mm 1.1 in.	Width 57 mm 2.2 in.	Length 190 mm 7.5 in.	Weight 0.4 kg 0.9 lb

TB3006 Long-duration reflow soldering processes
Duration 14 mins at 200°C.

Dimensions	Height 32 mm 1.3 in.	Width 71 mm 2.8 in.	Length 194 mm 7.6 in.	Weight 0.6 kg 1.3 lb

THERMOCOUPLES

All thermocouples supplied for use with reflow and wave-solder systems are type K, with green connectors (conforming to IEC 60584-3).

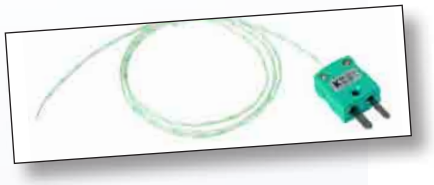
For **wave solder** thermocouples, see p. 6.

For **Surveyor** sensors (thermocouples), see p. 6.

PA0210 **Fast-response Exposed-junction Thermocouple**

The standard thermocouple used throughout the reflow industry. Each conductor is PTFE-insulated and then twisted together to prevent tangling in use. Wire diameter of 0.2 mm/0.008 in provides good compromise between size and strength. Thermocouple-tip is pre-tinned to ease soldering to PCB; use of activated flux and high-temperature solder recommended.

- **Conductor material** – Type K, Special Limits
- **Accuracy** – ±1.1°C or ±0.4%, whichever is greater
- **Length** – 800 mm/31.5 in. (*other lengths available under different part nos.*)
- **Conductor diameter** – 0.2 mm/0.008 in.
- **Temperature** – 265°C maximum



PA0215 High-temperature Glass-fiber-insulated Thermocouple

Exposed-junction thermocouple for continuous use up to 500°C. For best results, attach to PCB using an activated flux and high-temperature solder.

- **Conductor material** – Type K, Special Limits
- **Accuracy** – ±1.1°C or ±0.4%, whichever is greater
- **Length** – 800 mm/31.5 in.
- **Conductor diameter** – 0.2 mm/0.008 in.
- **Temperature** – 500°C maximum

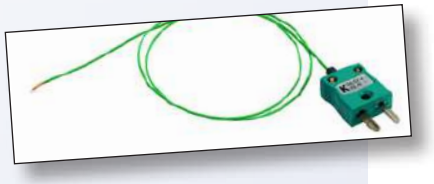
PA1610 Fast-response Thermocouple fitted with Micro-miniature Plug

PTFE-insulated thermocouple.

- **Conductor material** – Type K, Special Limits
- **Accuracy** – ±1.1°C or ±0.4%, whichever is greater
- **Length** – 500 mm/20.0 in.
- **Conductor diameter** – 0.2 mm/0.008 in.
- **Temperature** – 265°C maximum

PA1630 Dip-solder Sensor fitted with Micro-miniature Plug

For use with PA1650 selective-soldering sensor. Wire length 275 mm/10.8 in.



PA1683 Fine-wire Thermocouple for Use on Ball-grid Arrays (BGAs)

Developed specifically for use with BGA and ultra-fine-pitch surface-mount components. The conductors are 0.1 mm/0.004 in. in diameter, each insulated with PTFE, and the two conductors are then over-wrapped with a single outer PTFE sheath to prevent tangling in use. Accepted practice for BGAs is to drill through the PCB, insert the thermocouple-tip until it touches a ball, and then bond in place. For best results, attach using an activated flux and high-temperature solder.

- **Conductor material** – Type K, British Standard Class 1
- **Accuracy** – ±1.5°C or ±0.4%, whichever is greater
- **Length** – 500 mm/19.7 in.
- **Conductor diameter** – 0.1 mm/0.004 in.
- **Temperature** – 265°C maximum

PA1600 Micro-miniature Thermocouple Plugs (Type K) for Q18 Micro Logger

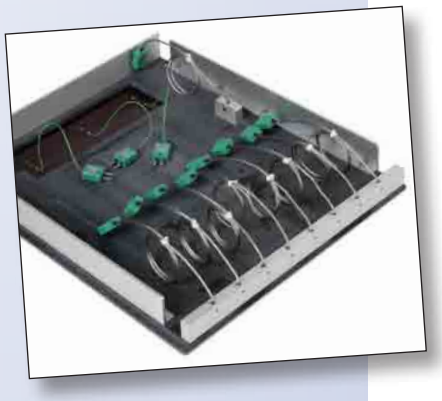
Bag of 8 spare plugs for wiring to customer's own type K thermocouples.

HT0090 High-temperature Adhesive Tape

For holding thermocouple cables in place where they run over the PCB. Pressure-sensitive silicone adhesive. Maximum 400°C. 30-m/98.4-ft reel.

WAVE SOLDER

The Wave Solder system utilizes a pallet which carries the thermal barrier/logger assembly through the process.



Wave-solder Pallet CS5000 fitted with Dummy PCB and Additional Thermocouples

Comprises:

- CS5000 pallet (including fitted CS5000A10 dummy PCB or 'test coupon'; see below).
- Additional thermocouples (fitted) to suit either 6- or 12-channel systems.

Suitable thermal barriers: TB2015, TB2064, TB2065, TB2020, TB2021, TB2100, TB2101.

Dimensions	Height	Width	Length	Weight
	40 mm	300 mm	350 mm	1.80 kg
	1.6 in.	11.8 in.	13.8 in.	4.0 lb

CS5006 Fitted with three additional PA1321 thermocouples, for a 6-channel system.
CS5012 Fitted with nine additional PA1321 thermocouples, for a 12-channel system (*illustrated; see also p. 10*).

CS5000 Wave-solder Pallet with Dummy PCB

Pallet fitted with CS5000A10 dummy PCB ('test coupon') assembly (no additional wave-contact thermocouples).

CS5000A10 Dummy PCB for Wave-solder Pallet CS5000

Dummy PCB ('test coupon') assembly with three fixed type-K thermocouples – as fitted to CS5000 pallet.

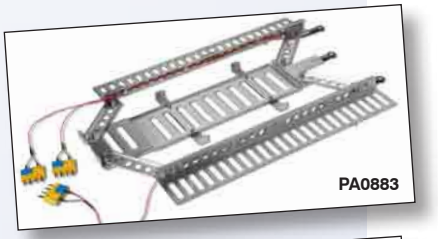
PA1321 Wave-contact Thermocouple for Wave-solder Pallet Assemblies CS5006, CS5012

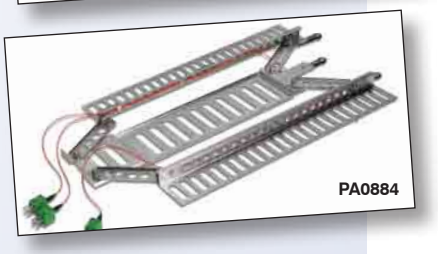
Steel-braided thermocouple.

- **Accuracy** – ±1.1°C or ±0.4%, whichever is greater
- **Length** – 420 mm/16.5 in.

SURVEYOR

The Surveyor system monitors an oven's performance in order to assess its stability over time. A standard instrumented frame carrying a thermal barrier/logger assembly gathers data which is analyzed by Insight™ software and compared with results from a previous baseline survey. An operator can thus quickly assess whether adjustment of oven settings is required. (*For use with Insight Reflow Tracker Professional only.*)





Surveyor Carrier Frame

The frame carries the Datapaq DP5 logger (inside its thermal barrier) and three fixed sensors, and is adjustable in width to adapt easily to your oven's conveyor. The standard frame accommodates both six- and 12-channel DP5 loggers, but no more than six channels can be used.

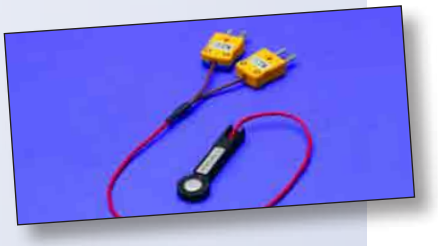
Dimensions	Height	Width	Length	Weight
	28 mm	100–350 mm	456–517 mm	0.93 kg
	1.1 in.	3.95–13.7 in.	18.0–20.4 in.	2.0 lb

PA0878 Surveyor carrier frame without sensors.
PA0883 Surveyor carrier frame PA0878 fitted with sensors using PA0885 plugs (as below) to fit standard 6-channel DP5 logger (*see also p. 11*).
PA0884 Surveyor carrier frame PA0878 fitted with sensors using PA0886 plugs (as below) to fit narrow 6-channel and standard 12-channel DP5 loggers.

Sensors for Surveyor Carrier Frame PA0878

Each sensor has two thermocouples – on its upper- and underside.

PA0885 Sensor with pair of plugs fixed side-by-side, for standard 6-channel Datapaq DP5 logger.
PA0886 Sensor with pair of plugs face-to-face, for narrow 6-channel and standard 12-channel DP5 loggers.



Sensor for Surveyor Carrier Frames PA0872, PA0874, PA0876 (pre-2018)

PA0866 Sensor for use in all positions on older carrier frames.

RADIO TELEMETRY

TM0100 TM21 Primary Receiver Kit

Complete operating primary receiver. Comprises:

- Primary receiver, region-specific – Europe RX4200, USA RX4100, rest of world RX4000.
- Primary-receiver antenna RX1010.
- Terminator TM1060.
- Power supply CH0070.

Contact Datapaq for other country-specific part numbers.

TM21 Primary Receiver

Basic unit without accessories.

RX4200 Europe
RX4100 USA
RX4000 Japan and rest of world

Contact Datapaq for other country-specific part numbers.

TM21 Secondary Receiver Kit with Extension Cable

Receiver kit using remote UGEF antenna to extend receiving range for short continuous furnaces. Comprises:

- 1 × TM21 secondary receiver kit TM0200 (see below).
- 1 × RS485 connecting cable.

TM21-ARX-10 With 10-m cable TM1042.
TM21-ARX-45 With 45-m cable TM1045.

TM0200 TM21 Secondary Receiver Kit

Complete operating secondary receiver. Comprises:

- Secondary receiver, region-specific – Europe RX4201, USA RX4101, Japan and rest of world RX4001.
- UGEF antenna RX1023.
- Receiver antenna stand RX1020.
- UGEF antenna and receiver-box mounting kit RX2502.

Contact Datapaq for country-specific part numbers.

TM21 Secondary Receiver

Basic unit without accessories.

RX4201 Europe
RX4101 USA
RX4001 Japan and rest of world

Contact Datapaq for other country-specific part numbers.

RS485 Cable to Link Primary and Secondary Receivers

Supplied on reel.

TM1042 10 m/32.8 ft
TM1045 45 m/147.6 ft
TM1046 100 m/328.1 ft

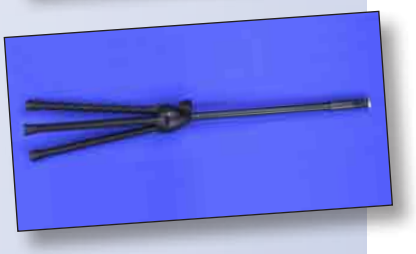
TM1060 TM21 RS485 Terminator

To be connected to last secondary receiver in a chain of receivers; or to primary receiver if it is the only one in the system.

UGEF Antenna, Europe and Japan

Unity-gain end-feed antenna for receiving signal outside the process. Frequency set to for 434.5 MHz for Europe, 429.5 MHz for Japan. Supplied with low-loss coaxial cable as follows.

RX1023 With 1-m/3.3-ft cable.
RX1036 With 10-m/32.8-ft cable.
RX1037 With 20-m/65.6-ft cable.
RX1038 With 40-m/131.2-ft cable.

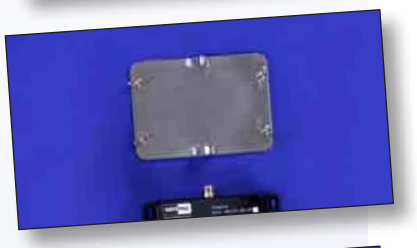


RX1020 UGEF Antenna Stand

For use with antenna RX1023, RX1036, RX1037 or RX1038. Must be used with bracket RX2500.

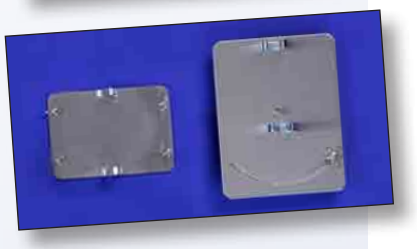
RX2500 UGEF Antenna Mounting Bracket

For mounting UGEF antenna RX1023, etc., on UGEF antenna stand RX10120. Allows antenna to rotate about horizontal axis.



RX2501 TM21 Receiver-box Mounting Assembly

For mounting secondary receiver RX4201, etc., on UGEF antenna stand below antenna.



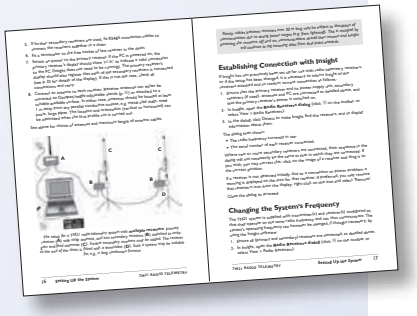
RX2502 UGEF Antenna and Receiver-box Mounting Kit

Used with antenna stand RX1020 to hold secondary receiver and UGEF antenna. Comprises:

- UGEF antenna mounting bracket RX2500.
- Receiver-box mounting assembly RX2501.

TX2200 Transmitter Antenna

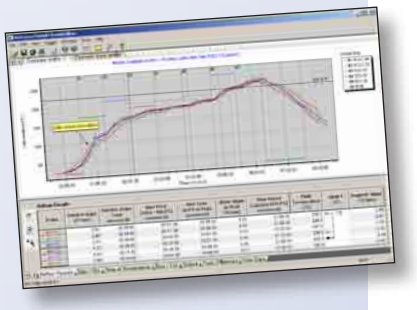
For reflow processes. Maximum temperature 265°C.



TM21 Radio-telemetry System User Manual

Full information on setup and operation of single- and multiple-receiver systems.

MA5946	Chinese, Simplified	**MA5940**	English	**MA5945**	Italian	**MA5944**	Portuguese
MA59411	Chinese, Traditional	**MA5942**	French	**MA5947**	Japanese	**MA5943**	Spanish
		MA5941	German	**MA5948**	Korean		



INSIGHT SOFTWARE

Check www.flukeprocessinstruments.com for latest Insight™ version and features.

Insight Reflow Tracker

A complete software system for monitoring and analyzing the temperature profiles of products in the reflow industry; accurate data acquisition and powerful analysis techniques are combined with flexibility and ease of use; includes Easy Oven Setup to predict the oven settings that will produce a required temperature profile. Available in various languages. Incorporates comprehensive online Help system.

SW5066	Chinese, Simplified	**SW50610**	Czech	**SW5067**	Italian	**SW50612**	Russian
SW50611	Chinese, Traditional	**SW5060**	English	**SW5065**	Japanese	**SW5069**	Slovak
		SW5061	French	**SW5068**	Korean	**SW5063**	Spanish
		SW5062	German	**SW5064**	Portuguese	**SW50614**	Vietnamese

Insight Reflow Tracker Professional

All the functionality of Insight Reflow Tracker, plus Surveyor to monitor your oven's performance (see p. 6).

SW5066P	Chinese, Simplified	**SW50610P**	Czech	**SW5067P**	Italian	**SW50612P**	Russian
SW50611P	Chinese, Traditional	**SW5060P**	English	**SW5065P**	Japanese	**SW5069P**	Slovak
		SW5061P	French	**SW5068P**	Korean	**SW5063P**	Spanish
		SW5062P	German	**SW5064P**	Portuguese	**SW50614P**	Vietnamese

Insight Reflow Tracker Basic

A reduced feature set, but with full analysis options and wizard-driven procedures. Supplied with printed *Quick Reference Guide* (not available in all languages).

SW5066B	Chinese, Simplified	**SW50610B**	Czech	**SW5067B**	Italian	**SW50612B**	Russian
SW50611B	Chinese, Traditional	**SW5060B**	English	**SW5065B**	Japanese	**SW5069B**	Slovak
		SW5061B	French	**SW5068B**	Korean	**SW5063B**	Spanish
		SW5062B	German	**SW5064B**	Portuguese	**SW50614B**	Vietnamese

Upgrade to current Insight Reflow Tracker from earlier version

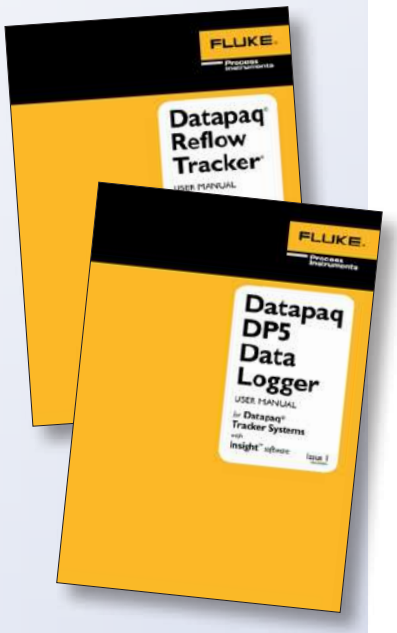
UG5066	Chinese, Simplified	**UG50610**	Czech	**UG5067**	Italian	**UG50612**	Russian
UG50611	Chinese, Traditional	**UG5060**	English	**UG5065**	Japanese	**UG5069**	Slovak
		UG5061	French	**UG5068**	Korean	**UG5063**	Spanish
		UG5062	German	**UG5064**	Portuguese	**UG50614**	Vietnamese

Upgrade to Insight Reflow Tracker from Insight Reflow Tracker Basic

UG5166	Chinese, Simplified	**UG51610**	Czech	**UG5167**	Italian	**UG51612**	Russian
UG51611	Chinese, Traditional	**UG5160**	English	**UG5165**	Japanese	**UG5169**	Slovak
		UG5161	French	**UG5168**	Korean	**UG5163**	Spanish
		UG5162	German	**UG5164**	Portuguese	**UG51614**	Vietnamese

Upgrade to Insight Reflow Tracker Professional from Insight Reflow Tracker

UG5266	Chinese, Simplified	**UG52610**	Czech	**UG5267**	Italian	**UG52612**	Russian
UG52611	Chinese, Traditional	**UG5260**	English	**UG5265**	Japanese	**UG5269**	Slovak
		UG5261	French	**UG5268**	Korean	**UG5263**	Spanish
		UG5262	German	**UG5264**	Portuguese	**UG52614**	Vietnamese



USER DOCUMENTATION

For **radio telemetry**, see p. 8.

User documents in appropriate languages (as available) are provided in printed form with software purchases, full and upgrade. They are also available separately, as follows. (All versions of Insight software also contain a comprehensive online Help system.)

Datapaq DP5 Data Logger User Manual

MA5740	English
MA5741	German
MA5742	French
MA5743	Spanish
MA5745	Italian
MA5746	Simplified Chinese
MA5747	Japanese

Q4 & Q18 Data Loggers User Manual

MA5110	English
MA5111	German
MA5112	French
MA5113	Spanish
MA5115	Italian
MA5116	Simplified Chinese
MA5117	Japanese

Reflow Tracker User Manual

MA5120	English
MA5121	German
MA5122	French
MA5123	Spanish
MA5125	Italian
MA5126	Simplified Chinese
MA5127	Japanese

EasyReflow [*Reflow Tracker Basic*] *Quick Reference Guide*

MA6000	English
MA6006	Simplified Chinese
MA60011	Traditional Chinese

BAGS AND CASES

CC0048 **Soft Carry-bag**

With shoulder strap, to provide convenient transportability for a complete Reflow Tracker system, including a thermal barrier (*shown with system in place; see also p. 12*).

Datapaq wave-solder pallet
with TB2100 thermal barrier and
12-channel Datapaq DP5 logger in place

The Datapaq Surveyor system with 6-channel Datapaq DP5 logger installed in the TB2015 thermal barrier

A typical Datapaq Reflow Tracker system, with 12-channel Datapaq DP5 logger

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Worldwide Service
Fluke Process Instruments offers services, including repair and calibration.
For more information, contact your local office.

www.flukeprocessinstruments.com

05/2018 MA5750-Reflow-Accessories-List-En-v1