

Multi-Channel Oven Data Logger

ThermaPro 2 is the latest generation of **high accuracy data logging** instruments for use in extreme or hostile environments. Suitable for applications where **recording of temperature, RH or pressure is critical** to the maintenance of product quality. This datalogger is ideal for the **Food Industry** where process profiling is crucial to production efficiency and energy use optimisation.

ThermaPro 2 Configuration

Available in 4, 8 and 16-channel models, ThermaPro 2 dataloggers are user-configurable for any number of inputs up to the maximum available. Channels will accept input from Types E,J,K,N or T thermocouples, or from devices producing a voltage output. On each model, channels may be configured in two blocks (i.e., 2+2, 4+4, 8+8), each block accepting a different type of input.

4 Simple Steps to Oven Temperature Logging

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|----------------|---|
| STEP 1: | When ThermaPro 2 is set up, simply connect thermocouples and/or other sensors and switch on. Status is confirmed by LEDs on the front of the instrument. |
| STEP 2: | The logger is then enclosed in its thermal barrier, and is ready for use. |
| STEP 3: | After the run, ThermaPro 2 is simply removed from the barrier and switched off. Sensors may now be disconnected. |
| STEP 4: | A simple cable interface allows logged data to be downloaded. A safety feature ensures that stored data cannot be overwritten until successful downloading has taken place. |

Key Features

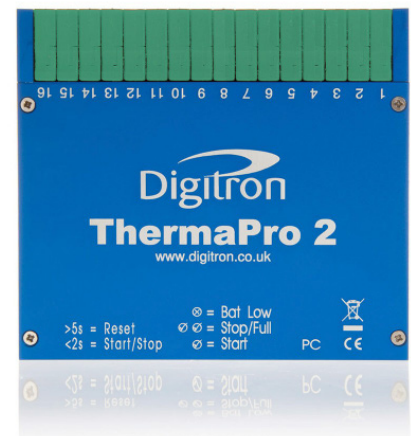
- Slimline design for ease of use in ovens/chillers
- Monitor process efficiency and energy use
- Diagnose problems
- Develop new processes
- Controls quality
- 4,8 and 16 channel options available
- Range of Thermal Barriers
- Thermocouple or Voltage Inputs
- Over 14,000 samples over when all 16 channels are in use
- Over 130,000 samples when one channel is in use
- Temperature Measurement range -200°C to +1000°C (depends on thermocouple type)
- Oven Temperature Range -90°C to +350°C (depends on thermal barrier)
- User configurable software

Main Applications

A **world leader** in digital thermometers, Rototherm has become the standard for accurate and reliable measurement across the following industries:



Food & Beverage



ThermaPro 2 Thermal Barriers

Thermal barriers are an integral part of the ThermaPro system and provide essential protection for the logger electronics against the high and low temperatures used in food industry processing. Use the graph below to select the appropriate barrier for your process application.

Before making your choice, you should consider the parameters of your process(es), and relate them to the graph. Many temperature-controlled processes include a number of pre-programmed temperature ramps. In such cases, total heat-energy exposure in terms of overall time may not be obvious. If you are not sure, please talk to your local distributor before you specify.

It is important to consider your ACTUAL time/temperature values when specifying a barrier. On the graph, draw a vertical line from the time axis. The appropriate barrier should be the one whose trace is immediately above the intersection of your lines.

You may find that your process or processes are not covered by the graph. Digiton offer other barriers, and are also able to produce Specials Under certain conditions, it is possible to dispense with a barrier- a considerable advantage where oven clearances are very small. However, we strongly recommend that total temperature exposure is carefully considered – please contact your local distributor for assistance.



ThermaPro 2 PC software

ThermaPro 2 PC software allows individual channel configuration, logger parameters to be set and logged data to be downloaded and saved. There is also a comprehensive range of graphing facilities to rapidly analyse results onscreen, using ThermaPro's time-and date stamped data. Operators can include user selected parameters with logged data for oven/chiller/product performance and analysis. Data may also be exported to other PC-based graphics and analysis programmes.

The Logger Setup section provides straight forward, intuitive channel configuration. It also allows features such as the sampling interval, noise filtering options, start/stop timings and the internal clock to be set.

By deliberately avoiding complexity, it allows first-time users to obtain high-quality results without lengthy familiarisation or training.

Software Key Features

- Windows compatible (95 – XP)
- Provides simple logger set up
- Multi-language option
- Full graphic display of up to 16 Channels on automatically or manually scaled time/temperature axes
- Separate vertical axes are displayed for temperature and voltage data. (Can be offset/scaled to read corresponding values across the display)
- User-defined annotations allow text to be added to graph
- On-screen information panel shows time and data value at pointer position
- User-set vertical (time) cursor shows all channel temperature values at cursor position
- User-set horizontal (temperature) cursors show time above, between and below important temperature values
- User-saved overlays allow you to show actual data compared to ideal performance
- Full range of edit functions and printing facilities

General Specification

Operating Temperature:	-20°C to +85°C for up to 1 hour
Logger Storage Temperature:	-40°C to +100°C
Sampling Interval:	16 samples per second
Process Duration:	Select an overall time covering process duration and the software will choose a sampling interval which maximises the number of sampling events spanning time selected.
Data Security:	ThermaPro2 will not accept new data if previous data has not been downloaded. Status clearly indicated by front panel LED.
Clock/Delay Start:	Data stamped with time/date by onboard real-time clock. The clock also allows logger to start at a pre-selected time/date, allowing data gathering to begin without direct supervision.
Calibration:	Automatic calibration validity check every time data is downloaded
Logger Dimensions:	140 mm x 126 mm x 17mm
	TB40 - 40 mm x 220mm x 260mm
	TB60 - 60 mm x 220mm x 260mm
Thermal Barriers:	TB80 - 80 mm x 220mm x 260mm
	TB100 - 100 mm x 240mm x 280mm
	TB120 - 120 mm x 240mm x 280mm
Thermocouple Inputs	
Instrument Accuracy:	± 1°C + 0.1%t below -100°C
Resolution:	0.1°C
Range:	Type T - 200°C to + 400°C Type K - 200°C to + 900°C
Voltage Inputs	
Accuracy:	± 0.1% FS or 20uV
Resolution:	1 uV to 1mV in 4 ranges
Range:	± 9.7 mV to ±1.25V in 8 ranges

Calibration Procedure

+We believe our calibration procedure is uniquely comprehensive within our industry.

- (1) Logger is connected to a thermocouple simulator producing a set output (eg 300°C).
- (2) Logger is put into an oven and heated until it reaches its maximum internal operating temperature of 85°C (even inside a thermal barrier it could come near this maximum). Simulator output is logged continually.
- (3) Logged data is downloaded to a PC and displayed as a trace that will highlight any deviations from “ideal” simulator output.
- (4) The resulting data is used to create a calibration file for the logger.
- (5) A similar procedure is followed for low temperature performance, down to the logger’s lower limit of -20°C.

As the logger set-up procedure also allows known variations in output device performance to be entered. ThermaPro 2 can provide the most accurately calibrated data available to the food industry.

Due to the indeterminate nature of thermocouples some loss of performance may occur in the presence of RF fields.