



**Phoenix<sup>TM</sup>**  
Phoenix Temperature Measurement

# HTS05 Systems

For ceramic processes



*...where experience counts!*

# Phoenix™ HTS05 Systems for ceramic processes

## Data Logger

Phoenix™ data loggers are designed for use in harsh industrial environments. The electronics are protected by a robust, water resistant, machined aluminum case. Optional two way RF telemetry is available, allowing real time data analysis and for the data logger to be reset and downloaded remotely. All loggers are shipped with a factory calibration certificate traceable to national standards. Optional certification to UKAS (UK) or DKD (Germany) can be supplied if required. For convenience and future reference, a copy of the original calibration certificate and the calibration data are stored within the data logger and can be accessed as required.



Type PTM1-206HT, PTM1-210HT, PTM1-220HT  
 No. of channels 6, 10 or 20  
 Thermocouple type K, N, R, S or B

Thermocouple Type	Measurement range	Accuracy
K	-100°C to 1370°C	+/- 0.3°C
N	-100°C to 1300°C	+/- 0.3°C
R	0°C to 1760°C	+/- 0.7°C
S	0°C to 1760°C	+/- 0.7°C
B	50°C to 1815°C	+/-3.0°C at 400°C , +/- 1.0°C at 1500°C

Resolution 0.1°C  
 Max operating temperature 110°C  
 Battery type 2 x replaceable lithium (AA)  
 Memory Up to 3.8 M data points, non-volatile memory  
 Sampling rate Adjustable from 0.2 second to 1 hour  
 Start trigger Time, temperature, start button or software  
 PC connection Hard wire or Bluetooth  
 Dimensions 20 x 98 x 200mm (h x w x l)

Two way radio transmission as an option



Robust and waterproof housing for reliable use in hostile environments



Standard batteries: 1000h measurement time, widely available



## What is temperature profiling?

All industrial ovens or kilns use thermocouples to control the zone temperatures. However these thermocouples measure only atmosphere temperature in their respective zones and do not indicate the true temperature of the product, which is vital to ensure the heat treatment specification is adhered to.

## Phoenix™ can provide a solution:

Our monitoring system travels through the kilns with the product, logging temperatures from up to 20 thermocouples connected to the product or distributed in the load to get an accurate thermal 'balance'. The system is easily placed on the line with the product causing less disruption and gives a more accurate picture of true product or load temperature. At the end of the profile run a powerful software package analyses the logged data to determine whether the specification has been met.

The profiling trials can be quickly carried out allowing you to resolve any kiln problems quickly, and to provide your customers with an assurance of a consistent process control.





## TS05 thermal barriers

Developed for the ceramic industry, the Phoenix<sup>TM</sup> TS05 series Thermal Barriers travel beneath the kiln car for a sustained period at moderate to high under car temperatures. Built from high grade stainless steel these Thermal Barriers use evaporative water technology to keep the Data Logger cool and protect against mechanical damage and the dusty environment of a ceramic kiln. These thermal barriers have detachable thermocouple sockets which can be mounted remotely from the thermal barrier for easy thermocouple fitting.



Stainless steel evaporative thermal barrier with microporous insulation and dual thermocouple exits for use with 20 channel data loggers

Standard TS05 range performance:

Type	TS05-120	TS05-150	TS05-085	TS05-075 Hydro Kiln
100°C / h			∞	∞
150°C / h	100	160		
200°C / h	50	84		
250°C / h	32	55		
300°C / h	22	41		
Height / mm	120	150	85	75
Width / mm	450	480	190	152
Length* / mm	235	235	315	400
Weight / kg	10.0 / 13,5	14.0 / 19,5	3.4	7.5

\* for a 20 channel data logger

High temperature materials and highest quality workmanship!

The use of water evaporation as a cooling medium allows very compact dimensions and high thermal performance.

Thermocouple sockets can be mounted separately for easy access.



Need a thermal barrier to suit your application? Tell us your requirements, and if it's possible, we'll design and manufacture it for you! We are constantly developing and looking forward to any new challenge.

## Thermocouples

All Phoenix<sup>TM</sup> thermocouples are manufactured using the highest quality materials and conform to ANSI 96.1 special limits specification. For type K, mineral insulated thermocouples are generally the first choice. The thermocouples wires are insulated by magnesium oxide and protected by a high grade alloy sheath. For special applications we can supply thermocouples with other insulation materials.

Thermocouples can be mechanically held, or retained in holes to record temperatures at critical points.

Type K or N thermocouples in 1.5, 2 or 3mm diameter.





# Thermal View Plus

The easy way to get a perfect result!



**PhoenixTM**  
Phoenix Temperature Measurement

New Profile : Datalogger Settings

**Start Run**

Button  
 Temperature 45 °C  
 Date/Time 11/02/2011 15:23:54  
 Start Now

**Stop Run**

Button  
 Date/Time 11/02/2011 15:23:54

**Sample Rate**

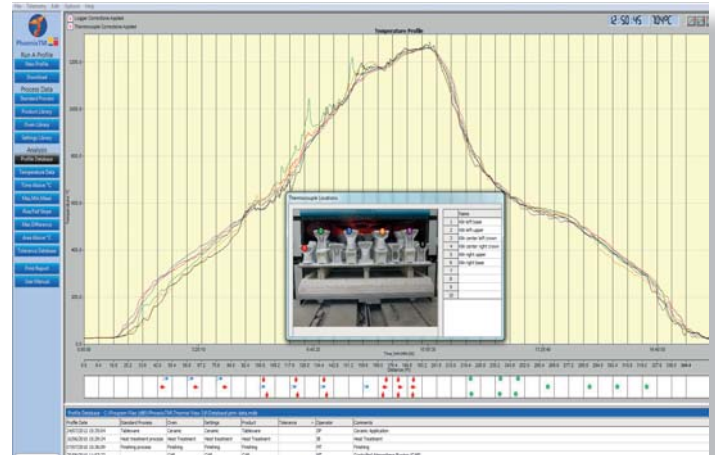
MM: 0 SS: 5 t: 0

Disable Button once logging

**Datalogger Information**

Run Duration: 33:05:55 (HH:MM:SS)  
Battery Level: 2.95 V  
Calibration Date: 18/11/2010  
Internal Temperature: 22.0 °C

	Enable	Name
1	<input checked="" type="checkbox"/>	Channel 1
2	<input checked="" type="checkbox"/>	Channel 2
3	<input checked="" type="checkbox"/>	Channel 3
4	<input checked="" type="checkbox"/>	Channel 4
5	<input checked="" type="checkbox"/>	Channel 5
6	<input checked="" type="checkbox"/>	Channel 6
7	<input checked="" type="checkbox"/>	Channel 7
8	<input checked="" type="checkbox"/>	Channel 8
9	<input checked="" type="checkbox"/>	Channel 9
10	<input checked="" type="checkbox"/>	Channel 10
11	<input checked="" type="checkbox"/>	Channel 11
12	<input checked="" type="checkbox"/>	Channel 12
13	<input checked="" type="checkbox"/>	Channel 13
14	<input checked="" type="checkbox"/>	Channel 14
15	<input checked="" type="checkbox"/>	Channel 15
16	<input checked="" type="checkbox"/>	Channel 16
17	<input checked="" type="checkbox"/>	Channel 17
18	<input checked="" type="checkbox"/>	Channel 18
19	<input checked="" type="checkbox"/>	Channel 19
20	<input checked="" type="checkbox"/>	Channel 20

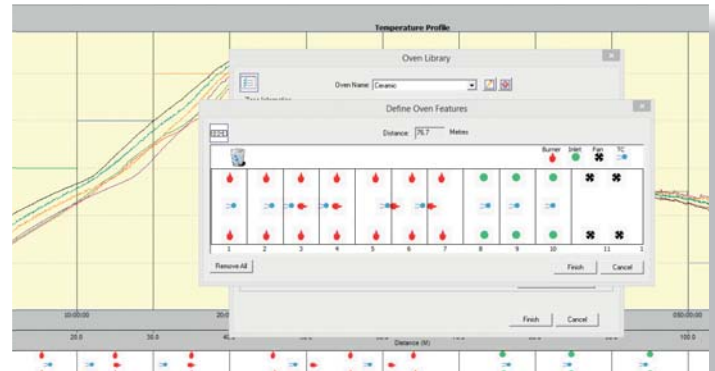


Simply enter:

- How to start the data logger
- The rate at which data is to be collected
- The number of thermocouples to be used.

For regular measurements these can be set with one mouse click or pressing the data logger start button.

The temperature profile is displayed in the graphics window of the Thermal View software. Thermocouple profiles can be switched on or off individually and you can zoom in for more detailed analysis.



Comprehensive analysis tools are located on the left side of the screen for single click analysis and report generation. Data import and export in both .csv and PhoenixTM formats are available allowing electronic transfer of process data.

User defined kiln zones and kiln features to support profile analysis.

Contact us for a demo version!

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