PTM4220

Delta Stand Alone Data Logger TUS Systems
For batch heat treat processes to AMS2750G and CQI-9

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Delta - External Data Logger

Complementing its range of thru-process profiling and surveying systems, PhoenixTM offers stand alone data loggers (PTM4200 Series) the PTM4210 (10 Channel) and PTM4220 (20 Channel), designed specifically for external surveying of batch furnaces.

Compliance
- Meets and exceeds all the field test instrument requirements for TUS pyrometry of AMS2750G and CQI-9 in conjunction with Thermal View Survey Software SW25.

Robust Design
- Compact design for use on the shop floor used in either vertical or horizontal orientations to suit.
- Battery operated (1000 hrs) so efficient remote use without charging delays or electrical isolation issues.
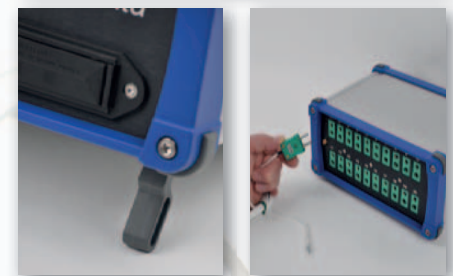
Accuracy
- High accuracy temperature measurement provided by efficient cold junction compensation eliminating errors from changes in data logger operating temperature.
- Automatic application of data logger correction factors (calibration stored in data logger) and thermocouple correction factors accurately calculated across the entire measurement range.

Flexible Configuration
- Choice of thermocouple type and connector style to meet application requirements.
- Quick easy error free thermocouple connection using fixed thermocouple plugs. No screw terminals!

Communication Options
- Real time data logger communication and temperature measurement using either USB cable, Bluetooth, or optional RF Telemetry.
- View data live on laptop running Thermal View Survey software SW25 and perform full TUS at multiple sequential temperature levels.
- Back up data stored in data logger automatically available for download.

| Model	PTM4220			PTM4210	
No Channels	20			10	
Thermocouple Types	K	N	S/R	K	N
Measuring range	-100 °C to 1370 °C	-100 °C to +1300 °C	0 °C to +1760°C	-100 °C to +1370 °C	-100 °C to +1300°C
Accuracy	±0.3 °C	±0.3 °C	±0.7 °C	±0.3 °C	±0.3°C
Resolution	0.1 °C				
Memory Total	Up to 3.8 million data points				
Operating Temperature Range	0 °C to +55 °C Cold Junction Compensation maintains accuracy with changes in temperature over operating temperature range				
Battery Type	4 x 'AA' Alkaline user replaceable batteries				
Battery Life	Up to 1000 hours (depending on operating temperature, telemetry use & sampling interval)				
Sample Interval	From 0.2s to 1 hour (minimum 1.0 s when RF, Bluetooth, or USB telemetry used)				
Logger Start by	Date & Time, Temperature, Start Button or Software (RF Telemetry if supplied)				
Real Time data transmission	Via USB cable & Bluetooth as standard, via 2-way RF Telemetry optional				
Thermocouple Connections	Standard or miniature plugs (please specify)				
Dimensions	Height 120 mm (155 mm with feet) Width 245 mm, Depth 172 mm (190 mm with RF antenna)				
Weight	2.0 kg				

Thermocouples

The PTM4200 data logger can be configured with either standard or miniature thermocouple connections in a choice of thermocouple type K or N.
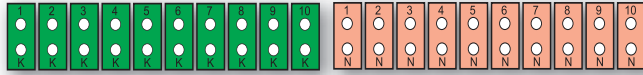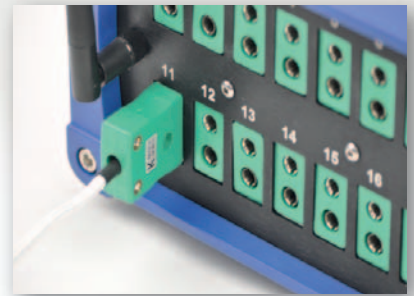
PTM4210
10 x Type K or N
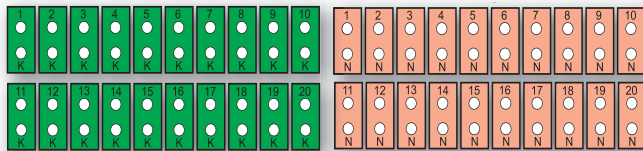
**PTM4220**
20 x Type K or N
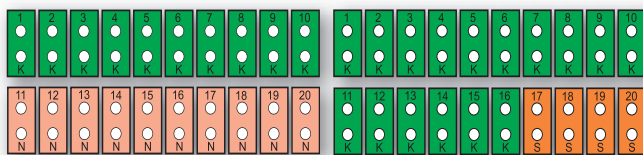
PTM4220
10 x Type K + 10 Type N
16 x Type K or N + 4 Type S or R

RF Telemetry

The data logger can be configured with an optional RF Telemetry module allowing remote data logger reset/download. TUS data can be transferred directly, in real time, from the external data logger to PC running the live Thermal View Survey analysis software if located away from the processing floor.
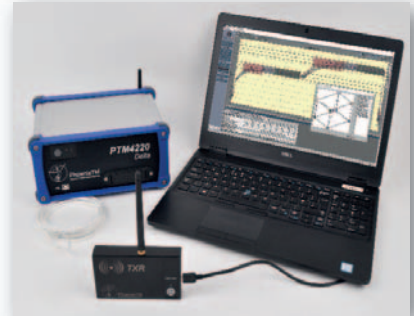
Thermal View Survey Software

PhoenixTM Survey software has all the essential functions required to monitor, and analyse your TUS surveys, produce compliant reports (AMS2750G & CQI-9), save production time and free up your technical staff.
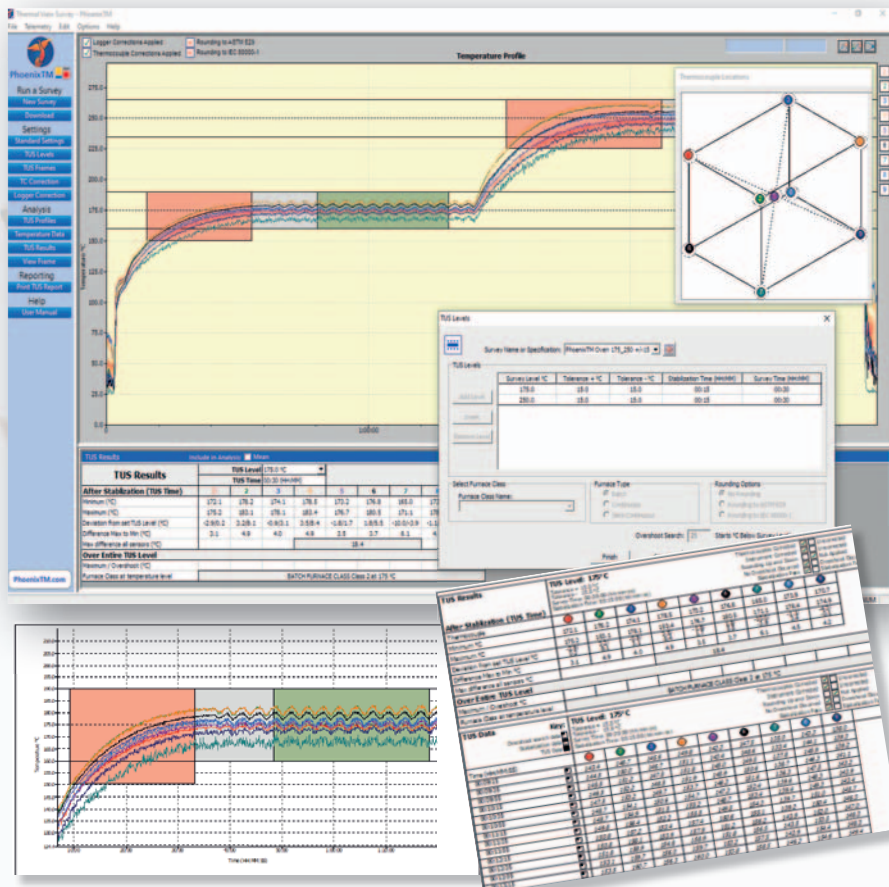

Software Feature Benefits

- Full data logger reset and control
- Real time analysis either via USB cable, Bluetooth, or optional RF Telemetry
- TUS with up to 60 thermocouples (Merging 3 x 20 channel TUS runs)
- Data logger and Thermocouple correction factor files accurately generated across entire measurement range.
- Correction Factors applied automatically to complete TUS data.
- Full temperature data at TUS levels with pass/fail colour coding
- Full zoom control of graphical data
- Temperature overshoot warnings
- TUS temperature level library
- TUS zone fitting to temperature data
- TUS frame library & on-screen view
- Furnace class result at each level
- Rounding Up/Down to ASTM E29
- On screen notes
- User customised printed report designed to meet AMS2750G requirements
- Export to CSV file
- Import Furnace Control TC data
- On screen help
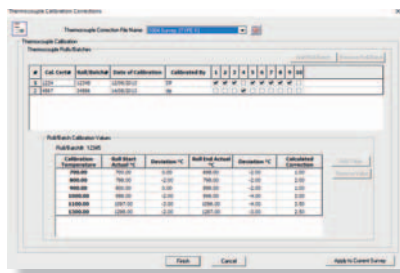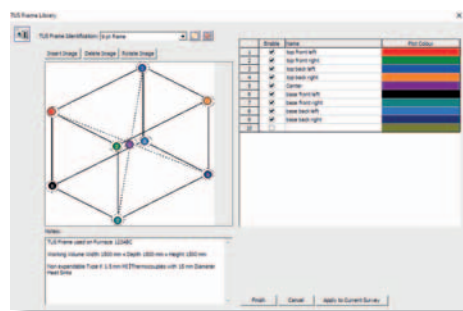- Database storage
- Password protection
- Audit trail
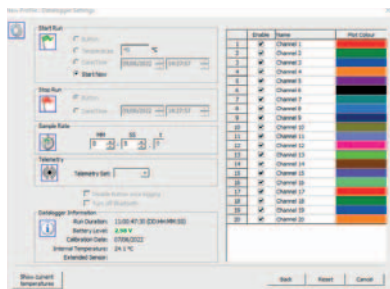
Full Data Logger Status, Set-up and Control (including TUS sample interval, channel configuration)

TUS level library files allowing comprehensive set-up of temperatures, times, rounding and furnace class settings.

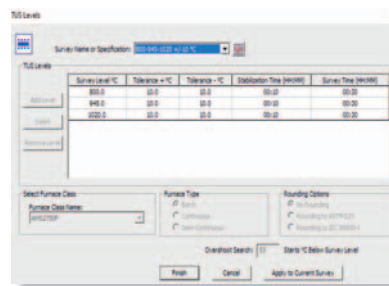
Thermocouple calibration files allowing accurate set-up of TC correction factors across entire temperature range, not just at single temperature.
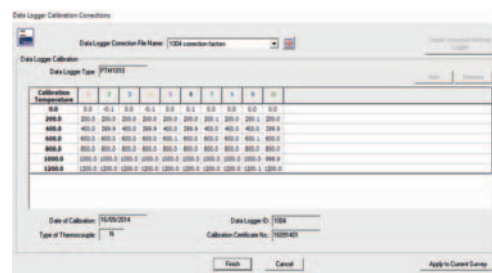

Data logger correction file read directly from field test instrument permitting automatic TUS correction and certified documentation.

Full graphical and analysis reporting of TUS levels showing full overshoot search, stabilise and TUS time phases.

Clear reporting of overshoot errors both graphically and in raw data highlighting exactly where TUS failure occurred.
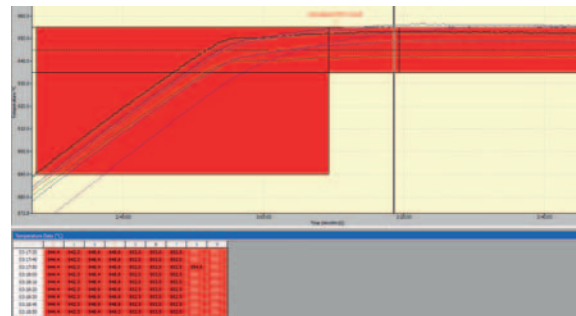

TUS frame Library files allowing clear documentation of TUS thermocouple location on TUS frame within furnace working volume.
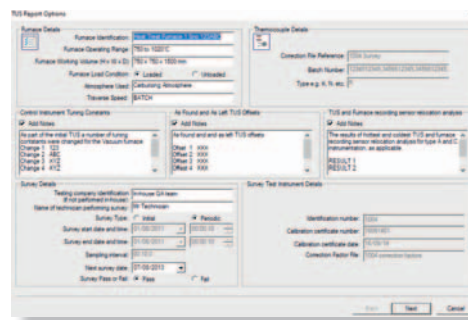

TUS report dialogue allowing customisable set-up of all information (auto and manual input) required for AMS2750G and CQI-9 report generation.

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