

# Application Note:

## How to Monitor Temperature in a Production Furnace

### Defining the Problem:

A manufacturer of specialty furnaces needs to monitor their temperature control, provide warnings/alarms for temperature near fault conditions, and document consistent temperatures throughout the sintering process.

### System Requirements:

The solution must take a signal from a thermocouple, have a display for real time visual feedback, record temperatures throughout the batch production for quality control and provide warning and alarm outputs.



### Implementing the Solution:

The Acromag VPM3121 was selected because of its versatility and paired with a chart recorder. There are several models and options of the VPM3000 series but the VPM3121 has what this customer needed.

1. Thermocouple (mV) input with curve and CJC compensation.
2. Large easy to read display.
3. Process control 4 to 20mA output to send to the chart recorder.
4. 24 V Excitation source to power the output loop.
5. Two settable relay outputs for warning and alarm conditions.

### Notes:

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#### [VPM3121](#)

Universal Transmitter/Alarm with Display, 85-265V AC or 90-265V DC Power with 4-20mA Output, Dual Relays and 24V DC Supply

### Why Acromag:

Acromag has a wide range of panel meters, signal conditioners and intelligent transmitters and therefore had the exact fit for their application. The panel meter is password protected and easy to configure either from the front panel pushbuttons or the free DisplayWizard software. Plus Acromag has live, in house personnel to assist with product selection and tech support available should a question arise.