

Application/Problem:

One of our industrial clients utilizes certain types of fluids that are transported in pipes that require minimum maintained temperatures (to avoid pipe freezing, high temperature process maintenance, etc.), which is the case with most industrial plants. Our client required a custom heat trace circuit monitoring panel to examine individual pipe heating circuits for amperage and circuit integrity. Circuit alarm monitoring using multiple temperature set-points was desired. Client's heat trace monitoring arrangement consists of multiple heat trace monitoring panels networked together throughout the plant.

Project Solution/Customer Benefit:

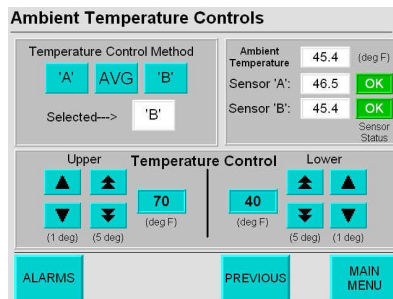
Flanders Electric designed a custom monitoring panel to the client's specifications. The monitoring panels included Allen Bradley CompactLogix PLC's for controlling the circuit monitoring functions. Allen Bradley PanelView Plus operator terminals provide an interface to the circuit monitoring configurations and set-up. Each monitoring panel is capable of monitoring up to 70 local heat trace circuits with the capability of monitoring many more via remote I/O connections. Each of the circuits are configured individually for current capacity, high and low amperage alarms, and temperature set-point for alarm activation. Individual circuits are also monitored for power loss. Alarms for individual circuits may be disabled in the event of maintenance requirements or if hardware problems arise.

The monitoring system is equipped with redundant temperature sensors. Operators can select which sensor to utilize for monitoring purposes or select to use the average of the two sensors. In the case of a temperature sensor failure, the software is configured to automatically switch over to the other sensor and announce an alarm for the operating personnel.

This allows for the client to have complete flexibility in configuring individual circuits on an "as needed" basis. All alarms are logged and displayed on the PanelView Plus terminals with the capability to announce alarms and information to a supervisory computer system.

Products Used:

- Allen Bradley CompactLogix PLC Platform
- Allen Bradley Flex I/O Platform
- Allen Bradley PanelView Plus 1000 Operator Interface Terminal



Circuit Panel Overview

Heat Trace Panel - 8 Circuit Amps

Circuit - 1	12.4	Circuit - 8	12.3
Circuit - 2	8.6	Circuit - 9	0.0
Circuit - 3	10.1	Circuit - 10	12.6
Circuit - 4	12.3	Circuit - 11	12.8
Circuit - 5	12.6	Circuit - 12	12.6
Circuit - 6	13.0	Circuit - 13	12.8
Circuit - 7	12.1	Circuit - 14	12.4

ALARMS NEXT--▶ MAIN MENU