

APPLICATION NEWSLETTER

PROBLEM: Controlling Gas Pressure in a Manifold

The chief engineer for a company that manufactures radiant heat transfer equipment was interested in a device to monitor pressure of the air/gas mix in a burner manifold. These burners are frequently used in industrial drying processes. The manifold distributes an air/gas mixture to burners in the system. The design of these burners requires that the air/gas mix be delivered to the burner at a precise pressure. Also, the manifold pressure needs to be controlled to insure even gas distribution to the burners.

The manufacturer had been using analog gauges to monitor the manifold pressure. Variations in pressure were noted by a technician who manually adjusted the gas pressure. Many customers, however, were switching to PLCs and they wanted to tie the burner's controls to a PLC. In addition, the chief engineer wanted to retain the local indication, while keeping down the costs.

SOLUTION: The series 2100 Smart Gauge with a 4 to 20 mA output provides a solution to the problem. The 2100s accuracy of +/-0.05 % of full scale was much better than the accuracy of the analog devices the company previously used. Because of the performance improvement, the burner manufacturer only needed one model to cover the various pressures at which various burner systems operate. This simplified his gauge ordering and reduced his inventory.

The major benefit is the 4-20 mA loop option. This allows a signal to be sent through an A to D converter to a PLC. The PLC senses any pressure changes in the manifold and adjusts the regulators accordingly. This nearly immediate response to pressure changes increases the overall efficiency of the burners which helps reduce energy costs and improves quality control of the drying process. By purchasing the Series 2100 Smart Gauge, the customer gets a transmitter with local indication at one-half to two-thirds the price of other industrial transmitters.

