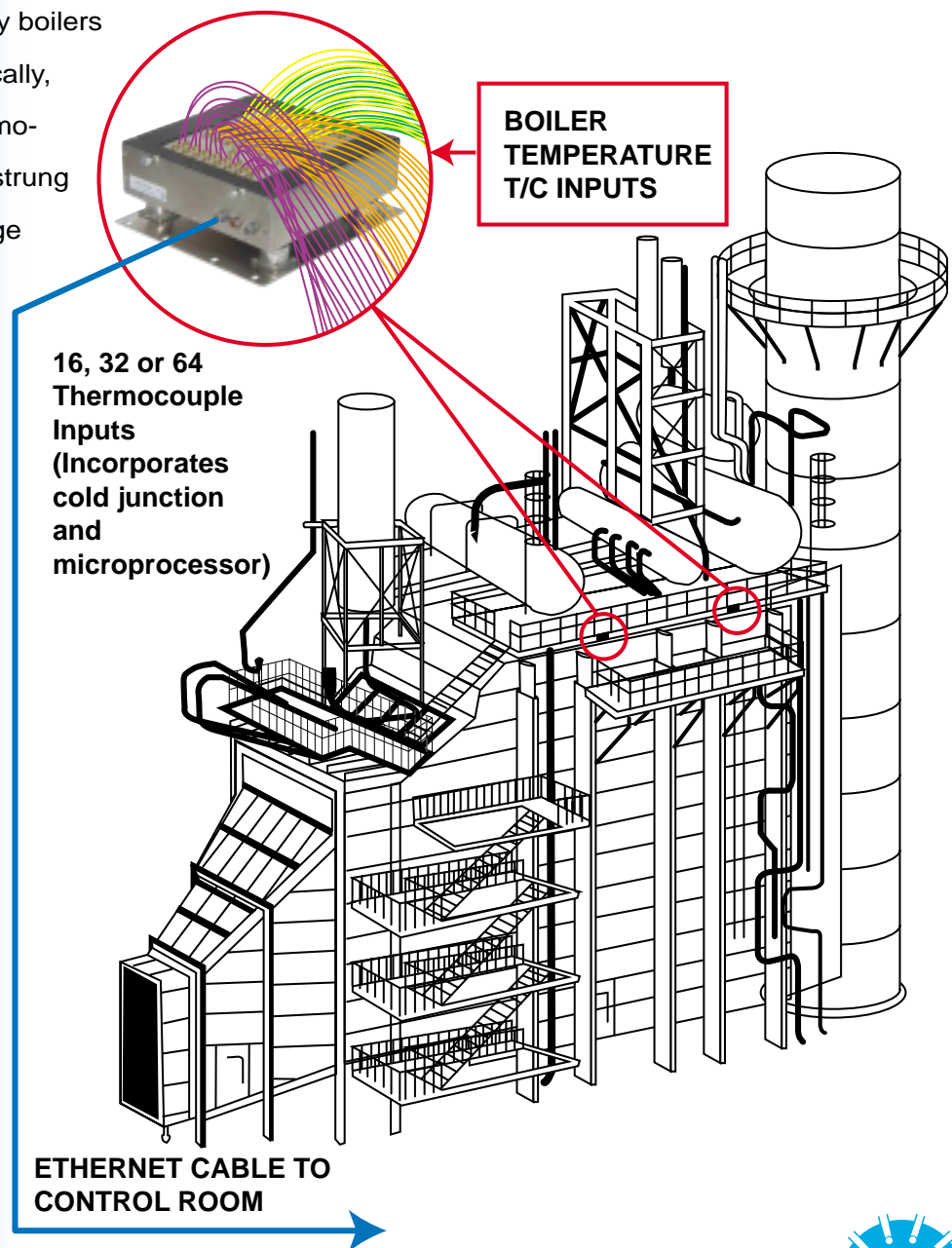


# BOILER TEMPERATURE MONITORING/MAPPING Temperature Measurement

## General Application Description

Large boilers typically have many thermocouples attached to monitor and map internal temperatures. The purpose of these measurements is to maintain efficiency and uniformity of temperature. This is especially true in multi-story boilers used in power plants. Typically, there are hundreds of thermocouple wires bundled and strung through conduit. These large bundles can sometimes be hundreds of feet in length to the control room. Scanivalve's Digital Thermocouple Scanner described on page 2 eliminates most of this wiring by placing the intelligence near the boiler.



## Temperature Measurement Solution

The Model DTS3250 Thermocouple Scanner is an intelligent one-box solution that can eliminate long thermocouple wire bundles. By mounting the DTS module in the area of the boiler, the thermocouple wires can be kept short, thus minimizing noise problems. The thermocouple signals are converted into engineering units of degrees C or F. Data are output via Ethernet TCP/IP. Therefore, instead of bundles of thermocouples hundreds of feet in length, there is only a noise immune Ethernet cable going back to the control room or network.

This represents a large initial savings in thermocouple wire, labor to install thermocouple wire into conduits, and ease for trouble shooting each channel.

### Intelligent Thermocouple Scanner

The Model DTS3250 Temperature Scanner incorporates a microprocessor and a 22 bit A/D for each thermocouple input. In addition, it has an isothermal block incorporated for the Uniform Temperature Reference (UTR). Therefore, no patch panels or external cold junctions are required. This rugged module accepts 16, 32, or 64 pairs of type E, J, K, N, R, S, T, & B thermocouples. The DTS3250 uses stored NIST thermocouple conversion tables to convert mV inputs to engineering units of degrees C or F. Each input channel of the DTS3250 may be configured for a different T/C type.

### Communication

The DTS3250 modules use industry proven Ethernet communications. The Model DTS3250 thermocouple scanner (16 channel only) incorporates an embedded web server for EASY communication and setup configuration. Operation is controlled via a host computer. Direct 24/7 communication can be made via Telnet, our LabView drivers, or an OPC server.

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