

Temperature Measurement Solutions

Safe and Accurate Solutions for Difficult Process Applications



Process Thermocouples & RTDs

In most process applications the temperature sensor is inserted into a thermowell or protection tube. This protects the sensor from its environment and facilitates easy removal and replacement. These assemblies generally consist of a head, nipple-union-nipple and thermowell. Smart Sensors Inc. industrial thermocouples and RTDs are available in virtually any calibration and resistance temperature coefficient. Specialty Sensors include RTDs that provide high accuracy and meet rigid sanitary requirements for food and beverage and pharmaceutical applications.



Thermowells

Proper temperature element protection starts with the selection of the thermowell or protection tube. Conditions that influence the selection, include the temperature, pressure, flow velocity, pipe size, insertion length and the process environment and medium. A variety of materials and process connections are available for both thermowells and protection tubes. All metallic wells are constructed in strict compliance with ASTM and ANSI specifications. For higher temperatures ceramic protection tubes are available.

Fluid flowing by a thermowell forms a turbulent wake that has a defined frequency. The thermowell must have adequate stiffness so its natural frequency is greater than the wake frequency. SSI can design the well using velocity calculations; this will protect against catastrophic well failures. Our complete family of bar stock wells and protection tubes can provide safe and reliable protection for any process environment.



Heads

SSI can provide a head for virtually any process application. From our rugged explosion proof head used in hazardous locations to our water resistant head that provides a weather tight seal or our plastic design that can withstand caustic wash downs for CIP and sanitary applications. These heads are available in Cast Aluminum, Stainless Steel, Cast Iron and plastic. The conventional threaded type and the new flip-top threadless design are available for your convenience. All metal heads can accept either a sensor terminal block or a DIN size temperature transmitter.



Miniature Thermocouples & RTDs

Miniature thermocouples and RTDs are generally used where thermowells are not necessary and are commonly found in pilot plants, research and development, furnace, and OEM applications. Thermocouple constructions with diameters as small as .010 inches are available with grounded and ungrounded measuring junctions. All miniature calibrations can be provided with flexible leads and a variety of connector terminations.



Temperature Transmitters and Indicators

Transmitter can accept an input from thermocouples or RTDs and produce an analog or digital output. All outputs are linear with temperature. The instrument can be programmed using software (easily downloaded to your personal computer) or a common hand held programming device. A five year warranty is standard on all transmitters. Hand held and panel mountable digital thermocouple indicators have large displays and accuracies normally found in instruments three times more expensive.