

"TRUTEMP" Plastics And General Purpose Sensors

The "TRUTEMP" plastics and general purpose sensors are intended for use in medium duty processing applications involving exposure temperatures of up to 900°F. The standard construction consists of an appropriate pair of insulated leads formed into a thermocouple junction or attached to RTD sensor elements. This sensor assembly is typically installed into assorted combinations of tubes and fittings to form a complete sensor assembly.

1

High Strength, Durable Design. Each sensor style has been engineered to provide an optimum blend of accuracy, strength and economy. Superior design and precision assembly ensure optimum sensor performance.

2

Versatile Construction Styles. The plastics and general purpose sensors are manufactured in a wide selection of standard and special purpose mounting configurations. Custom versions of these popular sensors can be manufactured to customer specifications when required.

3

Durable, Flex Resistant Lead Systems. All sensor configurations feature securely anchored leads. A variety of standard lead protection options enables matching of sensor lead systems to application requirements. Most sensor configurations allow a choice of several lead exit angles.

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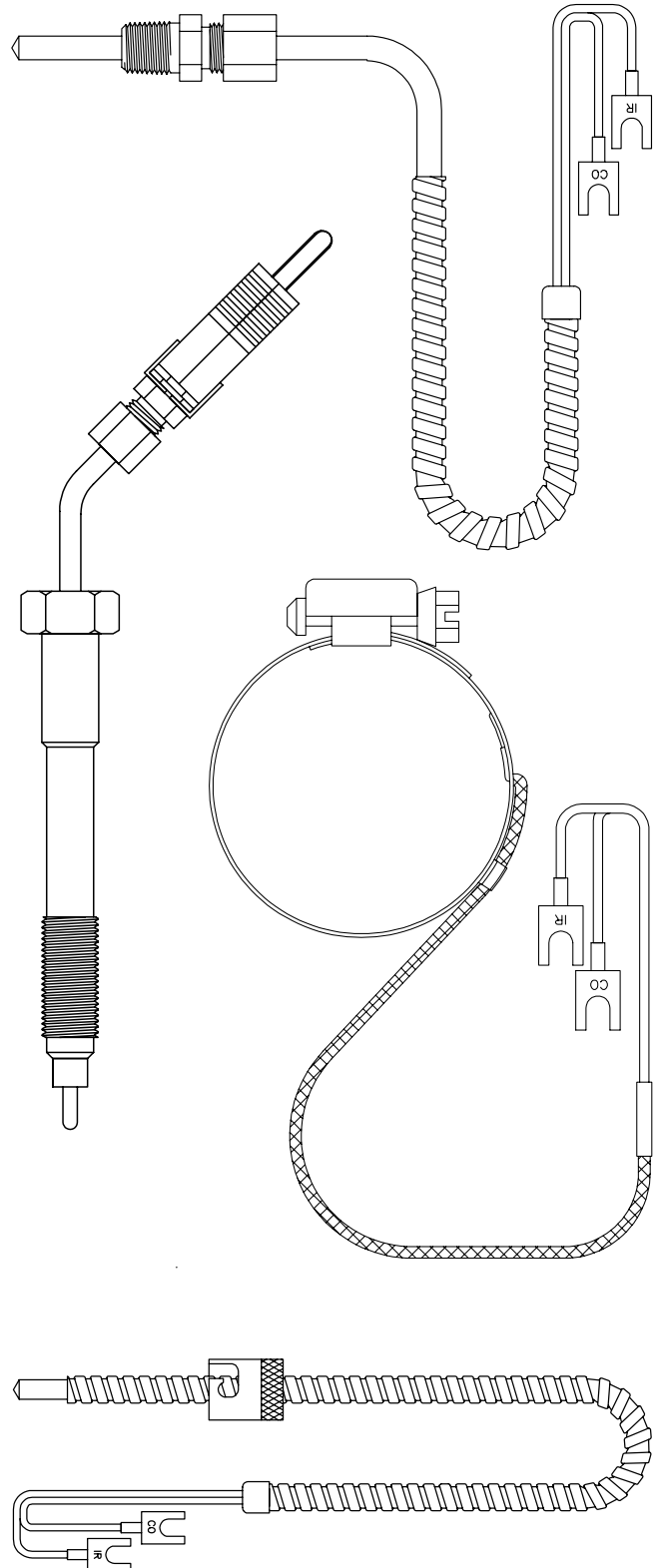
Oxidation Resistant Construction. Standard tube type thermocouples feature a 304 series stainless steel sheath. Fittings for all configurations can be supplied in a variety of materials. Standard fitting selections include stainless steel, nickel plated steel, nickel plated brass, brass and copper.

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High Quality Sensor Elements. Available sensor types include all standard base metal thermocouple alloys as well as an assortment of RTD sensor elements. Standard thermocouple sensors are constructed to the standard limits of error as specified by ANSI MC96.1-1982. Special tolerances to ANSI MC96.1-1982 can also be supplied when required.

6

Extended Style and Size Selection. The large range of sensor configurations and sizes offered meets the needs of most common applications. Single and multiple element configurations can be readily manufacture to suit any special application requirements.



Plastics And General Purpose Sensor Specifications And Application Data

Standard Plastics And General Purpose Sensors

Duratherm maintains a large inventory of common plastics and general purpose sensors and can provide quick shipment of both standard and custom sensors. The highly versatile plastics and general purpose sensors are supplied in a virtually unlimited number of application specific constructions. These low cost sensors can be readily manufactured with any desired combination of custom design features. Special fittings, flanges and connectors are supplied on a routine basis. Our modern CNC equipped machine shop ensures in-house control of quality and delivery of component parts.

Duratherm has produced thousands of unique, plastics and general purpose sensor designs and would welcome the opportunity to quote, design and manufacture any custom sensor your application requires.

Plastics And General Purpose Sensor Applications

- Plastic injection molds and equipment
- Packaging equipment
- Thermoset mold and platen heating
- Food processing equipment
- Refrigeration temperature control
- Oven and hot plate temperature control
- Radiant heating control applications
- Pipe trace heating control
- Liquid temperature measurement and control
- Deicing systems
- Vapor cleaning and degreasing systems
- Plastic extrusion dies and equipment
- Industrial Processing
- Medical and dental equipment
- Plating baths
- Drying Equipment
- Photographic and X-ray film developing systems

General Purpose Sensor Insulation Materials

The majority of general purpose sensors utilize the thermal and electrical properties of the wire insulation to isolate the sensor elements from the mechanical portion of the sensor. For this reason it is necessary to select the wire on the basis of sensor application temperature. If you have special requirements requiring the use of extension wire rated at temperatures below the sensor exposure temperature, contact our engineering department for design recommendations.

Calibration Tolerances

"TRUTEMP" plastics and general purpose thermocouple sensor assemblies meet or exceed the standard tolerances of ANSI Circular MC96.1-1982. Special tolerances meeting the standards of ANSI MC96.1-1982 can also be supplied when required. "TRUTEMP" plastics and general purpose RTD sensor assemblies meet or exceed the standard tolerances of DIN specification 43760. For critical applications, Duratherm can provide complete calibration, traceable to the National Institute of Standards and Technology. Equipment is available to test your sensors over a wide range of temperatures. When calibration is requested, tested materials and components will be tagged and supplied with a calibration report. If calibration services are required, contact our sales office for details.

Junction Configurations

Duratherm offers three basic thermocouple junctions. Exposed junctions have the best thermal response but is unprotected. Grounded junctions offer the next best thermal response and the junction is fully protected. Ungrounded junctions feature slightly lower thermal response than the grounded type, but are protected and also electrically isolate the junction from the sensor sheath. Grounded and ungrounded junctions of tube style sensors can be provided with shaped tip configurations to enhance response. The drawing below illustrates the standard junction styles as they appear on tube type general purpose sensors. The junctions of other general purpose sensors are also available in the basic three types but will differ in appearance depending on sensor construction.

Standard Junction Styles

