

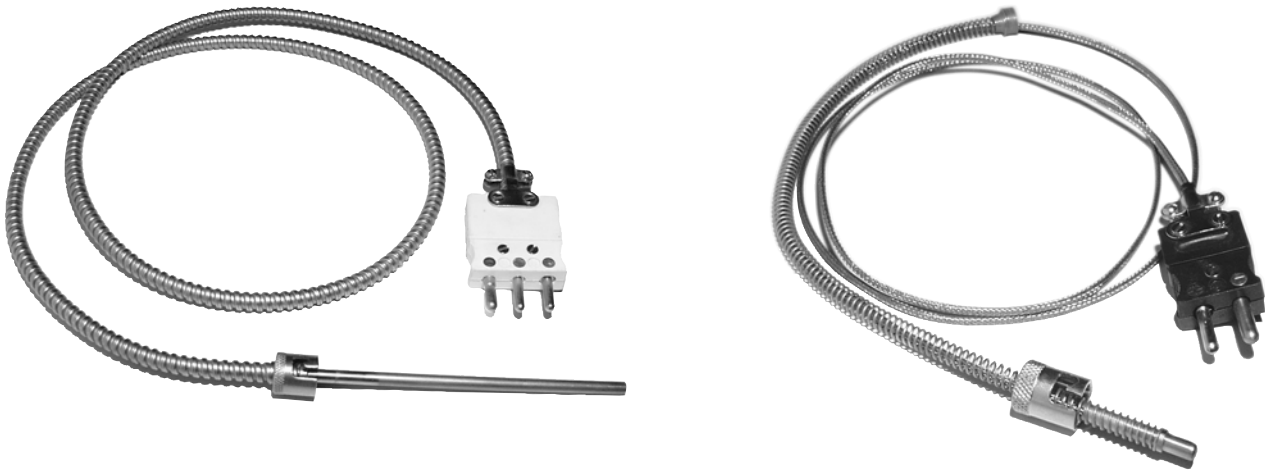
Temperature Sensors: Thermocouple Types and Applications



Bare Wire Thermocouples

See Page: C11

The Bare Wire Thermocouples are used in a wide variety of applications such as moving air and surface contact. The size, and variable insulations give an excellent range of temperatures. Standard units come in base thermocouple metals (J, K, T and E). Noble and Refractory metals are available. (Consult Factory)



Plastics Thermocouples/RTD's (Fixed and Adjustable)

See Pages: C13-16

Bayonet Fixed and Adjustable T/C's and RTD's are widely used in the plastics molding and die casting industries. These units come in the standard base metals (J, K, T and E) with the RTD styles in standard platinum element with a 3.85 α DIN standard (others available). Range of temperatures are up to 1800°F.

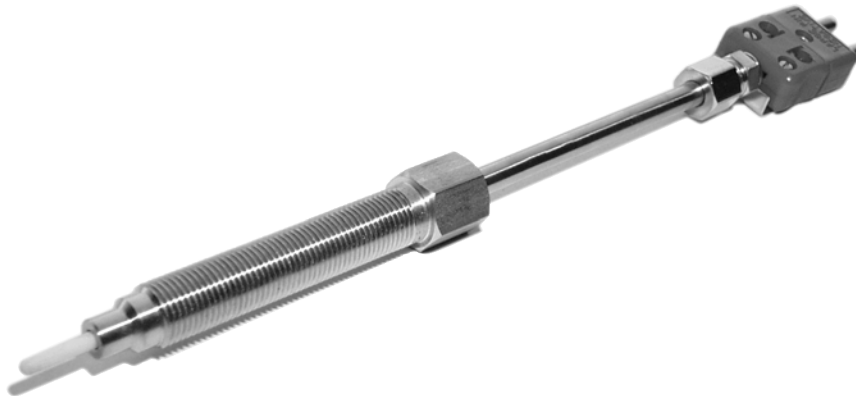
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Nozzle Thermocouples

See Page: C17

The Nozzle Thermocouple has been designed to be used in the plastics/die casting industries where mounting of the sensor in the nozzle is required. These units come in standard thermocouple base metals (J & K).



Bolt Style Thermocouples

See Page: C18

The Fixed Length Bolt Style Thermocouple and RTD are used in applications where the melt temperature of the materials is required. These units are immersed into the melt (Molten) for actual temperature measurements. Available in standard thermocouple base metals (J, K, T and E) and the RTD styles in standard platinum element with a 3.85 α DIN standard.

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Metal Sheath/MI Thermocouples/RTD's

See Pages: C19 - C22 and C34 - C36

Metal Sheath MI (Mineral Insulated) Thermocouples and RTD's come in a wide range of sheath materials, diameters and lengths. This style sensor is commonly used in hazardous/corrosive applications that require resistance to the harsh environment and temperatures for consistent readings.

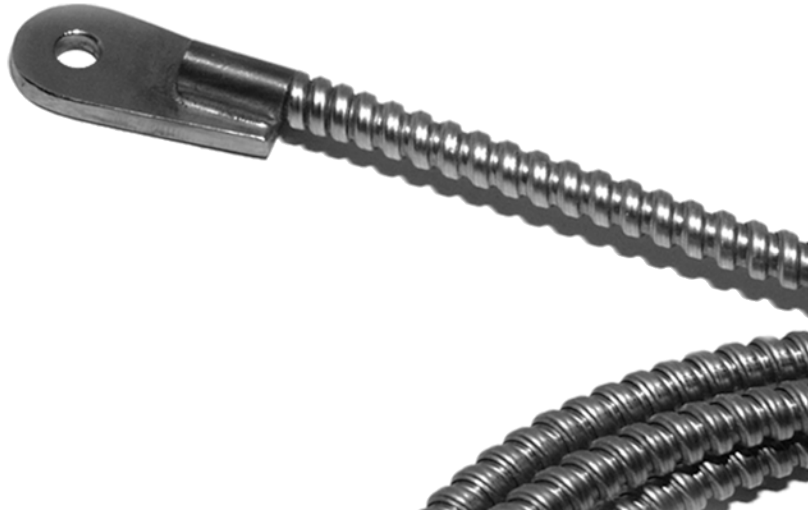


Paddle Thermocouples

See Page: C23

The Paddle Thermocouple is used in harsh environments where fast response and temperature require a metal sheathed, MI style sensor to be used. Available in standard thermocouple base metals (J, K, T and E).

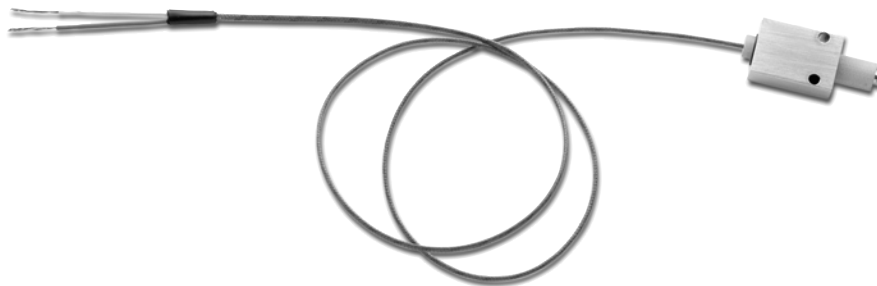
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Lug & Washer Thermocouples

See Page: C24

Lug and Washer Thermocouples and RTD's are used in applications requiring temperature readings of surfaces, studs and bolts. These units come in all thermocouple base metals (J, K, T and E) the RTD styles in standard platinum element with a 3.85 α DIN standard.

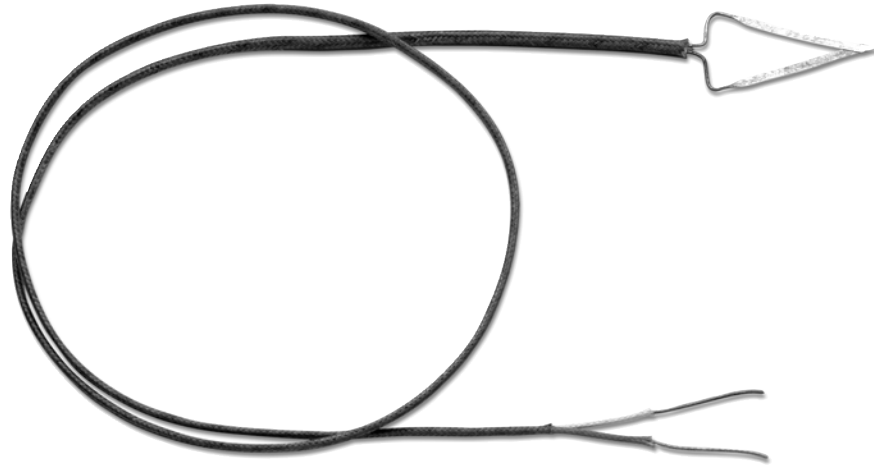


Bearing Thermocouples

See Page: C25

The Spring Loaded Bearing Thermocouple is to be used in applications of rotating and moving surfaces. This design incorporates a spring loaded sensor in an aluminum mounting block so as to be positioned on a moving or rotating surface. Available in standard thermocouple base metals (J, K, T and E). Please note: for temperatures in excess of 400°F and high speed movement please consult factory.

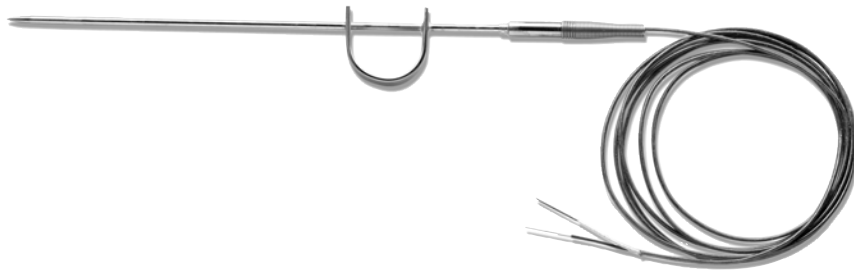
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Ribbon Thermocouples

See Page: C26

Ribbon Style Thermocouples are used extensively for moving air or surface temperature. Having minimal mass and maximum surface contact allow for extremely accurate and fast response temperature measurement. Available in standard thermocouple base metals (J, K, T and E).



Sabre Thermocouples

See Page: C27

This type of Thermocouple was developed for the food industry to be used in taking temperatures of frozen and fresh foods. This unit can be autoclaved and is available in standard thermocouple base metals (J & T only).

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Refractory Metal/Ceramic & Noble Metal Thermocouples

See Pages: C28 - C29

These Thermocouples have been designed for use in oxidizing, neutral and reducing environments. The materials used are of the highest quality, purities and manufacturing standards. Applications in all type of furnaces can be measured with these types of sensors. Temperature ranges to +4200°F are available. All standard refractory metal and noble metal thermocouple alloys are available. (C, F, G, R, S and B)

High Temperature Thermocouples are defined as sensors used at temperatures of 2000°F and beyond. These Sensors are generally made from refractory/noble metals and refractory ceramics. Temperatures up to 5000°F can be obtained by using special design techniques and materials that have extended EMF tables. Applications can vary from extremely high-temperature furnaces to rocket engines and munitions.

For any applications regarding the above temperature sensors that are not profiled in the overall reference sections, please consult CONVECTRONICS' Engineers for application, design or technical information on your current or future requirements.

1-800-633-0166