

- ▶ **40 Years Qualified Life**
- ▶ **Thermocouple Types:  
J, K, T and E**
- ▶ **IEEE 323-1974 & 1983,  
IEEE 344-1975 & 1987  
and NUREG 0588  
Qualified**
- ▶ **Used for HELB, MSLB  
and other steam leak  
detection**
- ▶ **Includes Wall  
Mounting Bracket**



Series N9018 Thermocouples are used to measure ambient temperatures and for steam leak detection in nuclear power generation facilities, both in containment and balance-of-plant applications. The design of this product provides a good response time to changing atmospheric conditions such as ambient air to steam.

These sensors are designed

for 40 years of qualified life. For ease of installation, this assembly includes a mounting bracket that may be bolted or welded to a support structure.

Thermocouples are supplied in accordance with Weed Instrument's Quality Assurance program which is ISO 9001 Registered. The program is also in compliance with IOCFR50

Appendix B, ANSI N45.2 and ASME NQA-1.

Application assistance is available for special applications and design requirements. Assistance includes physical configuration requirements such as connection head types, leadwire length, quick disconnects, and other physical details.

**Thermocouple Specifications**

Thermocouple Type	Wire Material	Wire Insulation Color	Temperature Range	ANSI Special Limits of Error	ANSI Standard Limits of Error
<b>J</b>	Iron (+) Constantan (-)	White Red	32 to 1382 °F 0 to 750 °C	±1.1 °C or 0.4%	±2.2 °C or 0.75%
<b>K</b>	Chromel (+) Alumel (-)	Yellow Red	32 to 2282 °F 0 to 1250 °C	±1.1 °C or 0.4%	±2.2 °C or 0.75%
<b>T</b>	Copper (+) Constantan (-)	Blue Red	32 to 662 °F 0 to 350 °C	±0.5 °C or 0.4%	±1.0 °C or 0.75%
<b>E</b>	Chromel (+) Constantan (-)	Red Purple	32 to 1652 °F 0 to 900 °C	±1.0 °C or 0.4%	±1.7 °C or 0.5%

Initial calibration tolerances, reference junction 0°C.

Tolerance is greater of temperature or percentage. Where tolerances are given in percentage, the percentage applies to the temperature being measured. To determine the tolerance in degrees Fahrenheit, multiply the tolerance in degrees Celsius by 1.8.

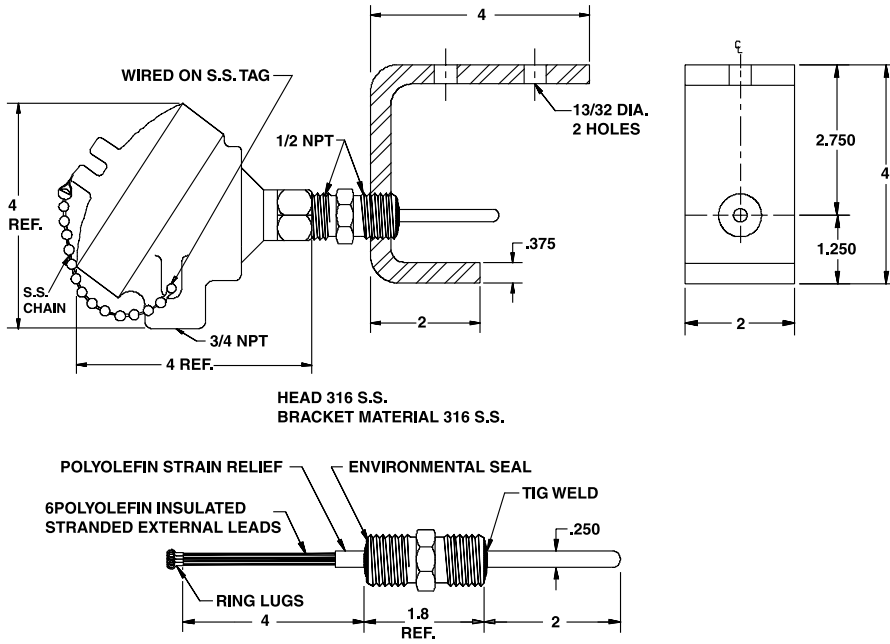
**Performance Specifications**

Item	Specifications
<b>Accuracy</b>	Each thermocouple shall meet the special limits of error as recommended by ANSI MC96.1-1982
<b>Insulation Resistance</b>	At room temperature and dry external surfaces, the insulation resistance between any lead wire and the sensor case will exceed 100 Megohms with 100 VDC applied (ungrounded and exposed tip only)
<b>Environmental/Seismic Qualification</b> (Applicable Qualification/Test reports are available upon request)	Thermocouples are qualified to IEEE-323 1974 & 1983, and IEEE-344 1975 & 1987 and NUREG 0588 for a design life of 40 years. The thermocouple assembly will withstand 300 Megarads T.I.D. and LOCA conditions. Seismic capability of the thermocouple is 20g maximum acceleration in the horizontal and vertical plane from 1 to 33 Hz.

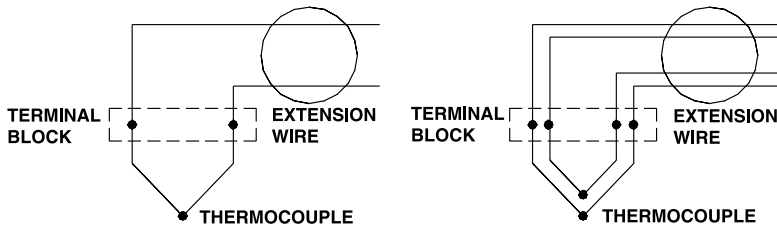
**General Specifications**

Item	Specifications
<b>Storage</b>	Storage of the thermocouple should be in accordance with ANSI N45.2 Level B
<b>Shipping Weight</b>	Approximately 4 pounds with a single port connection head

Dimensional Drawings



Typical Dimensions for N9018



Wiring Diagram for N9018

Ordering Information

N9018 Atmospheric Thermocouple	
S	Single, 2 wire
D	Dual, 4 wire
<b>Type</b>	
J	Iron - Constantan
K	Chromel - Alumel
T	Copper - Constantan
E	Chromel - Constantan
<b>Junction Type</b>	
G	Grounded
U	Ungrounded
B	Exposed tip

N9018S - J G

Sample Model Number



Weed Instrument offers a wide variety of standard and customized nuclear-qualified RTD and thermocouple sensors, thermowells, pressure transmitters, temperature transmitters, and fiber optic modems. Please contact us for your specific needs.

Weed Instrument is a leading manufacturer of temperature and pressure measurement instrumentation and fiber optic data networking equipment for OEM, industrial, aerospace and nuclear applications. Our products include RTDs, thermocouples, temperature and pressure transmitters, and fiber optic modems. We are ISO 9001-2000 registered and operate from a purpose built 50,000 square foot facility located on the outskirts of Austin, Texas.

We are recognized as an innovator in the instrumentation

market, having received multiple customer and industry awards during our 35 year history. Our products are used by virtually every global leader engaged in the Oil and Gas, Process, Power Generation, and Aerospace industries. Our strength lies in our ability to custom design products to customer specifications, as well as provide proven designs for "off the shelf" applications.

Weed Instrument is totally committed to providing quality products, timely deliveries and personalized service. Worldwide



sales support and flexible engineering, together with state-of-the-art manufacturing operations, allow us to consistently meet our customers sensing needs with reliable, practical and economical solutions.



**Weed Instrument Company, Inc.**  
707 Jeffrey Way, P. O. Box 300  
Round Rock, Texas 78680-0300  
Phone: 512-434-2950, Fax: 512-434-2951  
E-Mail: nuclear@weedinstrument.com  
www.weedinstrument.com

