

# Probe Tube Thermocouple (ZZ-PT01-J-2M)



## Product Description

### Features:

- . A thermocouple is a sensor that measures temperature.
- . A thermocouple probe consists of thermocouple wire housed inside a metallic tube. The wall of probe tube is stainless steel
- . It is an electrical device consisting of two different type of metals.
- . When a thermocouple is grounded, both thermocouple wire and sheath are welded together to form one junction at the probe tip
- . When the junction of two metals is heated or cooled, a voltage is created that can be correlated back to the temperature.
- . Thermocouple calibration: type K, J & PT100

## What is a Thermocouple?

A thermocouple is a temperature measuring device consisting of two conductors of dissimilar metals or alloys that are connected only at the ends. When the ends are at different temperatures, a small voltage is produced in the wire that can be related directly to the temperature difference between the ends. If the temperature at one end is known, the temperature at the other end can be determined.

Thermocouple wire or thermocouple extension grade wire is recommended to be used to connect thermocouples to the sensing or control instrumentation. The conditions of measurement determine the type of thermocouple wire and insulation to be used. Temperature range, environment, insulation requirements, response, and service life should be considered.

## Calibration Type Characteristics

**TYPE J** (Iron vs Constantan) is used in vacuum, oxidizing, inert or reducing atmospheres. Iron element oxidizes rapidly at temperatures exceeding 538°C, and therefore heavier gauge wire is recommended for longer life at these temperatures.

**TYPE K** (CHROMEL vs ALUMEL) is used in oxidizing, inert or dry reducing atmospheres. Exposure to vacuum limited to short time periods. Must be protected from sulfurous and marginally oxidizing atmospheres. Reliable and accurate at high temperatures.

**TYPE T** (Copper vs Constantan) is used or service in oxidizing, inert or reducing atmospheres or in vacuum. It is highly resistant to corrosion from atmospheric moisture and condensation and exhibits high stability at low temperatures. It is the only type with limits of error guaranteed for cryogenic temperatures.

**TYPE E** (CHROMEL vs Constantan) may be used in oxidizing, inert or dry reducing atmospheres, or for short periods of time under vacuum. Must be protected from sulfurous and marginally oxidizing atmospheres. Produces the highest EMF per degree or any standardize.

**Specifications:**

Model	ZZ-PT01-J	
Calibration	J	
Accuracy	Class 1 or Class 2	
Color code	ANSI	
Lead wire	Conductor	2*7/0.20mm, 2*1/0.5mm
	Construction	Parallel, flat
	Type	Fiberglass/Fiberglass/SSB, FB-SSB
	Insulation	Fiberglass
	shield	Stainless steel overbraided
Junction	Grounded	
Temperature range	0-480°C	
Lead wire length	2m	
Wire color	+White, -Red	
Probe tube outer diameter	4.8mm 6.0mm, 6.4mm, 8.0mm	
Probe tube length	50-150mm	
Thread	5/16"	
Spring	With	
Material of thread	Nickel plated brass	
Material of probe tube	Stainless steel	
Type	Type J Probe tube thermocouple	