

Thermocouple Wire

Multiple Constructions Available; Common Constructions Listed Below



Thermocouple Wire Example Part Number

| Cable Specification | Conductor AWG Size | Conductor Type | No. of Paired Conductors | Calibration Type | Insulation Material | Conductor Shielding | Overall Shielding | Jacket Material |
|---------------------|--------------------|----------------|--------------------------|------------------|---------------------|---------------------|-------------------|-----------------|
| THC | 20 | | 02 | K | - | G | | G |

Calibration Type

| Type | Wire Grade | Temperature Range | Standard Tolerance ⁰¹ |
|------|------------------------|-------------------|----------------------------------|
| J | Thermocouple | 0°C - 750°C | ± 2.2°C or ± 0.75% |
| K | Thermocouple | 0°C - 1250°C | ± 2.2°C or ± 0.75% |
| E | Thermocouple | 0°C - 900°C | ± 1.7°C or ± 0.50% |
| T | Thermocouple | 0°C - 350°C | ± 1.0°C or ± 0.75% |
| N | Thermocouple | 0°C - 1250°C | ± 2.2°C or ± 0.75% |
| S | Thermocouple | 0°C - 1450°C | ± 1.5°C or ± 0.25% |
| JX | Extension | 0°C - 200°C | ± 2.2°C |
| KX | Extension | 0°C - 200°C | ± 2.2°C |
| EX | Extension | 0°C - 200°C | ± 1.7°C |
| TX | Extension | 0°C - 100°C | ± 1.0°C |
| NX | Extension | 0°C - 200°C | ± 2.2°C |
| SX | Compensating Extension | 0°C - 200°C | ± 5.0°C |

⁰¹Use whichever tolerance is greater

Conductor Type

| IEWC Code | Shielding |
|-----------|-----------|
| | Solid |
| S | Stranded |

Conductor/Overall Shielding

| IEWC Code | Shielding |
|-----------|-------------------------|
| | Unshielded |
| A | Aluminum/Polyester Tape |
| S | Steel Braid |
| IS | Interlocked Steel |

Notes

- Jacket and conductor color codes per the table on <?>

Alternative Constructions

- Special grade thermocouple

Insulation/Jacket Material

| IEWC Code | Material |
|-----------|----------------------------|
| G | Fiberglass Braid |
| HG | High-Temp Fiberglass Braid |
| K | Polyimide (Kapton) |
| P | PVC |
| PFA | PFA |
| T | FEP |
| TF | PTFE Tape |
| TP | TPE |

Applications

For use in aerospace & military, food processing, heating & cooling, manufacturing, oven & furnace, tool, appliance and industrial processing applications.

Thermocouple Color Codes

International Thermocouple Color Codes

| Calibration Types | | ANSI MC96.1 Thermocouple Grade | ANSI MC96.1 Extension (X) Grade | IEC 584-3 | BS 1843 | DIN 43714 | JIS C 1610-1981 | NFC 42-323 |
|-------------------|----------|--------------------------------|---------------------------------|-----------|---------|-----------|-----------------|------------|
| J | Jacket | Brown | Black | Black | Black | Blue | Yellow | Black |
| | Positive | White | White | Black | Yellow | Red | Red | Yellow |
| | Negative | Red | Red | White | Blue | Blue | White | Black |
| K | Jacket | Brown | Yellow | Green | Red | Green | Blue | Purple |
| | Positive | Yellow | Yellow | Green | Brown | Red | Red | Yellow |
| | Negative | Red | Red | White | Blue | Green | White | Purple |
| E | Jacket | Brown | Purple | Purple | Brown | Black | Purple | Orange |
| | Positive | Purple | Purple | Purple | Brown | Red | Red | Yellow |
| | Negative | Red | Red | White | Blue | Black | White | Orange |
| T | Jacket | Brown | Blue | Brown | Blue | Brown | Brown | Blue |
| | Positive | Blue | Blue | Brown | White | Red | Red | Yellow |
| | Negative | Red | Red | White | Blue | Brown | White | Blue |
| N | Jacket | Brown | Orange | Pink | Orange | ----- | ----- | ----- |
| | Positive | Orange | Orange | Pink | Orange | | | |
| | Negative | Red | Red | White | Blue | | | |
| S | Jacket | ----- | Green | Orange | Green | White | Black | Green |
| | Positive | | Black | Orange | White | Red | Red | Yellow |
| | Negative | | Red | White | Blue | White | White | Green |