MEAS
MICRO-THERMOCOUPLES

- Welded or soldered
- Encapsulated or bare
- Bifilar construction
- Moisture seal (encapsulated only)
- Flexible tip
- High volume, low cost
- Custom packaging

Our Micro-Thermocouples (MTC) are flexible fine gage thermocouples used whenever fast, accurate temperature measurements are required. The thermocouple consists of two dissimilar metals, joined together at one end. A small voltage is produced by the two metals, which can be measured and interpreted by a control system. The dissimilar metals are individually insulated, and an overcoat is present to maintain an intimate bifilar configuration.

Features

- Junction Types:
  - » Welded, Soldered

- Joint Encapsulation Types:
  - » Polymer Encapsulated, Bare

- Thermocouple Gauges:
  - » 44 AWG, 40 AWG, 38 AWG, 36 AWG

- Wire Insulation
  - » Polyesterimide, Polyimide

Applications

- Medical

Individual Packaging on Spools

Dimensions

Model 600 Soldered, Non-Insulated Junction

Polyesterimide Encapsulated Wires

Solder Junction

Model 601 Welded, Non-Insulated Junction

Polyimide Encapsulated Wires

Welded Junction

Model 605 Soldered, Insulated Junction

Polyesterimide Encapsulated Wires

Polymer Encapsulation

Model 606 Soldered Welded, Insulated Junction

Polyimide Encapsulated Wires

Polymer Encapsulation

Model 602 Welded Junction, Hypo Tube

Polyimide Encapsulated Wires

Polyimide Sleeve

SS Open Ended Tube (∅ 0.02")
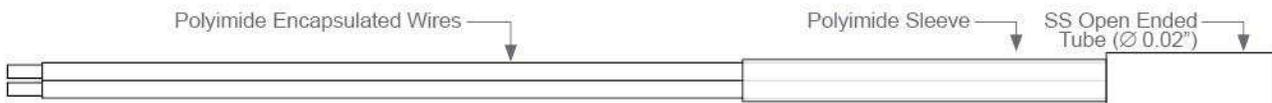
Model 607 Soldered Junction, Polyimide Tube

Polyesterimide Encapsulated Wires

Polyimide Tube (∅ 0.015")

'W'   'H'   "L"
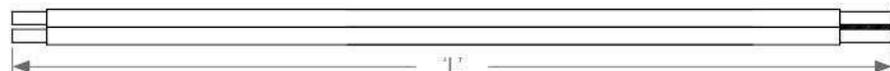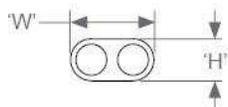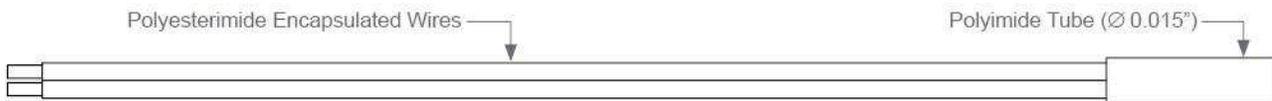
Performance Specifications

Wire Strip Length (Tail): 0.50" ± 0.25"

Solder Joint Length: 0.10" Max.

Encapsulation Length: 0.25" Max.

Encapsulation Profile:
0.010" Max. for 44 AWG
0.013" Max. for 40 AWG
0.015" Max. for 38 AWG
0.017" Max. for 36 AWG

Wire length tolerance: ± 3.0"

Packaging: Sensors wrapped on white plastic spools

Note:
Specifications listed above are standard.
Other options are available upon request. Consult factory for details.

Commonly Stocked Wire

Type	AWG	Insulation Type	Insulation Color	Limits of Error
T	40	Polyesterimide	Green/Red	Special
T	40	Polyesterimide	Gold/Red	Special
T	44	Polyesterimide	Green/Red	Special
T	44	Polyesterimide	Black/Red	Special
T	36	Polyesterimide	Green/Red	Special
K	40	Polyimide	Amber/Black	Special

Ordering Information

Micro-Thermocouples

Model	Junction Type	Junction Insulation	Profile	Common	Notes
600	Soldered (Lead Free)	Non-Encapsulated (Bare)	Low Profile (Flat)	Yes	Type T Only.
601	Welded	Non-Encapsulated (Bare)	Round Profile	Yes	Type K Only.
605	Soldered (Lead Free)	Insulated	Low Profile (Flat)	Yes	Type T Only. Encapsulation Rated to 200°C.
606	Welded	Insulated	Round Profile	Yes	Type K Only. Encapsulation Rated to 200°C.
602	Welded	Insulated	Round Profile	No	Type K Only. Junction Epoxy Potted in SS Hypo Tube. Rated to 140°C.
607	Soldered	Insulated	Round Profile	Yes	Type T Only. Junction Epoxy Potted in Polyimide Tube. Rated to 150°C.

Model	Thermocouple Type	Stocked Wire Gauges	Special Order Gauges	Common
T	T [Constantan/Copper]	40 AWG, 44 AWG, 36AWG	38 AWG	Yes
K	K [Alumel/Chromel]	40 AWG	44 AWG, 38 AWG, 36 AWG	Yes

Model	Thermocouple Gauge	Bare Conductor Diameter	Bifilar Insulated Wire Profile	Common
44	44 AWG	0.002"	0.0030" x 0.0060" (H x W) Max.	Yes
40	40 AWG	0.003"	0.0041" x 0.0081" (H x W) Max.	Yes
38	38 AWG	0.004"	0.0052" x 0.0104" (H x W) Max.	No
36	36 AWG	0.005"	0.0065" x 0.0128" (H x W) Max.	Yes

Model	Wire Insulation Type	Max. Temp		Common
PE	Polyesterimide	180°C	Nylon Bond Coat	Yes
PI	Polyimide	240°C	Nylon Bond Coat	No

Model	Wire Length 'L'
---	Define 'L' length in inches Example: (72.0 = 72.0"; 24.5 = 24.5")

Model	Limits of Error	Limits for Type T	Limits for Type K	Common
ST	Standard	± 1.0°C	± 2.2°C	Yes
SP	Special	± 0.5°C	± 1.1°C	Yes
C	Custom	± 0.2°C (Consult Factory)	Consult Factory	No

*Consult factory for availability.

Standard Part Numbers*

Part Number	Model Number	Description
R-12454-13	605-T-40-PE-71.0-SP	Type T, 40 AWG, 71", Polymer Insulated Tip, Solder Junction
R-12167-17	600-T-44-PE-71.0-SP	Type T, 44 AWG, 71", Bare, Soldered Junction
R-12167-21	605-T-44-PE-71.0-SP	Type T, 44 AWG, 71", Polymer Insulated Tip, Solder Junction
R-13022-1	600-T-40-PE-72.0-ST	Type T, 40 AWG, 72", Bare, Solder Junction

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