Thermocouples

General Applications

Over 90 years of manufacturing, research and design makes Watlow a world class supplier of temperature measurement products. We have designed and manufactured millions of thermocouples for industrial and commercial equipment. People involved in critical process control of food, plastics and metal rely on our sensors.

We are ready to meet your sensing needs with our extensive offering of thermocouples. However, if the variations listed in this catalog are unable to satisfy your requirements, Watlow can custom manufacture sensors to your exacting specifications. Contact your Watlow representative for details.

Performance Capabilities

- Fiberglass insulated thermocouples are capable of temperatures up to 480°C (900°F) for continuous operation.

Features and Benefits

"Custom-tailored" standard products including:

- 32 standard sheath lengths
- Lead lengths from six to 360 inches
- Stainless steel braid or hose protection
- J, K, T and E calibrations
- Grounded, ungrounded and exposed junctions
- Flat and drill point
- Epoxy sealed cold ends
- Adjustable depths
- Flexible extensions
- Washers, nozzles and clamp bands
- Custom diameters
- PFA coated and stainless steel sheaths
- Straight, 45° bend or 90° bend
- Locking bayonet caps in standard, 12 mm and 15 mm

Custom manufactured thermocouples

- Units designed and built to your specifications

Applications

- Plastic injection molding machinery
- Food processing equipment
- Deicing
- Plating baths
- Industrial processing
- Medical equipment
- Pipe tracing control
- Industrial heat treating
- Packaging equipment
- Liquid temperature measurement
- Refrigerator temperature control
- Oven temperature control

Thermocouples

General Applications

Construction and Tolerances

Construction

Thermocouples feature flexible SERV-RITE® wire insulated with woven fiberglass or high temperature engineered resins. For added protection against abrasion, products can be provided with stainless steel wire braid and flexible armor. ASTM E 230 color-coding identifies standard catalog thermocouple types (see reference chart on inside back cover).

The addition of a metal sheath over the thermocouple provides rigidity for accurate placement and added protection of the sensing junction. Mounting options include springs, ring terminals, specialized bolts, pipe style clamps and shims.

How to Order

- Determine style of thermocouple required
- Complete the eleven digit part number as determined by the following parameters:
  - Construction
  - Diameter
  - Calibration
  - Lead protection
  - Junction
  - Sheath length
  - Lead length
  - Terminations/options

Note: All eleven spaces must be filled in.

Availability

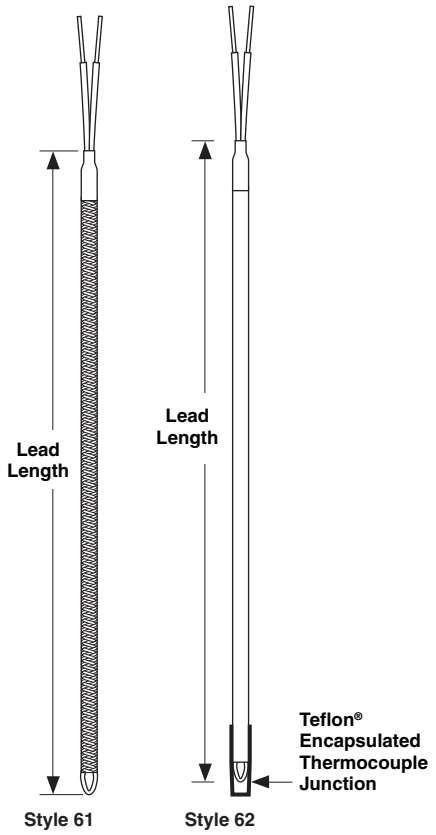
Rapid Ship sensors are available for same or next day shipment.

Preferred sensor options are available for shipment in approximately three days.

For **custom built** products consult factory for approximate shipment time.

General Applications

Insulated Wire Thermocouple Style 61 and Style 62



Rapid Ship Sensors

Rapid Ship sensors come with 24 gauge solid FEP insulated lead and a split lead termination.

Calibration	Lead Protection	Lead Length in.	(mm)	Part Number
K	Extruded FEP	48	(1219)	61XKTEX048A
		96	(2438)	61XKTEX096A
T	Extruded FEP	48	(1219)	61XTTEX048A
		96	(2438)	61XTTEX096A

Custom Ordering Information—Items in **Bolded Green Type** are preferred with shorter lead times.

1	2	3	4	5	6	7	8	9	10	11
		X			E	X				

1-2. Construction Style
61 = SERIES 61
*62= SERIES 62

3. Diameter
X = Not applicable

4. Calibration
J = Type J
K = Type K
T = Type T

5. Lead Protection
P = Fiberglass (20 gauge solid)
B = Fiberglass with stainless steel overbraid (20 gauge solid)
J = Extruded FEP (20 gauge solid)
F = Fiberglass (24 gauge solid)
S = Fiberglass with stainless steel overbraid (24 gauge solid)
T = Extruded FEP (24 gauge solid)

6. Junction
E = Exposed

7. Exter X

8-10. Lead Length (inches)
048 and 096
Available lengths: 006 to 600, over 600 consult factory

11. Terminations/Options
A = Standard, 2 ½ inch split leads
B = 2 ½ inch split leads with spade lugs
D = Standard male plug, quick disconnect
E = Standard female jack, quick disconnect
F = Miniature male plug, quick disconnect
G = Miniature female jack, quick disconnect
H = ¼ inch push-on connector

* Only available with wire (lead protection) options J or T (5th digit).

Constructed with SERV-RITE® insulated thermocouple wire Styles 61 and 62 are economical and versatile thermocouples with the option of an exposed or protected measuring junction. Style 61 has an exposed junction and is suitable for most general purpose applications, such as measuring air, gas and surface temperatures. Style 62 has an encapsulated measuring junction that is ideal for corrosive fluids and gases such as sulfuric acid, hydrofluoric acid, strong mineral acids and oils.

Styles 61 and 62 are available with fiberglass insulated lead wire (SERIES 304 construction), with continuous temperature ratings of 480°C (900°F). Or, order it with FEP insulated lead wire (SERIES 507), rated to 200°C (400°F) continuous temperature.

For additional mechanical strength and abrasion resistance, a stainless steel overbraid is available.