Tempco manufactures many styles of industrial thermocouple assemblies for a wide range of industries, from petrochemical to textile applications, where one or more protection tubes may be necessary to protect the thermocouple.
Thermocouples for Thermowells and Protection Tubes

Design Features
- Ceramic Insulator to Insulate Wires
- Galvanized 1/2" Pipe Nipple & Union
- Cast Iron or Aluminum Head
- Used with protection tubes and thermowells shown on pages 14-76 through 14-86

Ordering Information
Thermocouples are offered with the options listed in the worksheet below. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements, and a part number will be assigned.

Ordering Code: TCS - 1 2 3 4 5 6 7

Style BOX 1
0 = Plain
1 = with Nipple
2 = with Nipple and Union
3 = with Nipple, Union and Nipple

Calibration Code BOX 2
J = Type J
K = Type K
X = Other (Specify)

Wire Gauge and Insulator Size BOX 3
B = 20 ga. (.172" x .118" insulator)
C = 14 ga. (.375" x .217" insulator)
D = 8 ga. (.437" x .250" insulator)
X = Other (Specify)

“L” Dimension BOX 4
Whole inches 00 to 99

“A” Dimension (TCS –1, TCS –2 & TCS –3 only) BOX 5
01 to 99 inches or use Codes below for standard length
Enter 00 for TCS – 0 Style

TCS1
S1 = 1"
S2 = 2-1/2"
S3 = 5-1/2"

TCS2
S1 = 2-1/2"
S2 = 4"
S3 = 7"

TCS3
S1 = 3-1/2"
S2 = 6-1/2"
S3 = 12-1/2"

Connection Head BOX 6
A = Standard Size Aluminum
H = Standard Cast Iron
S = Stainless Steel

Note: All have 1/2" conduit connection (3/4" available). For overall dimensions see pages 14-98 through 14-100.

Special Requirements BOX 7
X = Specify
0 = None

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(800) 323-6859 • Email: sales@tempco.com
**Ordering Information**

Thermocouples are offered with the options listed in the worksheet below. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements, and a part number will be assigned.

**Ordering Code:**

```
Pipe Size Sch. 40 BOX 7
H = 1/2" Pipe (.84" OD x .62" ID)
M = 3/4" Pipe (1.05" OD x .82" ID)
N = 1" Pipe (1.31" OD x 1.05" ID)
R = 1-5/8" OD x 7/8" ID (Cast Iron Only)
X = Other (Specify)

Sheath Material BOX 2
1 = Carbon Steel (Black Pipe)
2 = 304 SS
3 = 316 SS
4 = 446 SS
5 = Cast Iron (1-5/8" OD x 7/8" ID Only)
6 = Alloy 601
X = Other (Specify)

Calibration Code BOX 3
J = Type J
K = Type K
X = Other (Specify)

“L” Dimension BOX 5
Whole inches 12 to 96
(in 6-inch increments)
Cast Iron is available in limited lengths.

“U” Dimension BOX 7
Whole inches 01 to 99
Enter 00 for cast iron tube or if no bushing required

Wire Gauge BOX 4
B = 20 ga.
C = 14 ga.
D = 8 ga.
X = Other (Specify)

Process Mounting Bushing BOX 6
M = 3/4" NPT (For 1/2" pipe only)
N = 1" NPT (For 1/2 and 3/4" pipe only)
P = 1-1/4" NPT
X = Other (Specify)

Connection Head BOX 8
A = Standard Size Aluminum
H = Standard Cast Iron
S = Stainless Steel
Note: All have 1/2" conduit connection (3/4" available). For overall dimensions see pages 14-98 through 14-100.

Special Requirements BOX 9
X = Specify
0 = None

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**Design Features**

- Widely used in high temperature industrial process heating applications such as furnaces, ovens; and petrochemical and textile applications up to 2200°F (1204°C)
- Pipe size protection tubes made with schedule 40 pipe in various steel and nickel alloys
- Optional process mounting bushing welded on protection tube
- Thermocouple heads are available in aluminum, cast iron or stainless steel. Explosion proof heads are also available in aluminum or stainless stee

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View Product Inventory @ www.tempco.com
### Design Features

- **Right Angle for Over-the-Side Application**
- **Cast Iron or Aluminum Head**
- **Available with Metal Pipe or Silicon Carbide (Carbon Bonded) 2300°F (1260°C)**

### Ordering Information

Thermocouples are offered with the options listed in the worksheet below. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements, and a part number will be assigned.

#### Ordering Code:

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<th>Box</th>
<th>Description</th>
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<tr>
<td>1</td>
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<td>2</td>
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<td>3</td>
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<td>8</td>
<td>Connection Head</td>
<td></td>
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<td>9</td>
<td>Special Requirements</td>
<td></td>
</tr>
</tbody>
</table>

**Elbow Type**

- 5 = Standard Fixed Elbow

**Pipe and Tube Size**

- H = 1/2" Pipe (.84" OD × .62" ID)
- M = 3/4" Pipe (1.05" OD × .82" ID)
- N = 1" Pipe (1.31" OD × 1.05" ID)
- R = 1-5/8" OD × 7/8" ID (Cast Iron Only)
- S = 2-1/16"OD (Silicon Carbide Only)
- X = Other (Specify)

**Sheath Material**

- 1 = Carbon Steel (Black Pipe)
- 2 = 304 SS
- 3 = 316 SS
- 4 = 446 SS
- 5 = Cast Iron (1-5/8" OD × 7/8" ID Only)
- 6 = Alloy 601
- 7 = Silicon Carbide (2-1/16" OD Only)
- X = Other (Specify)

**Calibration Code**

- J = Type J
- K = Type K
- X = Other (Specify)

**Wire Gauge**

- B = 20 ga.
- C = 14 ga.
- D = 8 ga.

**"L1" Dimension**

Whole inches 12 to 96 (in 6-inch increments)
Silicone Carbide and Cast Iron are available in limited lengths.

**"L2" Dimension**

Whole inches 12 to 96 (in 6-inch increments)

**Connection Head**

- A = Standard Size Aluminum
- H = Standard Cast Iron
- S = Stainless Steel

*Note: All have 1/2" conduit connection (3/4" available). For overall dimensions see pages 14-98 through 14-100.*

**Special Requirements**

- X = Specify
- 0 = None

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