| 1) Series | 110 | 120 |
| 2) Diameter (D) | B = 1/8", C = 3/16", D = 1/4" |
| 3) Calibration | J, K, T, E, D = RTD 2 wire, F = RTD 3 wire |
| 4) Junction | G = Grounded, U = Ungrounded |
| 6) Lead length | In whole inches 006-999 |
| 7) Termination | Choose a terminal design from pg L8 |

**Ordering Code**

```
1  2  3  4  5  6  7
```

---

**Series 110**

![Figure 351](image1)

**Series 120**

![Figure 352](image2)
# Thermocouples - Ring Tongue and Shimstock

## Series 130

![Figure 353](image1.png)

## Series 140

![Figure 354](image2.png)

<table>
<thead>
<tr>
<th>1) Series</th>
<th>130</th>
<th>140</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Lug Sizes</td>
<td>Ring size A = #8, B = #10, C = 1/4&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shim size D = 3/4&quot; by 3/4&quot; Stainless steel</td>
<td></td>
</tr>
<tr>
<td>3) Calibration</td>
<td>J, K, T, E, D = RTD 2 wire</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F = RTD 3 wire</td>
<td></td>
</tr>
<tr>
<td>4) Junction</td>
<td>G = Grounded, U = Ungrounded</td>
<td></td>
</tr>
<tr>
<td>5) Leads</td>
<td>T = Fiberglass 24 ga stainless braid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S = Fiberglass 20 ga stainless braid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I = Fiberglass 24 ga stainless hose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>H = Fiberglass 20 ga stainless hose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A = Teflon 24 ga</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B = Teflon 20 ga</td>
<td></td>
</tr>
<tr>
<td>6) Lead length</td>
<td>In whole inches 006-999</td>
<td></td>
</tr>
<tr>
<td>7) Termination</td>
<td>Choose a terminal design from pg L8</td>
<td></td>
</tr>
<tr>
<td>8) Special options</td>
<td>Enter 0 if none. Specify others at time of order</td>
<td></td>
</tr>
</tbody>
</table>

## Ordering Code

<table>
<thead>
<tr>
<th>1</th>
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<th>7</th>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Thermocouples - Nozzle and Pipe Clamp

1) Series

| Series | 145 | 146 |

2) Bolt Sizes

- A = 1/4 x 28 UNF
- B = 8-32
- C = 10-32
- D = M6 x 1

Band diameters

- E = 11/16 - 11/4
- F = 11/4 - 21/4
- G = 21/4 - 31/4
- H = 31/4 - 41/4
- I = 4-5
- J = 5-6
- K = 6-7

3) Calibration

- J, K, T, E

4) Junction

- G = Grounded
- U = Ungrounded

5) Leads

- T = Fiberglass 24 ga stainless braid
- S = Fiberglass 20 ga stainless braid
- I = Fiberglass 24 ga stainless hose
- H = Fiberglass 20 ga stainless hose
- A = Teflon 24 ga
- B = Teflon 20 ga

6) Lead length

- In whole inches 006-999

7) Termination

- Choose a terminal design from pg L8

8) Special options

- Enter 0 if none. Specify others at time of order

Ordering Code

1 2 3 4 5 6 7 8

L3
1) Series

<table>
<thead>
<tr>
<th>Series</th>
<th>150</th>
<th>151</th>
<th>152</th>
</tr>
</thead>
</table>

2) Diameter (D)

| Diameter | B = 1/8", C = 3/16", D = 1/4" |

3) Calibration

<table>
<thead>
<tr>
<th>Calibration</th>
<th>J, K, T, E, D = RTD 2 wire</th>
</tr>
</thead>
</table>

4) Junction

| Junction | G = Grounded, U = Ungrounded |

5) A Dimension

<table>
<thead>
<tr>
<th>A Dimension</th>
<th>A=1/2, B=1, C=1 1/2, D=2, E=2 1/2, F=3</th>
</tr>
</thead>
</table>

6) B Dimension

<table>
<thead>
<tr>
<th>B Dimension</th>
<th>A=1/2, B=1, C=1 1/2, D=2, E=2 1/2, F=3</th>
</tr>
</thead>
</table>

7) Leads

<table>
<thead>
<tr>
<th>Leads</th>
<th>G = Fiberglass 24 ga</th>
</tr>
</thead>
</table>

8) Lead length

| Lead length | In whole inches 006-999 |

9) Termination

| Termination | Choose a terminal design from pg L8 |

10) Special options

| Special options | Fittings, flanges etc. Specify at time of order. Enter 0 if none |

Ordering Code

| Ordering Code | | | | | | | | | | | |
Thermocouples & RTD - Tube and Wire

1) Series
   - 160
   - 161
   - 162

2) Diameter (D)
   - B = 1/8”
   - C = 3/16”
   - D = 1/4”

3) Calibration
   - J, K, T, E
   - D = RTD 2 wire
   - F = RTD 3 wire

4) Junction
   - G = Grounded
   - U = Ungrounded

5) A Dimension
   - A=1/2, B=1, C=11/2, D=2, E=21/2, F=3
   - G=31/2, H=4, I=41/2, J=5, K=51/2, L=6,
   - M=61/2, N=7, O=71/2, P=8, Q=81/2, R=9
   - S=91/2, T=10, U=12, V=18, W=24, Y=36
   - Z=48, X=Special length

6) B Dimension
   - A=1/2, B=1, C=11/2, D=2, E=21/2, F=3
   - G=31/2, H=4, I=41/2, J=5, K=51/2, L=6,
   - M=61/2, N=7, O=71/2, P=8, Q=81/2, R=9
   - S=91/2, T=10, U=12, V=18, W=24, Y=36
   - Z=48, X=Special length
   (Enter 0 for series 160)

7) Leads
   - G = Fiberglass 24 ga
   - T = Fiberglass 24 ga stainless braid
   - F = Fiberglass 20 ga
   - S = Fiberglass 20 ga stainless braid
   - I = Fiberglass 24 ga stainless hose
   - H = Fiberglass 20 ga stainless hose
   - A = Teflon 24 ga
   - B = Teflon 20 ga
   - C = PVC 24 ga
   - D = PVC 20 ga

8) Lead length
   - In whole inches 006-999

9) Termination
   - Choose a terminal design from pg L8

10) Special options
    - Fittings, flanges etc. Specify at time of order. Enter 0 if none

Ordering Code

---

L5
Thermocouples - Mineral insulated

1) Series
   - T1
   - T2
   - T3

2) Diameter (D)
   - A = 1/16"
   - B = 1/8"
   - C = 3/16"
   - D = 1/4"

3) Calibration
   - J, K, T, E, R, S

4) Junction
   - G = Grounded
   - U = Ungrounded
   - E = Exposed

5) Sheath Material
   - A = 304SS
   - B = 316SS
   - C = Incoloy

6) L Dimension
   - In whole inches 00-99

7) L Dimension
   - A = 0
   - B = 1/8"
   - D = 1/4"
   - F = 3/8"

   Fractional inches
   - H = 1/2"
   - J = 5/8"
   - L = 3/4"
   - N = 7/8"

8) Leads
   - F = Fiberglass braid
   - S = Fiberglass with stainless braid
   - H = Fiberglass with stainless hose
   - B = Teflon
   - D = PVC
   - K = Kapton

   **T2 terminations**
   - A = Aluminium head 1/2 x 1/2 ss fitting
   - L = Aluminium head 1/2 x 1/2 ss fitting spring loaded
   - E = Explosion proof 1/2 x 1/2 ss fitting
   - I = Cast iron 1/2 x 1/2 ss fitting
   - P = Polypropylene 1/2 x 1/2 ss fitting

9) Lead length
   - In whole inches 066-999

10) Termination
    - Choose a terminal design from pg L8

11) Special options
    - Fittings, flanges etc. Specify at time of order. Enter 0 if none

Ordering Code

Figure 363  Figure 364  Figure 365
### RTD Mineral Insulated

#### Series R3

![Diagram of Series R3](image1)

#### Series R2

![Diagram of Series R2](image2)

#### Series R1

![Diagram of Series R1](image3)

<table>
<thead>
<tr>
<th>1) Series</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (D)</td>
<td>$A = 1/16&quot;$, $B = 1/8&quot;$, $C = 3/16&quot;$, $D = 1/4&quot;$,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coefficient</td>
<td>$D = \text{Din 3850}, J = \text{JIS 3916} \ (100 \ ohm)$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Construction</td>
<td>$D = 2$ wire, $T = 3$ wire, $F = 4$ wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheath Material</td>
<td>$A = 304SS$, $B = 316SS$, $C = \text{Incoloy}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L Dimension</td>
<td>In whole inches 00-99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L Dimension</td>
<td>$A = 0$, $B = 1/8&quot;$, $D = 1/4&quot;$, $F = 3/8&quot;$, $H = 1/2\frac{1}{2&quot;, J = 5/8&quot;, L = 3/4&quot;, N = 7/8&quot;}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leads</td>
<td>$F = \text{Fiberglass braid}$, $S = \text{Fiberglass with stainless braid}$, $H = \text{Fiberglass with stainless hose}$, $B = \text{Teflon}$, $D = \text{PVC}$, $K = \text{Kapton}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2 terminations</td>
<td>$A = \text{Aluminium head $1/2 \times 1/2$ ss fitting}$, $L = \text{Aluminium head $1/2 \times 1/2$ ss fitting}$, spring loaded, $E = \text{Explosion proof $1/2 \times 1/2$ ss fitting}$, $I = \text{Cast iron $1/2 \times 1/2$ ss fitting}$, $P = \text{Polypropylene $1/2 \times 1/2$ ss fitting}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead length</td>
<td>In whole inches 066-999</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Termination</td>
<td>Choose a terminal design from pg L8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special options</td>
<td>Fittings, flanges etc. Specify at time of order. Enter 0 if none</td>
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</tbody>
</table>

#### Ordering Code

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<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
</table>

### Figures

- Figure 366
- Figure 367
- Figure 368
Thermocouples & RTD - Terminations

A - Standard Plug

B - Standard Jack

C - Standard Plug / Mating Jack

D - Mini Plug

E - Mini Jack

F - Mini Plug / Mating Jack

L - Split Leads

M - Leads with Spade Lugs

Figure 369

Figure 370

Figure 371

Figure 372

Figure 373

Figure 374

Figure 375

Figure 376