Type P-OS
Type ITC/PLTC Thermocouple Extension Cable
Multiple Pair - Overall Shield - 105°C Rating
For Cable Tray Use

Specifications
Conductors: Solid alloys per ANSI MC 96.1
Insulation: Flame-retardant Okoseal® (PVC) per UL Standards 13 and 2250, 15 mils nominal thickness, 105°C temperature rating.
Conductor Identification: Pigmented insulation on individual conductors, negative conductor numerically printed for group identification.
Communications Wire: 22 AWG, solid strand, bare copper conductor 12 mils nominal flame-retardant Okoseal insulation, 105°C temperature rating.
Assembly: Pairs assembled with left-hand lay. Flame-retardant, non-wicking fillers included where required to provide a round cable.
Cable Shield: Aluminum/Polyester backed tape overlapped to provide 100% coverage, and a 7-strand tinned copper drain wire, same size as the conductor.
Jacket: Color-coded, flame-retardant Okoseal per UL Standards 13 and 2250. A rip cord is laid longitudinally under the jacket to facilitate removal.
Classification: UL Listed as Type ITC/PLTC - Instrumentation Tray Cable/Power Limited Tray Cable for use in accordance with Article 725 and 727 of the National Electrical Code.
The cables comply with UL 2250 and UL 13 for CL2 and CL3.

Applications
Okonite Type P-OS (Pair/triad - Overall Shield) Thermocouple Extension cables are designed for use as instrumentation and process control cables in ITC non-classified or labeled circuits up to 150 volts and 5 amps (750VA) and in Class 2 or 3 Power-Limited circuits where shielding against external interference is required, but shielding against interference among groups is not required; indoors or outdoors; in wet or dry locations with conductor operating temperatures up to 105°C; in cable trays; in raceways; supported by a messenger wire; under raised floors; for direct burial. Suitable Class I, Division 2, Class II, Division 2, or Class III, Division 2 hazardous locations. Also for use as Power-Limited fire protective signaling cable (FPL) per NEC Code 760.

Product Features
- Passes the UL 1581 and IEEE 383-1974 vertical tray flame tests.
- Sunlight resistant and oil resistant.
- UL listed for direct burial (4/C #20 AWG or 2/C #18 and larger)
- Individual pairs are numbered and color-coded for simplified hook-up.
- Good external noise rejection.
- Excellent weathering characteristics.
- OSHA Acceptable.
- Flexible, easy to handle, splice and terminate.
- 100% shield coverage for reduced electromagnet noise pick-up.
- Communication wire included in each cable for voice communication during installation or instrument calibration.
- Suitable for low temperature installation of -40°C.
**Type P-OS**

**Type ITC/PLTC Thermocouple Extension Cable**

Multiple Pair - Overall Shield - 105°C Rating
For Cable Tray Use

**Okoseal Insulation: 15 mils**

**Conductors:** 20 AWG

### Electrical Specifications

- **Nom. Loop Resistance Per 100' @ 20°C**
  - EX: 77 ohms
  - JX: 86 ohms
  - KX: 88 ohms
  - TX: 88 ohms

### ASA/ISA Color Code and Limits of Error

<table>
<thead>
<tr>
<th>Type</th>
<th>Positive Wire</th>
<th>Negative Wire</th>
<th>Outer Jacket Color</th>
<th>Temperature Range °C</th>
<th>Limits of Error Standard</th>
<th>Limits of Error Special (1)</th>
<th>Wire Size (AWG)</th>
<th>Nom. Loop Resistance Per 100' @ 20°C</th>
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</thead>
<tbody>
<tr>
<td>EX</td>
<td>Chromium</td>
<td>Purple</td>
<td>Constantan Red</td>
<td>0 to 200°C</td>
<td>± 1.7°C</td>
<td>—</td>
<td>16</td>
<td>27.8 ohms</td>
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<td>20</td>
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<tr>
<td>JX</td>
<td>Iron</td>
<td>White</td>
<td>Constantan Red</td>
<td>0 to 200°C</td>
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<td>± 1.1°C</td>
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<td>13.9 ohms</td>
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<td>35.7 ohms</td>
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<tr>
<td>KX</td>
<td>Chromium</td>
<td>Yellow</td>
<td>Alumel Red</td>
<td>0 to 200°C</td>
<td>± 2.2°C</td>
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<td>20</td>
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<td>TX</td>
<td>Copper</td>
<td>Blue</td>
<td>Constantan Red</td>
<td>-60 to 100°C</td>
<td>± 1.0°C</td>
<td>± 0.5°C</td>
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<td>12.0 ohms</td>
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<td></td>
<td></td>
<td>20</td>
<td>29.8 ohms</td>
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</tbody>
</table>

### Wire Characteristics

- **Nominal Cable O.D. - (In.)**
  - EX: 0.38
  - JX: 0.38
  - KX: 0.38
  - TX: 0.38

- **Approx Net Weight (lbs/1000')**
  - EX: 76
  - JX: 75
  - KX: 77
  - TX: 77

- **Approx Ship Weight (lbs/1000')**
  - EX: 87
  - JX: 86
  - KX: 88
  - TX: 88

### Key Points

- Length Tolerance: Cut lengths of 1000 feet or longer are subject to a tolerance of ± 10%; less than 1000 feet ± 15%.
- Free Samples: Available upon request.
- Special grade alloy conductors for JX and TX are available on special order.

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**THE OKONITE COMPANY**

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