Loxarmor® Type SP-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 Standard 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.
Group Shield: Aluminum/synthetic polymer taped overlapped to provide 100% coverage, and a tinned copper drain wire, two sizes smaller than the conductor. All group shields are completely isolated from each other.
Communications Wire: 22 AWG solid 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 tape overlapped to provide 100% coverage, and a 7-strand tinned copper drain wire, same size as the conductor.
Inner Jacket: Color-coded, flame-retardant Okoseal per UL Standard 13 and 2250. A rip cord is laid longitudinally under the jacket to facilitate removal.
Loxarmor Sheath: An interlocking galvanized steel armor provides mechanical protection against cut-through and crushing. All four sides of the steel tape are galvanized to prevent corrosion.
Outer Jacket: Color-coded, flame-retardant, low temperature Okoseal per UL Standard 13 and 2250.
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 UL13 for CL2 and CL3.

Applications
Okonite Loxarmor Type SP-OS (Pair - Individual and 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 maximum shielding against external interference is required, as well as shielding among groups, particularly where the cable may be subject to abnormally high current or voltage interference; indoors or outdoors; in wet or dry locations with a 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. The Loxarmor (interlocked steel) sheath provides the physical protection against mechanical damage as required in NEC Section 727-4. It may be installed in both exposed and concealed work, secured to supports not greater than 6 feet apart.

Product Features
- Passes the UL 1581 & IEEE 383-1974 vertical tray flame tests.
- Passes the IEEE 1202-1991 vertical tray flame test (8 pair and larger).
- Passes the 210,000 BTU/hr vertical tray flame test per ICEA T-29-520 and the 210,000 BTU/hr corner configuration test.
- UL listed as sunlight resistant.
- UL listed for direct burial (2 pr #20 AWG and larger).
- Complete pre-packaged, factory-tested wiring system-color coded.
- Loxarmor cables are quality control inspected to meet or exceed applicable UL Standards.
- Loxarmor enclosure permits installation in cable tray containing light and power cables without a barrier separator.
- Individual pairs are numbered and color-coded for simplified hook-up.
- Individual pairs or triads are completely isolated.
- Maximum noise rejection.
- Impervious, continuous sheath excludes moisture, gases and liquids.
- Excellent compression and impact resistance.
- Lower installed system cost than conduit or EMT systems.
- OSHA Acceptable.
- Also available in aluminum.
- Suitable for installation at low temperature to -40°C.

A Solid Thermocouple Alloy Conductor
B Okoseal Insulation
C Tinned Stranded Copper Group Drain Wire
D Aluminum/Synthetic Polymer Tape
E Twisted Shielded Pairs
F Communication Wire
G Tinned Stranded Copper Group Drain Wire
H Aluminum/Synthetic Polymer Tape
J Rip Cord
K Inner Okoseal Jacket
L Galvanized Steel Interlocking Loxarmor
M Outer Okoseal Jacket
## Conductors: 20 AWG; Okoseal Insulation: 15 mils

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| SX available upon request. |
| (1) Special grade alloy conductors for JX and TX are available on special order. |
| † Cross-sectional area for calculation of cable tray fill in accordance with NEC Section 318-8 |
| Aluminum Loxarmor available on a special order |

### Length Tolerance:
Cut lengths of 1000 feet or longer are subject to a tolerance of ± 10%; less than 1000 feet ± 15%.

### ELECTRICAL SPECIFICATIONS

- **Per UL Standard 2260**
- **Dielectric Test Voltage**......1500 Volts ac for 15 sec.
- **Insulation Resistance Constant @60°F, minimum**......2000 Ohms-1000 ft.

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**ASA/ISA COLOR CODE AND LIMITS OF ERROR**

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<thead>
<tr>
<th>ASA/ISA Type</th>
<th>Positive Wire</th>
<th>Negative Wire</th>
<th>Outer Jacket Color</th>
<th>Temperature Range°C</th>
<th>Limits of Error</th>
<th>Wire Size (AWG)</th>
<th>Nom. Loop Resistance Per 1000 ft @ 20°C</th>
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