Loxarmor® Type SP-OS

Type ITC/PLTC Thermocouple Extension Cable

Multiple Pair - Overall Shield — 105°C Rating

For Cable Tray Use

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 Aluminum/Synthetic Polymer Tape
H Tinned Stranded Copper Group Drain Wire
J Rip Cord
K Inner Okoseal Jacket
L Galvanized Steel Interlocking Loxarmor
M Outer Okoseal Jacket

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.

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Type ITC/PLTC Thermocouple Extension Cable

Multiple Pair - Individual and Overall Shield - 105°C Rating

For Cable Tray Use

Conductors: 20 AWG; Okoseal Insulation: 15 mils

ASA/ISA Type	Catalog Number	Number of Pairs	Inner Jacket Thickness - mils	Inner Jacket Nominal O.D. - In.	Loxarmor O.D. - In. Nominal	Outer Jacket - mils	Nominal Cable O.D. - Inches	Cross-Sectional Area † (sq in)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
EX	284-10-5504	4	50	.45	.69	50	.80	.50	329	368
	284-10-5508	8	50	.56	.78	50	.89	.62	431	495
	284-10-5510	10	60	.64	.86	50	.97	.74	527	591
	284-10-5512	12	60	.70	.92	50	1.03	.83	566	630
	284-10-5516	16	60	.77	.98	50	1.09	.93	654	734
	284-10-5520	20	60	.81	1.03	50	1.14	1.02	745	825
	284-10-5524	24	70	.97	1.19	50	1.30	1.33	863	969
	284-10-5536	36	70	1.09	1.32	50	1.43	1.61	1078	1184
	284-10-5550	50	70	1.19	1.41	50	1.52	1.81	1348	1491
JX	284-10-5604	4	50	.45	.69	50	.80	.50	329	368
	284-10-5608	8	50	.56	.78	50	.89	.62	429	493
	284-10-5610	10	60	.64	.86	50	.97	.74	524	589
	284-10-5612	12	60	.70	.92	50	1.03	.83	559	623
	284-10-5616	16	60	.77	.98	50	1.09	.93	651	731
	284-10-5620	20	60	.81	1.03	50	1.14	1.02	741	821
	284-10-5624	24	70	.97	1.19	50	1.30	1.33	858	964
	284-10-5636	36	70	1.09	1.32	50	1.43	1.61	1070	1176
	284-10-5650	50	70	1.19	1.41	50	1.52	1.81	1338	1481
KX	284-10-5704	4	50	.43	.69	50	.80	.50	329	368
	284-10-5708	8	50	.53	.78	50	.89	.62	431	495
	284-10-5710	10	60	.64	.86	50	.97	.74	527	591
	284-10-5712	12	60	.67	.92	50	1.03	.83	566	630
	284-10-5716	16	60	.74	.98	50	1.09	.93	654	734
	284-10-5720	20	60	.81	1.03	50	1.14	1.02	745	825
	284-10-5724	24	70	.90	1.19	50	1.30	1.33	863	969
	284-10-5736	36	70	1.02	1.32	50	1.43	1.61	1078	1184
	284-10-5750	50	70	1.19	1.41	50	1.52	1.81	1348	1491
TX	284-10-5804	4	50	.43	.69	50	.80	.50	330	369
	284-10-5808	8	50	.53	.78	50	.89	.62	433	497
	284-10-5810	10	60	.64	.86	50	.97	.74	529	593
	284-10-5812	12	60	.66	.92	50	1.03	.83	564	628
	284-10-5816	16	60	.73	.98	50	1.09	.93	657	737
	284-10-5820	20	60	.81	1.03	50	1.14	1.02	749	829
	284-10-5824	24	70	.90	1.19	50	1.30	1.33	868	974
	284-10-5836	36	70	1.02	1.32	50	1.43	1.61	1085	1191
	284-10-5850	50	70	1.19	1.41	50	1.52	1.81	1358	1501

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 2250

Insulation Test Voltage (spark test) .....5000 Volts ac

Dielectric Test Voltage .....1500 Volts ac for 15 sec.

Insulation Resistance Constant @60°F, minimum (natural material typical value).....2000 Ohms-1000 ft.

ASA/ISA COLOR CODE AND LIMITS OF ERROR

ASA/ISA Type	Positive Wire		Negative Wire		Outer Jacket Color	Temperature Range°C	Limits of Error		Wire Size (AWG)	Nom. Loop Resistance Per 100' @ 20°C
	Alloy	Color	Alloy	Color			Standard	Special (1)		
EX	Chromel	Purple	Constantan	Red	Purple	0 to 200°C	± 1.7°C	± 1.0°C	20	70.7 ohms
JX	Iron	White	Constantan	Red	Black	0 to 200°C	± 2.2°C	± 1.1°C	20	35.7 ohms
KX	Chromel	Yellow	Alumel	Red	Yellow	0 to 200°C	± 2.2°C	± 1.1°C	20	59.0 ohms
TX	Copper	Blue	Constantan	Red	Blue	-60 to 100°C	± 1.0°C	± 0.5°C	20	29.8 ohms

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