Okozel-Okozel® Type SP-OS

Type ITC/PLTC Thermocouple Extension Cable

Multiple Shielded Pairs - Overall Shield - 150°C Rating

For Cable Tray Use

A Solid Thermocouple Alloy Conductors
B Okozel Insulation
C Coated, Stranded Copper Group Drain Wire
D Aluminum-Polyester isolated Group Shield
E Twisted, Shielded Pairs/Triads
F Communication Wire
G Polyester Tape
H Coated, Stranded Copper Drain Wire
J Aluminum-Nomex-Polyester Cable Shield
K Okozel Jacket

Specifications

Conductors: Solid alloys per ANSI MC 96.1

Insulation: Flame-retardant, radiation-resistant Okozel, a modified ETFE fluoropolymer. Cable meets or exceeds requirements for UL 13 and UL 2250.

Conductor Identification: Pigmented insulation on individual conductors, negative conductor numerically printed for group identification.

Group Shield: Aluminum-polyester tape overlapped to provide 100% coverage, and a 7-strand coated copper drain wire, two sizes smaller than the conductor. All group shields are completely isolated from each other.

Communications Wire: 22 AWG, solid, bare copper conductor 9 mils nominal Okozel insulation.

Assembly: Pairs assembled with 1 ½" - 2 ½" left-hand lay. Flame-retardant, non-wicking fillers included where required to provide a round cable; polyester tape overall.

Cable Shield: Aluminum-nylon-polyester tape overlapped to provide 100% coverage, and a 7-strand coated copper drain wire, same size as conductor.

Jacket: Flame-retardant, radiation, oil, fuel and chemical-resistant Okozel.

Cable meets or exceeds the requirements of UL 13 and UL 2250, NEMA HP-100.

Classifications: UL Listed as ITC/PLTC - Instrument Tray Cable/Power Limited Tray Cable for use in accordance with Article 335 and 722 of the 2023 National Electrical Code.

The cables comply with UL 2250 and UL 13 for CL2 and CL3.

Applications

Okonite Okozel Type SP-OS (Pair-Individual and Overall Shield) Thermocouple Extension cables are recommended for use in fossil fueled generating stations where continuity of critical control circuits is of primary importance. 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 vurrent or voltage interference; indoors or outdoors; rated 150°C in dry locations and 75°C in wet locations; 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 1 hazardous locations. Also for use as Power-Limited fire protective signaling cable (FPL) per NEC Article 760.

Okozel thermocouple extension cables are also recommended for high ambient temperature areas up to 150°C (302°F) in industrial applications or for cold weather installations in excess of -65°C (-85°F).

Product Features

- Maximum noise rejection.
- Communication wire included in each cable for voice communication during installation or instrument calibration.
- 100% shield coverage for reduced electrostatic noise.
- Low surface friction provides easier installation.
- Smaller and lighter diameter permits more cables per tray.
- 150°C continuous operating temperature.
- Cold installation temperature in excess of -65°C.
- Exceptional abrasion resistance will not cut or tear.
- Flame-retardant and non-propogating. Passes IEEE 383 and UL Vertical Tray Flame Tests.
- Low smoke emission.
- Chemically inert-unaffected by typical acids, bases, solvents and cleaning agents, fuels and hydraulic fluids.
- High dielectric strength.
- Low dielectric constant.
- Special designs available that are qualified for nuclear generating stations at 90°C in accordance with IEEE Standards 383-74 and 323-74.

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Multiple Pairs - Individual and Overall Shield - 150°C Rating

For Cable Tray Use

Conductors: 20 AWG; Okozel Insulation: 15 mils

ASA/ISA Type	Catalog Number	Number of Pairs	Jacket Thickness- (mils)	Nominal Cable O.D. - (In.)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
EX	284-30-1202	2	15	0.31	48	59
	284-30-1204	4	15	0.36	76	87
	284-30-1206	6	15	0.43	106	129
	284-30-1208	8	20	0.48	139	162
	284-30-1212	12	20	0.58	198	222
	284-30-1224	24	25	0.81	378	417
JX	284-30-2202	2	15	0.31	48	59
	284-30-2204	4	15	0.36	76	87
	284-30-2206	6	15	0.43	105	128
	284-30-2208	8	20	0.48	138	161
	284-30-2212	12	20	0.58	196	220
	284-30-2224	24	25	0.81	373	412
KX	284-30-3202	2	15	0.31	48	59
	284-30-3204	4	15	0.36	76	87
	284-30-3206	6	15	0.43	106	129
	284-30-3208	8	20	0.48	139	162
	284-30-3212	12	20	0.58	198	222
	284-30-3224	24	25	0.81	378	417
TX	284-30-4202	2	15	0.31	49	60
	284-30-4204	4	15	0.36	77	88
	284-30-4206	6	15	0.43	107	130
	284-30-4208	8	20	0.48	141	164
	284-30-4212	12	20	0.58	200	224
	284-30-4224	24	25	0.81	383	422

ASA/ISA COLOR CODE AND LIMITS OF ERROR

ASA/ISA Type	Positive Wire		Negative Wire		Outer Jacket Color	Temperature Range C	Limits of Error		Nom. Loop Resistance Per 1000' @ 20°C
	Alloy	Color	Alloy	Color			Standard	Special (1)	
EX	Chromel	Purple	Constantan	Red	Purple	0 to 200°C	± 1.7°C	—	70.7 ohms
JX	Iron	White	Constantan	Red	Black	0 to 200°C	± 2.2°C	± 1.1°C	35.7 ohms
KX	Chromel	Yellow	Alumel	Red	Yellow	0 to 200°C	± 2.2°C	—	59.0 ohms
TX	Copper	Blue	Constantan	Red	Blue	-60 to 100°C	± 1.0°C	± 0.5°C	29.8 ohms

ELECTRICAL SPECIFICATIONS
Per UL Standard 13 & 2250

Insulation Test Voltage (spark test) .....5,000 Volts ac

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

Insulation Resistance Constant @60°F minimum (natural material typical value) .....50,000 Megohms-1000 ft.

SX availabel upon request.

(1) Special grade alloy conductors for JX and TX are available on special order.

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

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