

#### APPLICATION

Generally applied as temperature-measuring devices for thermowells and process measurement detection system.  
The cables are recommended for indoor and outdoor installation in dry and wet locations, in cable racks and trays, in conduits and suitable for direct burial.

#### STANDARDS

API RP 551	Process Measurement Instrumentation
ANSI MC 96.1	TEMPERATURE MEASUREMENT THERMOCOUPLES
PLTC TO UL 13	Power-limited tray cable, per NFPA 70, NEC Article 725
ITC TO UL2250	Instrumentation tray cable, per NFPA 70, NEC Article 727.

#### CONSTRUCTION DETAILS

<b>CONDUCTOR</b>	Thermocouple Extension wires. (Table 1)
<b>INSULATION</b>	Crosslinked Polyethylene (XLPE) rated 90°C or Polyvinyl Chloride (PVC) rated 90°C.
<b>COLOR CODES</b>	-Pairs : Black/White with successive numbers on each core.
<b>PAIRS</b>	Two or Three cores are twisted into Pairs/Triads, in suitable lay length.
<b>INDIVIDUAL SHIELDING</b>	Aluminum-Polyester (AL-PET foil) laminated tape with 100% coverage and suitable overlap, in contact with stranded tinned copper drain wire.
<b>ASSEMBLY</b>	The required number of pairs/triads are assembled with non-hygroscopic fillers (if required) and wrapped with a polyester binder tape
<b>OVERALL SHIELDING</b>	Aluminum-Polyester (AL-PET foil) laminated tape with 100% coverage and suitable overlap, in contact with stranded tinned copper drain wire.
<b>INNER JACKET</b>	Poly Vinyl Chloride Flame Retardant
<b>ARMOR</b>	Spirally applied soft Galvanized Round Steel Wires
<b>OUTER JACKET</b>	Poly Vinyl Chloride Flame Retardant Sunlight and Oil Resistant.,

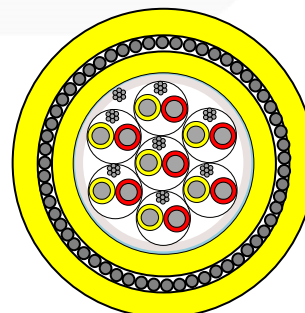
TABLE 1: TYPES AND COLOR CODES OF THERMOCOUPLE CABLES

TYPE	THERMOCOUPLE MATERIAL		IEC 60584 Insulation and Jacket Color			ANSI MC 96.1 Insulation and Jacket Color		
	Positive Leg (+)	Negative Leg (-)	Positive Leg (+)	Negative Leg (-)	Jacket	Positive Leg (+)	Negative Leg (-)	Jacket
K	Nickel-Chromium	Nickel-Aluminium	Green	White	Green	Yellow	Red	Yellow
E	Nickel-Chromium	Copper Nickel	Purple	White	Purple	Purple	Red	Purple
J	Iron	Copper Nickel	Black	White	Black	White	Red	Black
T	Copper	Copper Nickel	Brown	White	Brown	Blue	Red	Blue
N	Nickel-Chromium Silicon	Nickel-Silicon	Pink	White	Pink	Orange	Red	Orange

Types	Temperature Range
K	-20°C to 200°C
E	-20°C to 200°C
J	-20°C to 200°C
T	-59°C to 68°C
N	-20°C to 200°C

#### PHYSICAL & ENVIRONMENTAL PROPERTIES

<b>Oil Resistance</b>	Passes UL test (Oil 1)
<b>Sunlight Resistance</b>	Passes UL-1581 test (720 hours)
<b>Minimum Bending Radius</b>	≥ 10xCable Outside Diameter



**ASH INSTRUMENTATION**  
**MULTI PAIR THERMO/XLPE or PVC INDIVIDUAL + OVERALL SHIELDED, ARMORED**  
**THERMOCOUPLE CABLES**  
**UL 13 / UL 2250, PLTC / ITC, 90°C / 300V, ANSI MC 96.1**  
**Sunlight & Oil Resistant, Flame Retardant**

**THERMOCOUPLE KX TYPE**

ASH CABLES PRODUCT#	Cross Sectional Area (AWG) No. of wire X SIZE mm	NO. OF PAIRS/ TRIAD	Jacket Thickness (nom.) (mm)	Jacket Thickness (nom.) (mm)	Overall diameter Approx. (mm)	Net Weight Approx. (Kg/km)
IJKX-02P18AWG-WYL6D	18(1X1.02)	2P	0.90	1.27	15.00	320
IJKX-04P18AWG-WYL6D		4P	0.90	1.27	17.00	420
IJKX-06P18AWG-WYL6D		6P	1.25	1.27	19.50	620
IJKX-08P18AWG-WYL6D		8P	1.25	1.27	21.05	720
IJKX-10P18AWG-WYL6D		10P	1.25	1.27	23.20	880
IJKX-12P18AWG-WYL6D		12P	1.60	1.27	24.30	1075
IJKX-16P18AWG-WYL6D		16P	1.60	1.27	26.40	1230
IJKX-24P18AWG-WYL6D		24P	2.00	1.27	31.80	1950
IJKX-02P16AWG-WYL6D	16 (1X1.29)	2P	0.90	1.27	16.50	402
IJKX-04P16AWG-WYL6D		4P	0.90	1.27	18.00	505
IJKX-06P16AWG-WYL6D		6P	1.25	1.27	19.80	745
IJKX-08P16AWG-WYL6D		8P	1.25	1.27	23.10	905
IJKX-10P16AWG-WYL6D		10P	1.60	1.27	25.50	1170
IJKX-12P16AWG-WYL6D		12P	1.60	1.27	26.30	1270
IJKX-16P16AWG-WYL6D		16P	1.60	1.27	28.50	1500
IJKX-24P16AWG-WYL6D		24P	2.00	1.27	33.50	2270

**THERMOCOUPLE TX TYPE**

ASH CABLES PRODUCT#	Cross Sectional Area (AWG) No. of wire X SIZE mm	NO. OF PAIRS/ TRIAD	Jacket Thickness (nom.) (mm)	Jacket Thickness (nom.) (mm)	Overall diameter Approx. (mm)	Net Weight Approx. (Kg/km)
IJTX-02P18AWG-WYL6D	18(1X1.02)	2P	0.90	1.27	15.10	320
IJTX-04P18AWG-WYL6D		4P	0.90	1.27	16.80	420
IJTX-06P18AWG-WYL6D		6P	1.25	1.27	19.30	620
IJTX-08P18AWG-WYL6D		8P	1.25	1.27	21.00	720
IJTX-10P18AWG-WYL6D		10P	1.25	1.27	23.25	880
IJTX-12P18AWG-WYL6D		12P	1.60	1.27	24.50	1075
IJTX-16P18AWG-WYL6D		16P	1.60	1.27	26.60	1230
IJTX-24P18AWG-WYL6D		24P	2.00	1.27	31.70	1950
IJTX-02P16AWG-WYL6D	16 (1X1.29)	2P	0.90	1.27	16.20	402
IJTX-04P16AWG-WYL6D		4P	0.90	1.27	18.20	505
IJTX-06P16AWG-WYL6D		6P	1.25	1.27	19.90	745
IJTX-08P16AWG-WYL6D		8P	1.25	1.27	23.50	905
IJTX-10P16AWG-WYL6D		10P	1.60	1.27	25.20	1170
IJTX-12P16AWG-WYL6D		12P	1.60	1.27	26.50	1270
IJTX-16P16AWG-WYL6D		16P	1.60	1.27	28.10	1500
IJTX-24P16AWG-WYL6D		24P	2.00	1.27	33.20	2270