

**Type P Instrument Triads Signal Cable Individual + Overall Shield
AL/PS tape (0.6/1kV) Flame Retardant**



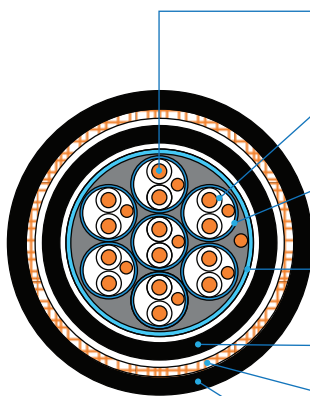
CABLE DESIGNATION

0.6/1kV TP(IS-OS)PN, TP(IS-OS)PNB, TP(IS-OS)PNBS

APPLICATION STANDARD

Design guide	IEEE 1580(2010) , UL 1309(2017)
Insulation material	IEEE 1580, Type P UL 1309, X110
Sheath material	IEEE 1580, Type N
Flame retardant	IEEE 1202 & IEC 60332-3 Category A
Fire resistance	IEC 60331-21(90min), IEC 60331-1,-2(120min), FS-type only
Cold bend / impact	CSA C22.2 NO. 2556(-40°C/-40°C) (Formerly CSA C22.2 NO.0.3)

CONSTRUCTION



Sectional view

Core identification

Colored insulation plus

Arabic number printing on the insulation

Each core color : pair _ Black, White(or Red)

Conductor

- Flexible stranded tinned annealed copper wires as per IEEE 1580
- A suitable separator tape(s) may be applied over the conductor

Insulation

XLPO (Type P) as per IEEE 1580 & XLPO (X110) as per UL 1309

Individual shield

Polyester/aluminum tape (AL/PS tape) + Tinned copper drain wire

Overall shield

Polyester/aluminum tape (AL/PS tape) + Tinned copper drain wire

Jacket

Thermosetting Neoprene (Type N) as per IEEE 1580 & UL 1309

Armor

- Braid of commercial bronze wires
- A suitable separator tape(s) may be applied under / over the armor

Sheath

- Thermosetting Neoprene (Type N) as per IEEE 1580 & UL 1309
- Outer sheath color : Black

Fire resisting layer(optional)

Mica/glass tape (FS Type cable only)

Twisting

Two/Three Insulated cores shall be twisted together to form a pair / triad

Cabling

- Individual shielded pairs / triads shall be cabled
- Flame retardant & non-hygroscopic fillers may be used
- Suitable tape(s) may be applied on the cabled core
- A Filler may be applied to obtain a circular Cable

Type P Instrument Triads Signal Cable Individual + Overall Shield AL/PS tape (0.6/1kV) Flame Retardant

0.6/1kV TT(IS-OS)PN, 0.6/1kV TT(IS-OS)PNB, 0.6/1kV TT(IS-OS)PNBS

No. of Triads	Conductor	Thickness of Insulation	Thickness of Jacket	Thickness of Sheath	Unarmor		Armor		Armor and Sheath	
	Nominal Area				Nom.Dia. Approx.	Weight Approx.	Nom.Dia. Approx.	Weight Approx.	Nom.Dia. Approx.	Weight Approx.
No.	AWG	mm/inch	mm/inch	mm/inch	mm/inch	kg/km	mm/inch	kg/km	mm/inch	kg/km
2T	18	0.76/0.030	1.52 / 0.060	1.52 / 0.060	15.4 / 0.606	290	17.2 / 0.677	450	20.6 / 0.811	600
3T			1.52 / 0.060	2.03 / 0.080	16.3 / 0.642	350	18.1 / 0.713	520	22.6 / 0.890	740
4T			1.52 / 0.060	2.03 / 0.080	17.9 / 0.705	430	19.7 / 0.776	620	24.2 / 0.953	850
5T			1.52 / 0.060	2.03 / 0.080	19.8 / 0.780	530	21.6 / 0.850	730	26.1 / 1.028	980
7T			2.03 / 0.080	2.03 / 0.080	23.4 / 0.921	740	25.2 / 0.992	980	29.7 / 1.169	1,270
8T			2.03 / 0.080	2.03 / 0.080	25.1 / 0.988	840	26.9 / 1.059	1,090	31.4 / 1.236	1,400
12T			2.03 / 0.080	2.03 / 0.080	29.8 / 1.173	1,180	31.6 / 1.244	1,480	36.1 / 1.421	1,840
16T			2.03 / 0.080	2.03 / 0.080	33.0 / 1.299	1,480	34.8 / 1.370	1,820	39.3 / 1.547	2,210
2T	16	0.76/0.030	1.52 / 0.060	2.03 / 0.080	16.0 / 0.630	330	17.8 / 0.701	490	22.3 / 0.878	710
3T			1.52 / 0.060	2.03 / 0.080	17.0 / 0.669	410	18.8 / 0.740	590	23.3 / 0.917	810
4T			1.52 / 0.060	2.03 / 0.080	18.7 / 0.736	510	20.5 / 0.807	700	25.0 / 0.984	940
5T			1.52 / 0.060	2.03 / 0.080	20.7 / 0.815	620	22.5 / 0.886	830	27.0 / 1.063	1,090
7T			2.03 / 0.080	2.03 / 0.080	24.4 / 0.961	870	26.2 / 1.031	1,120	30.7 / 1.209	1,420
8T			2.03 / 0.080	2.03 / 0.080	26.2 / 1.031	980	28.0 / 1.102	1,250	32.5 / 1.280	1,570
12T			2.03 / 0.080	2.03 / 0.080	31.2 / 1.228	1,390	33.0 / 1.299	1,700	37.5 / 1.476	2,080
16T			2.03 / 0.080	2.03 / 0.080	34.5 / 1.358	1,760	36.3 / 1.429	2,100	40.8 / 1.606	2,520

Note. For outer diameter, it is applied to $\pm 5\%$ manufacturing tolerance.