

Type P Instrument Pairs Signal Cable Overall Copper shield (0.6/1kV) Fire Resistant



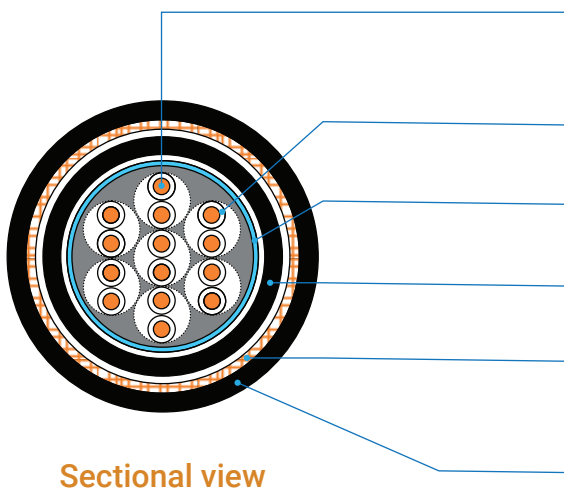
CABLE DESIGNATION

0.6/1kV FS-TP(OBS)PN, FS-TP(OBS)PNB, FS-TP(OBS)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 60331-2I(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

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

Overall shield

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

Core identification

Colored insulation plus

Arabic number printing on the insulation

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

Fire resisting layer(optional)

Mica/glass tape (FS Type cable only)

Twisting

Two Insulated cores shall be twisted together to form a pair

Cabling

- Twisted pairs 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

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No. of Pairs	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 or kcmil	mm/inch	mm/inch	mm/inch	mm/inch	kg/km	mm/inch	kg/km	mm/inch	kg/km
1P	18	0.76/0.030	1.14 / 0.045	1.52 / 0.060	10.4 / 0.409	140	12.2 / 0.480	250	15.6 / 0.614	360
2P			1.52 / 0.060	2.03 / 0.080	16.0 / 0.630	270	17.8 / 0.701	440	22.3 / 0.878	650
4P			1.52 / 0.060	2.03 / 0.080	18.1 / 0.713	350	19.9 / 0.783	540	24.4 / 0.961	760
7P			2.03 / 0.080	2.03 / 0.080	22.8 / 0.898	550	24.6 / 0.969	780	29.1 / 1.146	1,050
9P			2.03 / 0.080	2.03 / 0.080	26.6 / 1.047	690	28.4 / 1.118	960	32.9 / 1.295	1,270
10P			2.03 / 0.080	2.03 / 0.080	27.3 / 1.075	730	29.1 / 1.146	1,000	33.6 / 1.323	1,320
14P			2.03 / 0.080	2.03 / 0.080	29.4 / 1.157	850	31.2 / 1.228	1,150	35.7 / 1.406	1,490
15P			2.03 / 0.080	2.03 / 0.080	30.1 / 1.185	890	31.9 / 1.256	1,200	36.4 / 1.433	1,540

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