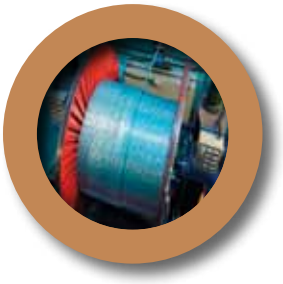


2kV VFD Power Cable

2kV VFD Power Cable

P-Route®
IEEE 1580, UL1309, UL1072

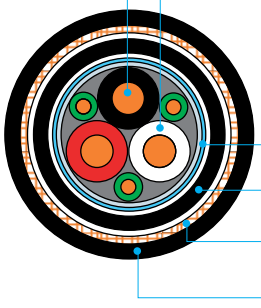
Cable Designation

2kV TPN(VFD), TPNB(VFD), TPNBS(VFD)

Application Standard

- Design guide : IEEE 1580(2010)
  UL 1309(2017)
- Insulation material : IEEE 1580, Type P UL 1309, X 110
- Sheath material : IEEE 1580, Type N
- Flame retardant : IIEEE 1202 & IEC 60332-3 Category A
- Cold bend / impact : CSA C22.2 NO. 2556(-40℃/-40℃)
  (Fomerly CSA C22.2 NO.0.3)

Construction

Sectional view	Classification	Code	Construction detail
	Conductor	T	- Flexible stranded tinned annealed copper wires as per IEEE 1580 - A suitable separator tape(s) may be applied over the conductor
	Insulation	P	- XLPO (Type P) as per IEEE 1580 & XLPO (X110) as per UL 1309
	Cabling		- Three main conductors & Three ground conductors 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
	Overall shield	(VFD)	- Tinned copper wire braid - Polyester/aluminum tape (AL/PS tape)
	Jacket	N	- Thermosetting Neoprene (Type N) as per IEEE 1580 & UL 1309
	Armor	B	- Braid of commercial bronze wires - A suitable separator tape(s) may be applied under/over the armor
	Sheath	S	- Thermosetting Neoprene (Type N) as per IEEE 1580 & UL 1309 - Outer sheath color : Black
	Core identification		- Colored insulation or Arabic number printing on the insulation 3C+3G : Black, White, Red, Green(or Green/Yellow)

2kV VFD Power Cable

2kV TPN(VFD), 2kV TPNB(VFD), 2kV TPNBS(VFD) - For equipment grounding applications

No. of Cores	Conductor Nominal Area	Thickness of Insulation	Thickness of Jacket	Thickness of Sheath	Grounding conductor Size	Unarmor		Armor		Armor and Sheath	
						Nom.Dia. Approx.	Weight Approx.	Nom.Dia. Approx.	Weight Approx.	Nom.Dia. Approx.	Weight Approx.
No.	AWG or MCM	mm/inch	mm/inch	mm/inch	AWG	mm/inch	kg/km	mm/inch	kg/km	mm/inch	kg/km
3	14	1.14 / 0.045	1.52 / 0.060	2.03 / 0.080	14	18.1 / 0.713	560	19.8 / 0.780	750	24.6 / 0.969	1,000
3	12	1.14 / 0.045	1.52 / 0.060	2.03 / 0.080	12	19.2 / 0.756	640	20.9 / 0.823	840	25.7 / 1.012	1,100
3	10	1.14 / 0.045	1.52 / 0.060	2.03 / 0.080	10	20.7 / 0.815	790	22.4 / 0.882	1,000	27.2 / 1.071	1,280
3	8	1.40 / 0.055	2.03 / 0.080	2.03 / 0.080	8	24.8 / 0.976	1,080	26.5 / 1.043	1,320	31.3 / 1.232	1,650
3	6	1.40 / 0.055	2.03 / 0.080	2.03 / 0.080	8	26.8 / 1.055	1,340	28.5 / 1.122	1,610	33.3 / 1.311	1,960
3	4	1.40 / 0.055	2.03 / 0.080	2.03 / 0.080	6	31.9 / 1.256	1,870	33.6 / 1.323	2,190	38.4 / 1.512	2,590
3	2	1.40 / 0.055	2.03 / 0.080	2.03 / 0.080	6	34.3 / 1.350	2,300	36.0 / 1.417	2,640	40.8 / 1.606	3,070
3	1	1.65 / 0.065	2.03 / 0.080	2.79 / 0.11	6	36.8 / 1.449	2,880	38.5 / 1.516	3,240	44.8 / 1.764	3,870
3	1/0	1.65 / 0.065	2.03 / 0.080	2.79 / 0.11	6	39.4 / 1.551	3,370	41.1 / 1.618	3,760	47.4 / 1.866	4,420
3	2/0	1.65 / 0.065	2.03 / 0.080	2.79 / 0.11	4	42.0 / 1.654	4,850	43.7 / 1.720	4,380	50.0 / 1.969	5,080
3	3/0	1.65 / 0.065	2.79 / 0.11	2.79 / 0.11	4	46.9 / 1.846	4,850	48.6 / 1.913	5,310	54.9 / 2.161	6,080
3	4/0	1.65 / 0.065	2.79 / 0.11	2.79 / 0.11	3	50.6 / 1.992	5,770	52.3 / 2.059	6,260	58.6 / 2.307	7,090
3	262	1.90 / 0.075	2.79 / 0.11	2.79 / 0.11	3	54.9 / 2.161	6,900	56.6 / 2.228	7,440	62.9 / 2.476	8,330
3	313	1.90 / 0.075	2.79 / 0.11	2.79 / 0.11	3	58.6 / 2.307	7,940	60.3 / 2.374	8,510	66.6 / 2.622	9,460
3	373	1.90 / 0.075	2.79 / 0.11	3.56 / 0.14	2	62.2 / 2.449	9,070	63.9 / 2.516	9,670	71.7 / 2.823	10,930
3	444	1.90 / 0.075	2.79 / 0.11	3.56 / 0.14	1	66.3 / 2.610	10,460	68.0 / 2.677	11,110	75.8 / 2.984	12,440
3	535	2.29 / 0.090	3.56 / 0.14	3.56 / 0.14	1	74.1 / 2.917	12,670	75.8 / 2.984	13,390	83.6 / 3.291	14,870
3	646	2.29 / 0.090	3.56 / 0.14	3.56 / 0.14	1/0	78.8 / 3.102	14,780	80.5 / 3.169	15,540	88.3 / 3.476	17,110
3	777	2.29 / 0.090	3.56 / 0.14	3.56 / 0.14	1/0	83.6 / 3.291	17,150	85.3 / 3.358	17,960	93.1 / 3.665	19,620

Note1 For outer diameter, it is applied to ±5% manufacturing tolerance.
Note2 For grounding conductor, it is applied to 3 separated earth conductor. [ex. Conductor 777 → 1/0 (4 x 3E)]

2kV TPN(VFD), 2kV TPNB(VFD), 3kV TPNBS(VFD) - For system grounding applications

No. of Cores	Conductor Nominal Area	Thickness of Insulation	Thickness of Jacket	Thickness of Sheath	Grounding conductor Size	Unarmor		Armor		Armor and Sheath	
						Nom.Dia. Approx.	Weight Approx.	Nom.Dia. Approx.	Weight Approx.	Nom.Dia. Approx.	Weight Approx.
No.	AWG or MCM	mm/inch	mm/inch	mm/inch	AWG	mm/inch	kg/km	mm/inch	kg/km	mm/inch	kg/km
3	3 / 0	1.65 / 0.065	2.79 / 0.11	2.79 / 0.11	3 / 0	52.3 / 2.059	560	54.0 / 2.126	6,310	60.3 / 2.374	7,160
3	4 / 0	1.65 / 0.065	2.79 / 0.11	2.79 / 0.11	4 / 0	58.3 / 2.295	640	60.0 / 2.362	7,850	66.3 / 2.610	8,790
3	262	1.90 / 0.075	2.79 / 0.11	3.56 / 0.14	262	63.3 / 2.492	790	65.0 / 2.559	9,320	72.8 / 2.866	10,600
3	313	1.90 / 0.075	2.79 / 0.11	3.56 / 0.14	313	65.8 / 2.591	1,080	67.5 / 2.657	10,260	75.3 / 2.965	11,580
3	373	1.90 / 0.075	2.79 / 0.11	3.56 / 0.14	373	69.3 / 2.728	1,340	71.0 / 2.795	11,800	78.8 / 3.102	13,190
3	444	1.90 / 0.075	3.56 / 0.14	3.56 / 0.14	444	76.3 / 3.004	1,870	78.0 / 3.071	14,120	85.8 / 3.378	15,640
3	535	2.29 / 0.090	3.56 / 0.14	3.56 / 0.14	535	83.8 / 3.299	2,300	85.5 / 3.366	16,950	93.3 / 3.673	18,610

Note1 For outer diameter, it is applied to ±5% manufacturing tolerance.
Note2 For grounding conductor, it is applied to 3 separated earth conductor. [ex. Conductor 777 → 1/0 (4 x 3E)]