4/C AL 600V PVC THHN PVC Power Cable With Ground

Type TC-ER Power Cable 600Volt Four Conductor Aluminum, Polyvinyl Chloride (PVC) with nylon layer insulation THHN Polyvinyl Chloride (PVC) Jacket with 1 Bare AL Ground

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Insulation:** Polyvinyl Chloride (PVC) with nylon layer Type THHN/THWN
3. **Grounding Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
4. **Filler:** Paper filler (cable size 8 & 6 uses Polypropylene filler)
5. **Binder:** Polyester flat thread binder tape for cable sizes larger than 2 AWG
6. **Overall Jacket:** Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 Volt Type TC-ER power cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, aerial supported by a messenger, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 75°C in wet locations and 90°C in dry locations, 105°C for emergency overload, and 250°C for short circuit conditions. For uses in Class I, II, and III, Division 2 hazardous locations per NEC Article 501 and 502. Constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10.

SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 3 (1-BLACK, 2-RED, 3-BLUE)
- ICEA S-58-679 Control Cable Conductor Identification Method 4
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE{R} MASTER-DESIGN {UL} 3/0 AWG AL 4 CDRS TYPE TC-ER THHN OR THWN-2 CDRS AL GW 1 X 4 AWG 90{D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {YYYY}

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Insul. Thickness	Diameter Over Insulation	Ground	Jacket Thickness	Approx. OD	Aluminum Weight	Approx. Weight
	AWG/ Kcmil	inch	mil	inch	No. x AWG	mil	inch	lb/1000ft	lb/1000ft
TBA	8	0.134	35	0.194	1 x 8	60	0.612	78	194
TBA	6	0.169	35	0.229	1 x 8	60	0.697	115	254
TBA	4	0.213	46	0.293	1 x 6	60	0.856	184	385
TBA	2	0.268	46	0.348	1 x 6	80	1.029	277	560
TBA	1	0.299	57	0.399	1 x 4	80	1.157	358	714
TBA	1/0	0.336	57	0.436	1 x 4	80	1.246	441	835
675633	2/0	0.376	57	0.476	1 x 4	80	1.343	545	981
675635	3/0	0.423	57	0.523	1 x 4	80	1.456	678	1165
TBA	4/0	0.475	57	0.575	1 x 2	80	1.582	867	1412
TBA	250	0.520	65	0.650	1 x 1	110	1.789	1029	1772
599228	300	0.570	68	0.706	1 x 4	110	1.924	1202	2035
TBA	350	0.616	65	0.746	1 x 2	110	2.021	1408	2285
TBA	500	0.736	68	0.856	1 x 1	110	2.325	1982	3059
597539	500	0.736	68	0.856	1 x 2/0	110	2.325	2104	3199
TBA	750	0.908	79	1.048	1 x 1/0	110	2.793	2953	4408
597540	750	0.908	79	1.048	1 x 3/0	110	2.925		4711

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

† Ampacities are based on Table 310.16 of the NEC 2020 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30°C (86°F). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.

Table 2 – Electrical and Engineering Data

Stock Number	Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 60° C†	Allowable Ampacity At 75° C†	Allowable Ampacity At 90° C†
	AWG/ Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
TBA	8	2.4	396	1.070	1.345	0.033	28	32	36
TBA	6	2.8	630	0.675	0.848	0.032	32	40	44
TBA	4	3.4	1002	0.424	0.533	0.032	44	52	60
TBA	2	5.1	1593	0.266	0.334	0.031	60	72	80
TBA	1	5.8	2009	0.211	0.265	0.032	68	80	92
TBA	1/0	6.2	2534	0.168	0.211	0.031	80	96	108
675633	2/0	6.7	3194	0.133	0.167	0.030	92	108	120
675635	3/0	7.3	4027	0.105	0.132	0.030	104	124	140
TBA	4/0	7.9	5078	0.084	0.105	0.029	120	144	164
TBA	250	8.9	6000	0.071	0.089	0.030	136	164	184
599228	300	9.6	7200	0.059	0.074	0.029	156	184	208
TBA	350	12.1	8400	0.051	0.064	0.029	168	200	224
TBA	500	14.0	12000	0.035	0.045	0.028	208	248	280
597539	500	14	12000	0.035	0.045	0.028	208	248	280
TBA	750	16.8	18000	0.024	0.030	0.028	256	308	348
597540	750	17.6	18000	0.024	0.030	0.028	256	308	348

† Ampacities are based on Table 310.16 of the NEC 2020 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30°C (86°F). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.