

2/C or 3/C or 4/C CU 600V PVC THHN PVC Control Cable With Green Ground

Type TC-ER Control Cable 600Volt Copper Conductors, Polyvinyl Chloride (PVC) with nylon layer Insulation THHN Polyvinyl Chloride (PVC) Jacket with 1 Insulated Green CU Ground, Control Cable Conductor Identification Method 1 Table 2



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8 for 14, 12, and 10 AWG cables. 26 strands class K bare copper per ASTM B3 and B174 for 16 AWG cables
- Insulation:** Polyvinyl Chloride (PVC) with nylon layer THHN, 19 Mils thick for 16, 14, 12 AWG cables and 24 Mils for 10 AWG cables, Type TFFN for 16 AWG cable and Type THHN or THWN for 14, 12, 10 AWG cables
- Grounding Conductor:** Class B compressed stranded copper with green insulation
- Filler:** Polypropylene filler
- Overall Jacket:** Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 Volt Type TC-ER control 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 B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2
- ICEA S-73-532 Standard for Control, Thermocouple Extension and Instrumentation Cables
- 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) XX AWG (X.XXmm²) CU 3 CDRS TYPE TC-ER THHN OR THWN CDRS GW 1 X XX AWG CU GREEN INSULATED 90{D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS NOM-ANCE



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Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Diameter Over Cond.	Insul. Thickness	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 90°C	Min Bending Radius	Allowable Ampacity At 60°C *	Allowable Ampacity 75°C *	Allowable Ampacity 90°C *
	AWG	No.	inch	mil	No. x AWG	mil	inch	lb /1000ft	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
16 AWG															
TBA	16	3	0.056	19	1 x 16	45	0.318	32	69	4.180	5.226	1.3	10	10	10
TBA	16	4	0.056	19	1 x 16	45	0.345	40	82	4.180	5.226	1.4	10	10	10
14 AWG															
606806◇	14	3	0.070	19	1 x 14	45	0.350	51	93	2.630	3.288	1.4	14	15	15
606814◇	14	4	0.070	19	1 x 14	45	0.380	64	113	2.630	3.288	1.5	14	15	15
12 AWG															
606723◇	12	3	0.087	19	1 x 12	45	0.392	81	131	1.660	2.075	1.6	16	20	20
606798◇	12	4	0.087	19	1 x 12	45	0.428	102	160	1.660	2.075	1.7	16	20	20
10 AWG															
TBA	10	2	0.111	24	1 x 10	45	0.437	97	158	1.040	1.300	1.8	24	28	30
605543◇	10	3	0.111	24	1 x 10	45	0.473	130	199	1.040	1.300	1.9	24	28	30
606863◇	10	4	0.111	24	1 x 10	45	0.519	162	244	1.040	1.300	2.1	24	28	30
644497	8	3	0.142	35	1 x 10	63	0.638	187	305	0.654	0.850	2.6	40	50	55

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.

