CU 600V PVC-Nylon Insulation PVC Jacket THHN/THWN-2 Shielded. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free

Type TC-ER, PLTC, FPL, and NFPL Control Cable 600 Volt Copper Conductors, Polyvinyl Chloride (PVC) with nylon layer Insulation THHN/THWN Polyvinyl Chloride (PVC) Jacket, Shielded Control Cable Conductor Identification Method 1 Table 2



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8
2. **Insulation:** Polyvinyl Chloride (PVC) with nylon layer Type THHN/THWN
3. **Drain Wire:** Tinned copper
4. **Shielding:** 100% coverage aluminum foil
5. **Jacket:** Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's Type TC-ER, PLTC, FPL, and NFPL Control Cable 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 90°C in dry locations and 75°C in wet locations, 105°C for emergency overload, and 150°C for short circuit conditions. For uses in Class I, II, and III per NEC Article 725 and 760. Constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10. Oil and sunlight resistant.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 13 Power-Limited Circuit Cables
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1277 TC-ER
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-73-532 Control, Thermocouple Extension, and Instrumentation Cables (applicable to sizes 20-9 AWG conductors)
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- EPA 40 CFR, Part 26, Subpart C heavy metals per Table 1, TCLP method

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE® XX AWG (X.XX{mm2}) 4/C SHIELDED PVCN/PVC TYPE TC-ER THHN/THWN E75755 {UL} 600V 90°C DRY/75°C WET OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL -- PLTC SUN RES --- FPL SUN RES --- NPLF SUN RES {NOM}-ANCE

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Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Cond.	Insul. Thickness	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 75°C	Inductive Rectance	Min Bending Radius	Allowable Ampacity 75°C	Allowable Ampacity 90°C	Jacket Color
	AWG	No.	strands	inch	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp	
14 AWG																
581276	14	2	7	0.071	15	45	0.325	34	67	2.631	3.265	0.058	2.3	20	25	BK
TBA	14	3	7	0.071	20	45	0.336	52	85	2.631	3.265	0.058	2.4	20	25	BK
TBA	14	4	7	0.071	20	45	0.365	65	103	2.631	3.265	0.058	2.6	16	20	BK
TBA	14	5	7	0.071	20	45	0.396	78	122	2.631	3.265	0.058	2.8	16	20	BK
TBA	14	7	7	0.071	20	45	0.429	104	157	2.631	3.265	0.058	3	14	18	BK
TBA	14	9	7	0.071	20	45	0.497	131	196	2.631	3.265	0.058	3.5	14	18	BK
TBA	14	12	7	0.071	20	60	0.588	170	265	2.631	3.265	0.058	4.1	10	12	BK
TBA	14	19	7	0.071	20	60	0.681	262	389	2.631	3.265	0.058	4.8	10	12	BK
TBA	14	24	7	0.071	20	60	0.792	328	483	2.631	3.265	0.058	5.5	9	11	BK
12 AWG																
TBA	12	2	7	0.089	20	45	0.354	60	92	1.662	2.063	0.054	2.5	25	30	BK
TBA	12	3	7	0.089	20	45	0.375	80	118	1.662	2.063	0.054	2.6	25	30	BK
581600	12	4	7	0.089	15	45	0.425	94	150	1.662	2.063	0.054	3	20	24	BK
TBA	12	5	7	0.089	20	45	0.444	121	172	1.662	2.063	0.054	3.1	20	24	BK
TBA	12	7	7	0.089	20	45	0.483	161	223	1.662	2.063	0.054	3.4	18	21	BK
581565	12	12	7	0.089	15	60	0.686	257	390	1.662	2.063	0.054	4.8	12	15	BK
10 AWG																
TBA	10	2	7	0.113	25	45	0.422	96	138	1.04	1.291	0.05	3	35	40	BK
TBA	10	3	7	0.113	25	45	0.448	128	178	1.04	1.291	0.05	3.1	35	40	BK
646394	10	4	7	0.113	20	45	0.504	150	224	1.04	1.291	0.05	3.5	28	32	BK
581567	10	5	7	0.113	20	60	0.589	182	289	1.04	1.291	0.05	4.1	28	32	BK
TBA	10	7	7	0.113	25	60	0.615	258	360	1.04	1.291	0.05	4.3	24	28	BK

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

* Ampacities have been adjusted for more than Three Current-Carrying Conductors.

TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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