Multi-Conductor CU 600 V FR-XLPE Shielded Drain Wire Thermoplastic CPE-TP Jacket Control Cable Color Method 1 Table 1

Control Cable 600 Volt Copper Conductors, Cross Linked Polyethylene (XLPE) Insulation XHHW-2 Shielded with Drain Wire Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Control Cable Conductor Identification Method 1 Table 1. Silicone Free



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. Tinned copper available upon request.
2. **Insulation:** Cross Linked Polyethylene (XLPE) XHHW-2, 30 Mils thick for all cable sizes
3. **Drain Wire:** Bare copper drain wire. Tinned copper drain wire available upon request.
4. **Filler:** Polypropylene filler on cables with 5 or less conductors
5. **Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
6. **Shielding:** 5 mils tape shield
7. **Rip Cord:** Rip cord for ease of jacket removal
8. **Overall Jacket:** Thermoplastic Chlorinated Polyethylene (CPE-TP) 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 90°C for normal operation in wet and dry locations, 130°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 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 1
- 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
- IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr)

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- VW-1 (Vertical-Wire) Flame Test

SAMPLE PRINT LEGEND:

SOUTHWIRE XX AWG XX/C FR-XLPE CDRS 90C CPE JKT SHIELDED 600V SUN. RES. DIRECT BURIAL YEAR {SEQUENTIAL FOOTAGE MARKS} SEQ FEET

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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 At 60°C	Allowable Ampacity 75°C	Allowab Ampacit 90°C
	AWG	No.	strands	inch	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp	Amp
16 AWG																
627664	16	2	7	0.056	25	45	0.342	18	60	4.181	5.037	0.033	4.1	-	-	18
622687	16	4	7	0.056	25	45	0.452	70	135	4.181	5.037	0.033	5.4	-	-	14
626574	16	7	7	0.056	25	45	0.430	58	125	4.181	5.037	0.033	5.2	-	-	12
12 AWG																
626573	12	4	7	0.088	30	45	0.464	83	155	1.662	2.002	0.054	5.6	16	20	24
604213	12	4	7	0.088	30	45	0.473	98	167	1.662	2.002	0.054	5.7	16	20	24
620734#	12	12	19	0.090	30	60	0.768	302	466	1.662	2.002	0.054	9.2	10	12	15
10 AWG																
621502$	10	2	19	0.117	30	45	0.464	105	159	1.040	1.253	0.050	3.2	30	35	40
626422!	10	3	7	0.113	30	45	0.500	138	215	1.040	1.253	0.050	3.5	30	35	40
620729$	10	4	19	0.117	30	60	0.578	172	272	1.040	1.253	0.050	6.9	24	28	32
626407!	10	5	7	0.113	30	60	0.623	210	320	1.040	1.253	0.050	4.4	24	28	32
TBA	10	7	7	0.113	30	60	0.547	283	404	1.040	1.253	0.050	8.0	21	24	38
620735$	10	12	19	0.117	30	80	0.903	468	691	1.040	1.253	0.050	10.8	15	17	20
8 AWG																
620728$	8	4	19	0.143	45	60	0.716	271	414	0.653	0.786	0.052	5.0	32	40	44

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
^ UL listed part number
! Tinned copper conductor per ASTM B33
$ 19 strand combination unilay conductor per ASTM B787
# Bunch unilay stranding
† Tinned copper drain wire
* 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 stock numbers containing more than Three Current-Carrying Conductors.