

## Multi-Conductor CU 600 or 1000 Volt XLPE XHHW-2 PVC Control Cable

Type TC-ER Control Cable 600 or 1000 Volt Copper Conductors, Cross Linked Polyethylene (XLPE) Insulation XHHW-2 Polyvinyl Chloride (PVC) Jacket, Control Cable Conductor Identification Method 1 Table 2. Silicone free. VW-1 Rated



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:** Cross Linked Polyethylene (XLPE) XHHW-2, 30 Mils thick for all cable sizes. VW-1 Rated
3. **Filler:** Polypropylene filler on cables with 5 or less conductors
4. **Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
5. **Overall Jacket:** Polyvinyl Chloride (PVC) Jacket

### APPLICATIONS AND FEATURES:

Southwire's 600 or 1000 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. VW-1 Rated.

### SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 44 VW-1 Vertical flame test on individual conductors
- 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 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
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test

### SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE{R} MASTER-DESIGN (UL) XX AWG (X.XXmm<sup>2</sup>) CU 3/C TYPE TC-ER XHHW-2 CDRS 90(D)C JACKET SUNLIGHT RESISTANT DIRECT BURIAL FT4/IEEE1202 600V or 1000V NOM-ANCE XHHW-2 CT SR 600V 90(D)C



**Table 1 – Physical and Electrical Data**

Stock Number	Cond. Size	Cond. Number	Diameter Over Cond.	Insul. Thickness	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	mil	inch	lb /1000ft	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
<b>14 AWG</b>														
952459	14	2	0.070	30	45	0.349	26	68	2.630	3.288	1.4	15	15	15
952465	14	3	0.070	30	45	0.370	38	87	2.630	3.288	1.5	15	15	15
952473	14	4	0.070	30	45	0.403	51	109	2.630	3.288	1.6	14	15	15
952481	14	5	0.070	30	45	0.440	64	132	2.630	3.288	1.8	14	15	15
952499	14	6	0.070	30	45	0.479	77	155	2.630	3.288	1.9	14	15	15
952440	14	7	0.070	30	45	0.479	90	171	2.630	3.288	1.9	12	15	15
952507	14	8	0.070	30	45	0.519	102	195	2.630	3.288	2.1	12	15	15
952572	14	9	0.070	30	60	0.588	115	236	2.630	3.288	2.4	12	15	15
952580	14	10	0.070	30	60	0.638	128	266	2.630	3.288	2.6	9	11	12
952598	14	12	0.070	30	60	0.659	154	303	2.630	3.288	2.6	9	11	12
952606	14	15	0.070	30	60	0.730	192	371	2.630	3.288	2.9	9	11	12
952614	14	19	0.070	30	60	0.768	243	446	2.630	3.288	3.1	9	11	12
952622	14	20	0.070	30	60	0.808	256	475	2.630	3.288	3.2	9	11	12
952630	14	25	0.070	30	80	0.937	320	619	2.630	3.288	3.7	8	9	11
952648	14	30	0.070	30	80	0.991	384	719	2.630	3.288	4.0	8	9	11
952655	14	37	0.070	30	80	1.067	474	862	2.630	3.288	5.3	7	8	10
<b>12 AWG</b>														
953042	12	2	0.087	30	45	0.384	41	90	1.660	2.075	1.5	20	20	20
953059	12	3	0.087	30	45	0.408	61	118	1.660	2.075	1.6	20	20	20
953067	12	4	0.087	30	45	0.445	81	148	1.660	2.075	1.8	16	20	20
953075	12	5	0.087	30	45	0.487	102	181	1.660	2.075	1.9	16	20	20
953083	12	6	0.087	30	45	0.532	122	214	1.660	2.075	2.1	16	20	20
953091	12	7	0.087	30	45	0.532	143	237	1.660	2.075	2.1	14	17	20
953109	12	8	0.087	30	60	0.607	163	288	1.660	2.075	2.4	14	17	20
953117	12	9	0.087	30	60	0.651	183	324	1.660	2.075	2.6	14	17	20
953125	12	10	0.087	30	60	0.709	204	365	1.660	2.075	2.8	10	12	15
953133	12	12	0.087	30	60	0.732	244	419	1.660	2.075	2.9	10	12	15
953141	12	15	0.087	30	60	0.813	305	516	1.660	2.075	3.3	10	12	15
953158	12	19	0.087	30	80	0.896	387	657	1.660	2.075	3.6	10	12	15
953166	12	20	0.087	30	80	0.942	407	699	1.660	2.075	3.8	10	12	15
953174	12	25	0.087	30	80	1.043	509	860	1.660	2.075	5.2	9	11	13
953182	12	30	0.087	30	80	1.104	611	1005	1.660	2.075	5.5	9	11	13
953190	12	37	0.087	30	80	1.191	753	1211	1.660	2.075	6.0	8	10	12
<b>10 AWG</b>														
952861	10	2	0.111	30	45	0.431	65	124	1.040	1.300	1.7	30	30	30
952879	10	3	0.111	30	45	0.459	97	165	1.040	1.300	1.8	30	30	30
952895	10	4	0.111	30	45	0.502	130	210	1.040	1.300	2.0	24	28	30
952887	10	5	0.111	30	60	0.581	162	273	1.040	1.300	2.3	24	28	30
952903	10	6	0.111	30	60	0.632	194	323	1.040	1.300	2.5	24	28	30



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	AWG	No.	inch	mil	mil	inch	lb /1000ft	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
TBA	10	7	0.111	30	60	0.632	227	358	1.040	1.300	2.5	21	24	28
952911◇	10	7	0.111	30	60	0.632	227	358	1.040	1.300	2.5	21	24	28
952929	10	8	0.111	30	60	0.685	259	410	1.040	1.300	2.7	21	24	28
952937◇	10	9	0.111	30	60	0.736	291	461	1.040	1.300	2.9	21	24	28
952945	10	10	0.111	30	60	0.803	324	519	1.040	1.300	3.2	15	17	20
952952◇	10	12	0.111	30	60	0.830	389	600	1.040	1.300	3.3	15	17	20
952960	10	15	0.111	30	80	0.964	486	777	1.040	1.300	3.9	15	17	20
952978	10	19	0.111	30	80	1.014	615	941	1.040	1.300	5.1	15	17	20
952986	10	20	0.111	30	80	1.067	648	1001	1.040	1.300	5.3	15	17	20
952994	10	25	0.111	30	80	1.184	810	1236	1.040	1.300	5.9	13	15	18
953000	10	30	0.111	30	80	1.254	971	1450	1.040	1.300	6.3	13	15	18
953018	10	37	0.111	30	80	1.355	1198	1755	1.040	1.300	6.8	12	14	16

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, based on ambient temperature of 30°C (86°F). Ampacities have been adjusted to article 240.4 (D) and Table 310.15 (B)(3) for more than 3 current carrying conductors

