CU 600V XLPE Insulation Thermoplastic LSZH-TP Jacket. XHHW-2

Type TC-ER Control Cable 600Volt Copper Conductors, Cross Linked Polyethylene (XLPE) Insulation XHHW-2 Thermoplastic SOLONON® Low Smoke Zero Halogen (LSZH-TP) Jacket, 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:** Cross Linked Polyethylene (XLPE) Type XHHW-2 for cables 14 AWG or larger, 30 Mils thick for all cable sizes
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:** Thermoplastic SOLONON® Low Smoke Zero Halogen (LSZH-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. 16 AWG wire is made in accordance with UL 66: Fixture Wire.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 66 Fixture Wire
- 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

UPDATED: Aug. 18, 2023, 2:40 p.m.UTC REVISION: 1.000.001

SAMPLE PRINT LEGEND:

For 16 AWG:
SOUTHWIRE MASTER-DESIGN {UL} AWG XX 7 CDRS TYPE TC-ER XLPE CDRS SOLONON 90C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS YEAR {SEQUENTIAL FOOTAGE MARKS} SEQ FEET

For 14 AWG and larger:
SOUTHWIRE MASTER-DESIGN {UL} AWG XX 7 CDRS TYPE TC-ER XHHW-2 CDRS SOLONON 90C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS YEAR {SEQUENTIAL FOOTAGE MARKS} SEQ FEET

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	Min Bending Radius	Allowable Ampacity At 60°C	Allowable Ampacity 75°C	Allowable Ampacity 90°C
	AWG	No.	strands	inch	mil	mil	inch	lb /1000ft	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
14 AWG															
561312	14	2	7	0.070	30	45	0.349	25	67	2.631	3.170	1.3	15	20	25
890159	14	3	7	0.070	30	45	0.373	50	93	2.631	3.170	1.4	15	20	25
561313	14	4	7	0.070	30	45	0.402	51	111	2.631	3.170	1.6	12	16	20
563383	14	5	7	0.070	30	45	0.443	64	135	2.631	3.170	1.7	12	16	20
561314	14	7	7	0.070	30	45	0.478	89	171	2.631	3.170	1.9	10	14	17
TBA	14	6	7	0.070	30	45	0.492	88	156	2.631	3.170	1.9	12	16	20
TBA	14	8	7	0.070	30	60	0.562	114	212	2.631	3.170	2.2	10	14	17
561315	14	9	7	0.070	30	60	0.587	115	233	2.631	3.170	2.3	10	14	17
597524	14	10	7	0.070	30	60	0.649	127	262	2.631	3.170	2.5	7	10	12
563194	14	19	7	0.070	30	60	0.774	242	440	2.631	3.170	3.0	7	10	12
TBA	14	20	7	0.070	30	80	0.862	267	488	2.631	3.170	3.4	7	10	12
TBA	14	25	7	0.070	30	80	0.952	331	590	2.631	3.170	3.8	6	9	11
TBA	14	30	7	0.070	30	80	1.005	395	688	2.631	3.170	5.0	6	9	11
574617	14	37	7	0.070	30	80	1.075	719	1209	2.631	3.170	5.3	6	8	10
12 AWG															
574615	12	2	7	0.088	30	45	0.384	40	89	1.662	2.002	1.5	20	25	30
890122	12	3	7	0.088	30	45	0.412	61	121	1.662	2.002	1.6	20	25	30
561319	12	4	7	0.088	30	45	0.445	81	152	1.662	2.002	1.7	16	20	24
574612	12	5	7	0.088	30	45	0.487	101	180	1.662	2.002	1.9	16	20	24
574613	12	7	7	0.088	30	60	0.567	142	257	1.662	2.002	2.2	14	17	21
TBA	12	6	7	0.088	30	60	0.576	142	237	1.662	2.002	2.3	16	20	24
TBA	12	8	7	0.088	30	60	0.621	182	294	1.662	2.002	2.4	14	17	21
TBA	12	9	7	0.088	30	60	0.666	203	326	1.662	2.002	2.6	14	17	21
TBA	12	10	7	0.088	30	60	0.724	223	358	1.662	2.002	2.8	10	12	15
574614	12	12	7	0.088	30	60	0.732	244	411	1.662	2.002	2.9	10	12	15
TBA	12	15	7	0.088	30	80	0.869	325	535	1.662	2.002	3.4	10	12	15
TBA	12	20	7	0.088	30	80	0.957	426	679	1.662	2.002	3.8	10	12	15
TBA	12	25	7	0.088	30	80	1.060	528	827	1.662	2.002	5.3	9	11	13
TBA	12	30	7	0.088	30	80	1.120	630	967	1.662	2.002	5.6	9	11	13
TBA	12	37	7	0.088	30	80	1.208	772	1164	1.662	2.002	6.0	8	10	12
10 AWG															
577144	10	3	7	0.113	30	45	0.459	97	166	1.040	1.253	1.8	30	35	40
566720	10	4	7	0.113	30	45	0.502	129	214	1.040	1.253	2.0	24	28	32
TBA	10	5	7	0.113	30	60	0.599	193	291	1.040	1.253	2.3	24	28	32
TBA	10	6	7	0.113	30	60	0.651	226	338	1.040	1.253	2.6	24	28	32
TBA	10	7	7	0.113	30	60	0.651	258	377	1.040	1.253	2.6	21	24	28
TBA	10	8	7	0.113	30	60	0.704	290	422	1.040	1.253	2.8	21	24	28
TBA	10	10	7	0.113	30	80	0.864	355	549	1.040	1.253	3.4	15	17	20
574619	10	12	7	0.113	30	80	0.879	388	629	1.040	1.253	3.5	15	17	20

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	Min Bending Radius	Allowable Ampacity At 60°C	Allowable Ampacity 75°C	Allowable Ampacity 90°C
	AWG	No.	strands	inch	mil	mil	inch	lb /1000ft	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
TBA	10	15	7	0.113	30	80	0.986	517	765	1.040	1.253	3.9	15	17	20
TBA	10	19	7	0.113	30	80	1.037	646	930	1.040	1.253	5.1	15	17	20
TBA	10	20	7	0.113	30	80	1.090	678	977	1.040	1.253	5.4	15	17	20
TBA	10	25	7	0.113	30	80	1.210	840	1193	1.040	1.253	6.0	13	15	18
TBA	10	30	7	0.113	30	80	1.280	1002	1401	1.040	1.253	6.4	13	15	18
TBA	10	37	7	0.113	30	80	1.383	1228	1693	1.040	1.253	6.9	12	14	16

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.