Multi-Conductor CU 600V PVC Type TC SDN Flexible Control Cable

Type TC-SDN® Control Cable 600 Volt Flexible Strand Bare Copper Conductors, Polyvinyl Chloride (PVC) insulation with nylon sheath THHN/THWN, Black Neoprene Jacket, Oil and Sunlight Resistant 90°C Dry 75°C Wet



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class K, Flexible stranded bare annealed copper per ASTM B3, B172, and B174
2. **Insulation:** Polyvinyl Chloride (PVC) with nylon sheath THHN/THWN. Color code Method 1 Table 2 with no white or green.
3. **Fillers:** Polypropylene or paper to form round core
4. **Binder:** Two mil mylar tape helically applied over core
5. **Jacket:** Black heavy duty sunlight and oil resistant Neoprene

APPLICATIONS AND FEATURES:

Southwire SDN (Small Diameter Neoprene) flexible control tray cables 600 Volt are suited for use in industrial power or control circuits where small diameter, flame retardant cables are desired. These cables are suitable for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial and where superior electrical properties are desired. Southwire SDN cables listed as THHN/THWN 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 150°C for short circuit conditions. For uses in Class I, II, Division 2 hazardous locations per NEC Article 501 and 502. Southwire SDN flexible control cable is CSA listed Type TC and as Control and Instrumentation Cable Type (CIC)

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors
- ASTM B174 Standard Specification for Bunch-Stranded Copper
- UL 66 Fixture Wire
- 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
- CSA C22.2 No.230 Tray Cables - Rated TC-ER (1/0 AWG and Larger)
- CSA C22.2 No. 239 Control and instrumentation cables
- ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2

SAMPLE PRINT LEGEND:

SOUTHWIRE® SDN XXX AWG (0.82mm2) XX/C TC 90°C DRY 75°C WET SUN RES 600V DIR BUR E75755 (UL) --- 156205 (CSA) CIC 90°C DRY 75°C WET PVC/N (-40°C) 600V SR OIL RES FT4

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Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	DC Resistance @ 25°C	Min Bending Radius	Allowable Ampacity 75°C	Allowable Ampacity 90°C
	AWG	No.	mil	mil	inch	lb /1000ft	Ω /1000ft	inch	Amp	Amp
18 AWG										
569925	18	3	20	45	0.290	52	6.660	1.2	7	7
16 AWG										
569912	16	2	20	45	0.302	54	4.180	1.2	10	10
571340	16	3	20	45	0.313	62	4.180	1.3	10	10
18 AWG										
569926	18	5	20	45	0.334	71	6.660	1.3	7	7
584100	18	5	20	45	0.334	70	6.660	1.3	7	7
16 AWG										
569914	16	4	20	45	0.341	75	4.180	1.4	10	10
14 AWG										
569931	14	3	20	45	0.344	80	2.630	1.4	15	15
18 AWG										
569927	18	6	20	45	0.360	84	6.660	1.4	7	7
569928	18	8	20	45	0.365	94	6.660	1.5	7	7
16 AWG										
569915	16	5	20	45	0.372	92	4.180	1.5	10	10
14 AWG										
569932	14	4	20	45	0.377	99	2.630	1.5	15	15
12 AWG										
569937	12	3	20	45	0.383	115	1.650	1.5	20	20
16 AWG										
569916	16	6	20	45	0.402	105	4.180	1.6	10	10
569917	16	7	20	45	0.402	113	4.180	1.6	10	10
14 AWG										
569933	14	5	20	45	0.413	121	2.630	1.7	15	15
18 AWG										
571341	18	10	20	50	0.417	116	6.660	1.7	7	7
12 AWG										
569938	12	4	20	45	0.422	140	1.650	1.7	20	20
18 AWG										
569929	18	12	20	50	0.442	131	6.660	1.8	7	7
14 AWG										
569934	14	6	20	45	0.447	139	2.630	1.8	15	15
16 AWG										
569918	16	8	20	55	0.457	136	4.180	1.8	10	10
18 AWG										
569943	18	14	20	50	0.462	149	6.660	1.8	7	7
12 AWG										
569940	12	5	20	45	0.464	176	1.650	1.9	20	20
16 AWG										
569910	16	10	20	45	0.464	165	4.180	1.9	7	9

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Stock Number	Cond. Size	Cond. Number	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	DC Resistance @ 25°C	Min Bending Radius	Allowable Ampacity 75°C	Allowable Ampacity 90°C
	AWG	No.	mil	mil	inch	lb /1000ft	Ω /1000ft	inch	Amp	Amp
570089	16	9	20	55	0.487	150	4.180	1.9	10	10
					12 AWG					
569941	12	6	20	45	0.504	208	1.650	2.0	20	20
					18 AWG					
571342	18	16	20	50	0.515	170	6.660	2.1	7	7
					14 AWG					
570091	14	8	20	65	0.519	201	2.630	2.1	15	15
					16 AWG					
569919	16	12	20	60	0.524	192	4.180	2.1	7	9
					18 AWG					
569944	18	19	20	60	0.552	208	6.660	2.2	7	7
					16 AWG					
570090	16	14	20	60	0.568	218	4.180	2.3	7	9
569920	16	16	20	60	0.579	242	4.180	2.3	7	9
					14 AWG					
569935	14	10	20	65	0.595	233	2.630	2.4	11	12
570092	14	12	20	65	0.602	265	2.630	2.4	11	12
					12 AWG					
569942	12	8	20	80	0.620	297	1.650	2.5	17	20
					16 AWG					
569922	16	19	20	60	0.628	279	4.180	2.5	7	9
					18 AWG					
571389	18	24	20	70	0.651	266	6.660	2.6	6	6
					16 AWG					
569911	16	24	20	65	0.670	346	4.180	2.7	7	8
					14 AWG					
569936	14	16	20	65	0.678	341	2.630	2.7	11	12
					12 AWG					
571313	12	12	20	65	0.688	401	1.650	2.8	12	15
					18 AWG					
569930	18	37	20	70	0.740	372	6.660	3.0	6	6
					16 AWG					
569923	16	30	20	70	0.765	431	4.180	3.1	7	8
					14 AWG					
570094	14	24	20	70	0.784	489	2.630	3.1	9	11
					16 AWG					
569924	16	37	20	90	0.860	545	4.180	3.4	7	8
					14 AWG					
570095	14	37	20	90	0.979	754	2.630	3.9	8	9

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.

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† Ampacities have been adjusted for more than Three Current-Carrying Conductors.
* Inductive impedance is based on non-ferrous conduit with one diameter spacing.