Cellular Power Cable

600 Volt Tray Cable (TC-ER) Rated for Exposed Run. Flexible Tinned Copper Conductors. THHN, THWN Conductors rated 75°C Wet and 90°C Dry. Uninsulated, Flexible Tinned Copper Ground Wire and Drain Wire. Overall Aluminum Foil Shield and Tinned Copper Braid Shield. Overall TPE or PVC Jacket. Rated FT4 Flame Resistant, Sunlight Resistant and -40°C.

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class K Stranded Tinned Copper per ASTM B33, B172 & B174. #8 and #6 AWG 19 Strand per ASTM B787
2. **Insulation:** Polyvinyl Chloride (PVC) Insulated Conductors with Nylon Sheath.
   Color: 2 Conductor Construction - BLK, RED
   Color: 6 Conductor Construction - BLK-BLU/RED-BLU/BLK-ORG/RED-ORG/BLK-GRN/RED-GRN
3. **Ground:** Tinned Copper
4. **Drain Wire:** Tinned Copper
   Phase Size: 12awg. Drain Size/Strands: 16awg/7
   Phase Size: 10awg. Drain Size/Strands: 14awg/7
   Phase Size: 8 and 6 awg. Drain Size/Strands: 12awg/7
5. **Filler:** Polypropylene as needed to make round
6. **Tape Shield:** Aluminum/Poly/Aluminum (3-Layer) applied Helically over cabled assembly
7. **Braid Shield:** 34 AWG Tinned Copper with 85% coverage applied over Tape Shield
8. **Overall Jacket:** Black sunlight resistant
   2 Conductor: Thermoplastic Elastomer (TPE) Jacket
   6 Conductor: Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire Tray Cable is suitable for use in industrial power or control circuits. Primary installations include cable trays, raceways and outdoor locations where supported by a messenger. These constructions are listed for exposed runs (TC-ER) per NEC 336.10. Type TC in sizes 8 AWG and larger is listed for direct burial and for use in Class 1, Division 2 hazardous locations and Class 1 Control circuits. This cable may be used at temperatures not to exceed 75°C in wet locations and 90°C in dry locations.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B33 Standard Specification for Tin-Coated 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
- ASTM B787 19 Wire Combination Unilay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables

UPDATED: Dec. 31, 2024, 11:07 p.m.UTC REVISION: 1.000.003

- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- UL 2882 Outline of Investigation for Radio Head Cable
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE® E75755 {UL} X/C X AWG (XX.X{mm2}) XXX STRAND CLASS K + 1/C X AWG (X.XX{mm2}) GDING COND THHN/THWN 90°C DRY OR 75°C WET TYPE TC-ER 600V FT4 SUN RES

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Conductor	Insul. Thickness	Ground	Approx. OD	Approx. Weight
	AWG/Kcmil	No.	No.	inch	mil	No. x AWG	inch	lb/1000ft
TBA	14	3	41	0.073	20	1 x 14	0.259	52
TBA	12	2	65	0.094	20	1 x 12	0.282	54
TBA	12	3	65	0.094	20	1 x 12	0.304	78
CTD-0210T-1A-01	10	2	26	0.125	25	1 x 10	0.364	88
CTD-0608T-1A-01	8	6	7	0.141	35	1 x 10	0.635	368
CTD-0208T-1A-01	8	2	41	0.145	35	1 x 10	0.444	140
CTD-0606T-1A-01	6	6	7	0.177	35	1 x 8	0.743	563
CTD-0206T-1A-01	6	2	65	0.186	35	1 x 8	0.526	209
CTD-0604T-1A-01	4	6	7	0.225	50	1 x 8	0.977	915

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
Note:
1. Only 2/C cables are rated for direct burial.
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.

Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance	Max Pull Tension	Max Pull Tension	Min Bending Radius	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	Ω/1000ft	lb	lb	inch	Amp	Amp
14	2.814	3.391	0.058	98	98	1.0	20	25
12	1.774	2.137	0.054	104	104	1.1	25	30
12	1.774	2.137	0.054	156	156	1.2	25	30
10	1.081	1.302	0.050	166	166	1.5	35	40
8	0.653	0.786	0.052	633	633	2.5	40	44
8	0.679	0.818	0.052	264	264	1.8	50	55
6	0.411	0.495	0.051	1007	1007	3.0	52	60
6	0.435	0.524	0.051	419	419	2.1	65	75
4	0.258	0.310	0.048	1602	1602	3.9	68	76

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.