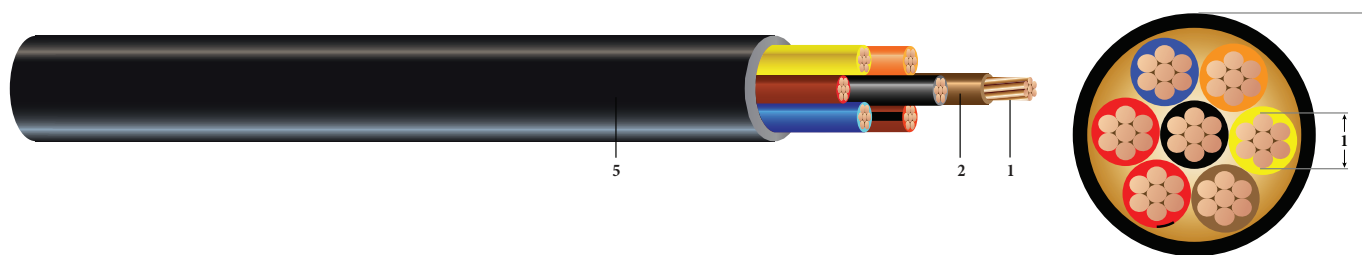


CU 600V PVC THHN PVC Control Cable Type TC-ER

Type TC-ER Control Cable 600Volt Copper Conductors, Polyvinyl Chloride (PVC) with nylon layer Insulation THHN Polyvinyl Chloride (PVC) Jacket, Control Cable Conductor Identification Method 1 Table 2



Images not to scale. See Table for Dimensions

CONSTRUCTION:

- Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8 for 14, 12, and 10 AWG cables. 26 strands class K bare copper per ASTM B3 and B174 for 16 AWG cables
- Insulation:** Polyvinyl Chloride (PVC) with nylon layer THHN, 19 Mils thick for 16, 14, 12 AWG cables and 24 Mils for 10 AWG cables, Type TFFH for 16 AWG cable and Type THHN or THWN for 14, 12, 10 AWG cables
- Filler:** Polypropylene filler on cables with 5 or less conductors
- Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
- Overall Jacket:** Polyvinyl Chloride (PVC) 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 75°C in wet locations and 90°C in 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
- ASTM B8 - Concentric-lay-standard copper
- UL 83 - Thermoplastic Insulated wires and cables
- UL 1277 - Electrical Power and Control Cable
- UL 1685 - Flame Test
- UL 1581 - Electrical Wires, Cables and Flexible Cords
- IEEE 1202/FT4 - Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr)
- ICEA S-73-532 - Standard for Control, Thermocouple Extension and Instrumentation Cables
- ICEA S-58-679 - Control Cable Conductor Identification Method 1 Table 2
- ICEA S-95-658 NEMA WC70 - Power cables rated 2000 volts or less for the distribution of electrical energy

SAMPLE PRINT LEGEND:

SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU THHN PVC/PVC 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]



Southwire[®]

Measurements and Electrical Data

#16 AWG

| Stock Code | Cond. Number | Dia. Over Cond. (1) | Jacket Thickness | Approx. OD (5) | Copper Weight | Approx. Weight | Min Bending Radius | DC Resis. @ 25°C | AC Resis @ 90°C | Allowable Ampacities* 60/75/90°C |
|------------|--------------|---------------------|------------------|----------------|---------------|----------------|--------------------|------------------|-----------------|----------------------------------|
| | | inches | mils | inches | lbs./MFT | lbs./MFT | inches | Ω/MFT | Ω/MFT | Amps |
| 604843 ◊ | 2 | 0.056 | 45 | 0.279 | 16 | 44 | 1.1 | 4.180 | 5.226 | 10/10/10 |
| 604850 ◊ | 3 | 0.056 | 45 | 0.294 | 24 | 56 | 1.2 | 4.180 | 5.226 | 10/10/10 |
| 604868 ◊ | 4 | 0.056 | 45 | 0.318 | 32 | 69 | 1.3 | 4.180 | 5.226 | 10/10/10 |
| 604876 ◊ | 5 | 0.056 | 45 | 0.345 | 40 | 82 | 1.4 | 4.180 | 5.226 | 10/10/10 |
| TBA | 6 | 0.056 | 45 | 0.373 | 48 | 97 | 1.5 | 4.180 | 5.226 | 10/10/10 |
| 604892 ◊ | 7 | 0.056 | 45 | 0.373 | 56 | 106 | 1.5 | 4.180 | 5.226 | 9/10/10 |
| TBA | 8 | 0.056 | 45 | 0.402 | 64 | 121 | 1.6 | 4.180 | 5.226 | 9/10/10 |
| 604918 ◊ | 9 | 0.056 | 45 | 0.430 | 72 | 135 | 1.7 | 4.180 | 5.226 | 9/10/10 |
| TBA | 10 | 0.056 | 45 | 0.467 | 81 | 152 | 1.9 | 4.180 | 5.226 | 6/7/9 |
| 604942 ◊ | 12 | 0.056 | 45 | 0.482 | 97 | 174 | 1.9 | 4.180 | 5.226 | 6/7/9 |
| 604975 | 15 | 0.056 | 60 | 0.564 | 121 | 229 | 2.3 | 4.180 | 5.226 | 6/7/9 |
| 605014 ◊ | 19 | 0.056 | 60 | 0.592 | 153 | 273 | 2.4 | 4.180 | 5.226 | 6/7/9 |
| TBA | 20 | 0.056 | 60 | 0.621 | 161 | 291 | 2.5 | 4.180 | 5.226 | 6/7/9 |
| 605071 | 25 | 0.056 | 60 | 0.686 | 201 | 356 | 2.7 | 4.180 | 5.226 | 6/7/8 |
| 605121 | 30 | 0.056 | 60 | 0.724 | 242 | 415 | 2.9 | 4.180 | 5.226 | 6/7/8 |
| 605196 ◊ | 37 | 0.056 | 60 | 0.780 | 298 | 498 | 3.1 | 4.180 | 5.226 | 5/6/7 |

Measurements and Electrical Data

#14 AWG

| Stock Code | Cond. Number | Dia. Over Cond. (1) | Jacket Thickness | Approx. OD (5) | Copper Weight | Approx. Weight | Min Bending Radius | DC Resis. @ 25°C | AC Resis @ 90°C | Allowable Ampacities* 60/75/90°C |
|------------|--------------|---------------------|------------------|----------------|---------------|----------------|--------------------|------------------|-----------------|----------------------------------|
| | | inches | mils | inches | lbs./MFT | lbs./MFT | inches | Ω/MFT | Ω/MFT | Amps |
| 408484 ◊ | 2 | 0.070 | 45 | 0.305 | 26 | 58 | 1.2 | 2.630 | 3.288 | 15/15/15 |
| 408518 ◊ | 3 | 0.070 | 45 | 0.322 | 38 | 75 | 1.3 | 2.630 | 3.288 | 15/15/15 |
| 408542 ◊ | 4 | 0.070 | 45 | 0.350 | 51 | 93 | 1.4 | 2.630 | 3.288 | 14/15/15 |
| 408575 ◊ | 5 | 0.070 | 45 | 0.380 | 64 | 113 | 1.5 | 2.630 | 3.288 | 14/15/15 |
| 608836 | 6 | 0.070 | 45 | 0.413 | 77 | 133 | 1.7 | 2.630 | 3.288 | 14/15/15 |
| 408633 ◊ | 7 | 0.070 | 45 | 0.413 | 90 | 147 | 1.7 | 2.630 | 3.288 | 12/15/15 |
| 608703 | 8 | 0.070 | 45 | 0.446 | 102 | 168 | 1.8 | 2.630 | 3.288 | 12/15/15 |
| 408740 ◊ | 9 | 0.070 | 45 | 0.478 | 115 | 189 | 1.9 | 2.630 | 3.288 | 12/15/15 |
| 605477 | 10 | 0.070 | 45 | 0.520 | 128 | 212 | 2.1 | 2.630 | 3.288 | 9/11/12 |
| 408807 ◊ | 12 | 0.070 | 60 | 0.568 | 154 | 260 | 2.3 | 2.630 | 3.288 | 9/11/12 |
| 412874 | 15 | 0.070 | 60 | 0.627 | 192 | 318 | 2.5 | 2.630 | 3.288 | 9/11/12 |
| 412908 ◊ | 19 | 0.070 | 60 | 0.658 | 243 | 383 | 2.6 | 2.630 | 3.288 | 9/11/12 |
| 608729 | 20 | 0.070 | 60 | 0.691 | 256 | 408 | 2.8 | 2.630 | 3.288 | 9/11/12 |
| 552133 ◊ | 25 | 0.070 | 60 | 0.765 | 320 | 502 | 3.1 | 2.630 | 3.288 | 8/9/11 |
| 557553 | 30 | 0.070 | 60 | 0.810 | 384 | 587 | 3.2 | 2.630 | 3.288 | 8/9/11 |
| 552190 ◊ | 37 | 0.070 | 80 | 0.913 | 474 | 741 | 3.7 | 2.630 | 3.288 | 7/8/10 |

All dimensions are nominal and subject to normal manufacturing tolerance.

* Ampacities are based on Table 310.15 (B)(16) of the NEC, 2014 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F)

◊ Standard stock item



Measurements and Electrical Data

#12 AWG

| Stock Code | Cond. Number | Dia. Over Cond. (1) | Jacket Thickness | Approx. OD (5) | Copper Weight | Approx. Weight | Min Bending Radius | DC Resis. @ 25°C | AC Resis @ 90°C | Allowable Ampacities* 60/75/90°C |
|------------|--------------|---------------------|------------------|----------------|---------------|----------------|--------------------|------------------|-----------------|----------------------------------|
| | | inches | mils | inches | lbs./MFT | lbs./MFT | inches | Ω/MFT | Ω/MFT | Amps |
| 408468 ◊ | 2 | 0.087 | 45 | 0.340 | 41 | 79 | 1.4 | 1.660 | 2.075 | 20/20/20 |
| 408526 ◊ | 3 | 0.087 | 45 | 0.360 | 61 | 104 | 1.4 | 1.660 | 2.075 | 20/20/20 |
| 408559 ◊ | 4 | 0.087 | 45 | 0.392 | 81 | 131 | 1.6 | 1.660 | 2.075 | 16/20/20 |
| 408583 ◊ | 5 | 0.087 | 45 | 0.428 | 102 | 160 | 1.7 | 1.660 | 2.075 | 16/20/20 |
| 608737 | 6 | 0.087 | 45 | 0.466 | 122 | 189 | 1.9 | 1.660 | 2.075 | 16/20/20 |
| 408641 ◊ | 7 | 0.087 | 45 | 0.466 | 143 | 211 | 1.9 | 1.660 | 2.075 | 14/17/20 |
| 608745 | 8 | 0.087 | 45 | 0.504 | 163 | 241 | 2.0 | 1.660 | 2.075 | 14/17/20 |
| 408757 ◊ | 9 | 0.087 | 60 | 0.572 | 183 | 287 | 2.3 | 1.660 | 2.075 | 14/17/20 |
| 608752 | 10 | 0.087 | 60 | 0.621 | 204 | 322 | 2.5 | 1.660 | 2.075 | 10/12/15 |
| 408815 ◊ | 12 | 0.087 | 60 | 0.641 | 244 | 371 | 2.6 | 1.660 | 2.075 | 10/12/15 |
| 412882 | 15 | 0.087 | 60 | 0.710 | 305 | 457 | 2.8 | 1.660 | 2.075 | 10/12/15 |
| 412916 | 19 | 0.087 | 60 | 0.746 | 387 | 555 | 3.0 | 1.660 | 2.075 | 10/12/15 |
| TBA | 20 | 0.087 | 60 | 0.785 | 407 | 590 | 3.1 | 1.660 | 2.075 | 10/12/15 |
| 552166 | 25 | 0.087 | 80 | 0.911 | 509 | 761 | 3.6 | 1.660 | 2.075 | 9/11/13 |
| 609180 | 30 | 0.087 | 80 | 0.963 | 611 | 891 | 3.9 | 1.660 | 2.075 | 9/11/13 |
| 552224 | 37 | 0.087 | 80 | 1.037 | 753 | 1075 | 5.2 | 1.660 | 2.075 | 8/10/12 |

Measurements and Electrical Data

#10 AWG

| Stock Code | Cond. Number | Dia. Over Cond. (1) | Jacket Thickness | Approx. OD (5) | Copper Weight | Approx. Weight | Min Bending Radius | DC Resis. @ 25°C | AC Resis @ 90°C | Allowable Ampacities* 60/75/90°C |
|------------|--------------|---------------------|------------------|----------------|---------------|----------------|--------------------|------------------|-----------------|----------------------------------|
| | | inches | mils | inches | lbs./MFT | lbs./MFT | inches | Ω/MFT | Ω/MFT | Amps |
| 408492 ◊ | 2 | 0.111 | 45 | 0.407 | 65 | 117 | 1.6 | 1.040 | 1.300 | 30/30/30 |
| 408534 ◊ | 3 | 0.111 | 45 | 0.433 | 97 | 156 | 1.7 | 1.040 | 1.300 | 30/30/30 |
| 408567 ◊ | 4 | 0.111 | 45 | 0.473 | 130 | 199 | 1.9 | 1.040 | 1.300 | 24/28/30 |
| 408591 ◊ | 5 | 0.111 | 45 | 0.519 | 162 | 244 | 2.1 | 1.040 | 1.300 | 24/28/30 |
| 608778 | 6 | 0.111 | 60 | 0.596 | 194 | 306 | 2.4 | 1.040 | 1.300 | 24/28/30 |
| 408658 ◊ | 7 | 0.111 | 60 | 0.596 | 227 | 340 | 2.4 | 1.040 | 1.300 | 21/24/28 |
| 608786 | 8 | 0.111 | 60 | 0.645 | 259 | 389 | 2.6 | 1.040 | 1.300 | 21/24/28 |
| 408765 ◊ | 9 | 0.111 | 60 | 0.693 | 291 | 438 | 2.8 | 1.040 | 1.300 | 21/24/28 |
| 608794 | 10 | 0.111 | 60 | 0.755 | 324 | 492 | 3.0 | 1.040 | 1.300 | 15/17/20 |
| 408823 ◊ | 12 | 0.111 | 60 | 0.780 | 389 | 570 | 3.1 | 1.040 | 1.300 | 15/17/20 |
| 601658 | 15 | 0.111 | 80 | 0.908 | 486 | 737 | 3.6 | 1.040 | 1.300 | 15/17/20 |
| 601666 | 19 | 0.111 | 80 | 0.954 | 615 | 894 | 3.8 | 1.040 | 1.300 | 15/17/20 |
| 608802 | 20 | 0.111 | 80 | 1.003 | 648 | 950 | 5.0 | 1.040 | 1.300 | 15/17/20 |
| 608810 | 25 | 0.111 | 80 | 1.112 | 810 | 1173 | 5.6 | 1.040 | 1.300 | 13/15/18 |
| 608828 | 30 | 0.111 | 80 | 1.178 | 971 | 1377 | 5.9 | 1.040 | 1.300 | 13/15/18 |
| TBA | 37 | 0.111 | 80 | 1.271 | 1198 | 1667 | 6.4 | 1.040 | 1.300 | 12/14/16 |

All dimensions are nominal and subject to normal manufacturing tolerance.

* Ampacities are based on Table 310.15 (B)(16) of the NEC, 2014 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F)

◊ Standard stock item

