

## Multi-Conductor CU 600V PVC THHN or TFFN/TFN PVC Control Cable. Silicone Free

Type TC-ER Control Cable 600Volt Copper Conductors, Polyvinyl Chloride (PVC) with nylon layer Insulation THHN or TFFN/TFN 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:

- Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8 for 14, 12, and 10 AWG cables. Class K bare copper per ASTM B3 and B174 for 16 AWG (26 strands) and 18 AWG (16 strands) cables
- Insulation:** Polyvinyl Chloride (PVC) with nylon layer 19 Mils thick for 18, 16, 14, 12 AWG cables and 24 Mils for 10 AWG cables, Type TFFN/TFN for 16 AWG cable and Type THHN or THWN for 14, 12, 10 AWG cables. Types THHN or THWN are VW-1 Rated
- 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, 105°C for emergency overload, and 150°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. Silicone Free. Types THHN or THWN are VW-1 Rated.

### SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- 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
- 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



**SAMPLE PRINT LEGEND:**

{SQFTG} SOUTHWIRE{R} MASTER-DESIGN {UL} XX AWG (X.XX{mm<sup>2</sup>}) CU XX CDRS TYPE TC-ER THHN OR THWN CDRS 90 {D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {NOM}-ANCE

Stock No: 408633

SOUTHWIRE{R} MASTER-DESIGN E75755 {UL} 14 AWG (2.08{mm<sup>2</sup>}) CU 7 CDRS TYPE TC-ER-JP THHN OR THWN CDRS 90 {D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {NOM}-ANCE



**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>10 AWG</b> |            |              |                     |                  |                  |            |               |                |                      |                      |                    |                              |                           |                           |
| 608828        | 10         | 30           | 0.111               | 24               | 80               | 1.178      | 971           | 1377           | 1.040                | 1.300                | 5.9                | 13                           | 15                        | 18                        |

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 with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30°C (86°F). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.

2/C cables are not listed as TC-ER

^ Stock No: 408633 TYPE TC-ER-JP

! Ripcord under jacket

