

## Multi-Conductor CU 600 or 1000 Volt XLPE XHHW-2 PVC Control Cable

Type TC-ER Control Cable 600 or 1000 Volt Copper Conductors, Cross Linked Polyethylene (XLPE) Insulation XHHW-2 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
- Insulation:** Cross Linked Polyethylene (XLPE) XHHW-2, 30 Mils thick for all cable sizes. 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 or 1000 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. VW-1 Rated.

### SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 44 VW-1 Vertical flame test on individual conductors
- 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} 14 AWG (2.08{mm<sup>2</sup>}) CU 37/C TYPE TC-ER XHHW-2 CDRS 90{D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600V or 1000V {NOM}-ANCE {YYYY}



**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 | 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>12 AWG</b> |            |              |                     |                  |                  |            |               |                |               |                      |                    |                              |                           |                           |
| 953117◇       | 12         | 9            | 0.087               | 30               | 60               | 0.651      | 183           | 324            | 1.660         | 2.075                | 2.6                | 14                           | 17                        | 20                        |

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 310.15 (B)(16) of the NEC, 2017 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F)

