# 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 |
| 12 AWG | | | | | | | | | | |
| 569940 | 12 | 5 | 20 | 45 | 0.464 | 176 | 1.650 | 1.9 | 20 | 20 |

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.

† Ampacities have been adjusted for more than Three Current-Carrying Conductors.

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