

MACHINE TRAY CONTROL CABLE CU 600/1000V PVC THHN SHIELDED

Type TC-ER Shielded Machine Tray Control Cable 600/1000 Volt Copper Conductors, Polyvinyl Chloride (PVC) with nylon layer Insulation Thermoplastic Elastomer Jacket, 90°C Dry 75°C Wet -40°C Cold Impact Identification Method 4

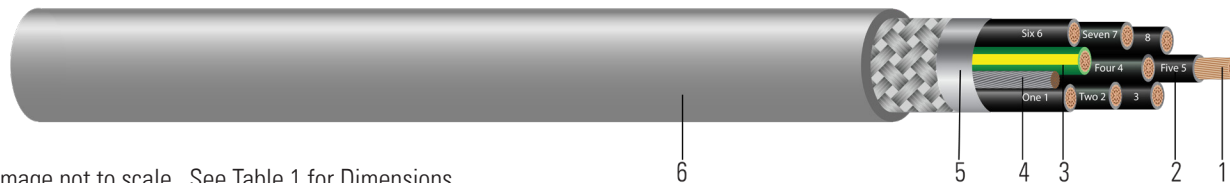


Image not to scale. See Table 1 for Dimensions

CONSTRUCTION:

- 1. Conductors:** Class K, Flexible stranded bare annealed copper per ASTM B3, B172, and B174
- 2. Insulation:** Polyvinyl Chloride (PVC) with nylon layer THHN
- 3. Ground:** One Green Ground with Yellow Stripe THHN
- 4. Drain Wire:** Tinned copper
- 5. Shielding:** 100% coverage Alum/Mylar/Alum Foil, overall 85% coverage tinned copper braid
- 6. Jacket:** Gray Thermoplastic Elastomer TPE: Other jacket colors available upon request.

APPLICATIONS AND FEATURES:

Southwire's shielded flexible machine tray control cables 600/1000 Volt conform to NFPA 79 and are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial 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, 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. Southwire's shielded flexible machine tray cable is ideal for use in for use in CNC machines, grinding, cutting, metal forming, buffing, bottling equipment, conveyors, processing & packaging equipment, assembly lines, control panels, food and beverage, oil sands, plant expansion, wind energy and data centers. Multiple approvals for multiple applications. Cable is rated for -40°C cold impact.

SPECIFICATIONS:

- ASTM B172, B174 Rope-Lay-Stranded, Bunch-Stranded Copper Conductors
- UL 83 - Thermoplastic Insulated Wires and Cables Type THHN
- UL 1063 - Machine Tool Wiring (MTW)
- UL 1277 - Type TC-ER
- UL 2277 - Type WTTC
- UL 1690 - Data Processing Cable (DP-1)
- UL 758 - AWM Style 20886
- NFPA 79 - Electrical Standard for Industrial Machinery
- IEEE 1202/FT4 - Vertical Tray Flame Test (70,000 Btu/hr)
- ICEA S-95-658 NEMA WC 70 - Power Cables Rated 2000 Volts or Less
- CSA22.2 Listing: No. 230 - c(UL) Type TC, No. 239 - c(UL) Type CIC, No. 210 - CSA AWM I/II A/B
- **CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive.**



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SAMPLE PRINT LEGEND:

Southwire XXAWG (XXmm2) XX/C PVC/Nylon SHLD Type TC-ER EXXXXX (UL) 600V 90°C Dry 75°C Wet Sun Res Oil Res I/II DIR BUR - 40°C OR MTW Flexing OR DP-1 OR WTTC 1000V OR AWM 20886 105°C 1000V OR c(UL) CIC/TC FT4 -- LLXXXXXX CSA AWM I/II A/B 105°C 1000V -40°C FT4 -- CE RoHS -2 Made in USA

Table 1 – Measurements and Electrical

| Stock Code | Conductor Size | Cond. OD | Number of Conductors (Include Full Size Grd) | Insulation Thickness | Drain Wire Size | Outer Jacket Thickness | Nominal OD (6) | Nominal Weight | *Ampacity NEC 310.15 (B) (16) amps | | | Min Bend Radius |
|---------------------|----------------|----------|--|----------------------|-----------------|------------------------|----------------|----------------|------------------------------------|------|------|-----------------|
| | AWG (strds) | inches | | mils | AWG | mils | inches | Lbs/MFT | 60°C | 75°C | 90°C | Inches |
| 677081 | 18 (16) | 0.044 | 2* | 20 | 20 | 47 | 0.239 | 53 | 7 | 7 | 7 | 3.52 |
| 588460 ^o | 18 (16) | 0.044 | 3 | 20 | 20 | 47 | 0.301 | 62 | 7 | 7 | 7 | 3.61 |
| 588461 ^o | 18 (16) | 0.044 | 4 | 20 | 20 | 47 | 0.326 | 73 | 7 | 7 | 7 | 3.91 |
| 588462 ^o | 18 (16) | 0.044 | 5 | 20 | 20 | 47 | 0.353 | 84 | 7 | 7 | 7 | 4.24 |
| 588463 ^o | 18 (16) | 0.044 | 7 | 20 | 20 | 47 | 0.378 | 102 | 7 | 7 | 7 | 4.54 |
| 630837 ^o | 18 (16) | 0.044 | 9 | 20 | 20 | 47 | 0.436 | 135 | 7 | 7 | 7 | 5.23 |
| 588464 ^o | 18 (16) | 0.044 | 12 | 20 | 20 | 47 | 0.472 | 162 | 7 | 7 | 7 | 5.66 |
| 598625 | 18 (16) | 0.044 | 18 | 20 | 20 | 62 | 0.576 | 239 | 7 | 7 | 7 | 6.91 |
| 598626 ^o | 18 (16) | 0.044 | 25 | 20 | 20 | 62 | 0.658 | 306 | 7 | 7 | 7 | 7.90 |
| 677082 | 16 (26) | 0.058 | 2* | 20 | 18 | 47 | 0.331 | 80 | 10 | 10 | 10 | 3.97 |
| 588465 ^o | 16 (26) | 0.058 | 3 | 20 | 18 | 47 | 0.331 | 80 | 10 | 10 | 10 | 3.97 |
| 588466 ^o | 16 (26) | 0.058 | 4 | 20 | 18 | 47 | 0.360 | 95 | 10 | 10 | 10 | 4.32 |
| 588467 ^o | 16 (26) | 0.058 | 5 | 20 | 18 | 47 | 0.391 | 113 | 10 | 10 | 10 | 4.69 |
| 588468 ^o | 16 (26) | 0.058 | 7 | 20 | 18 | 47 | 0.421 | 137 | 10 | 10 | 10 | 5.05 |
| 630836 ^o | 16 (26) | 0.058 | 9 | 20 | 18 | 47 | 0.485 | 179 | 10 | 10 | 10 | 5.82 |
| 588469 ^o | 16 (26) | 0.058 | 12 | 20 | 18 | 73 | 0.562 | 280 | 9 | 9 | 9 | 6.74 |
| 598627 | 16 (26) | 0.058 | 18 | 20 | 18 | 62 | 0.646 | 313 | 9 | 9 | 9 | 7.75 |
| 598628 ^o | 16 (26) | 0.058 | 25 | 20 | 18 | 76 | 0.746 | 407 | 8 | 8 | 8 | 8.95 |
| 677083 | 14 (41) | 0.074 | 2* | 20 | 16 | 47 | 0.349 | 84 | 15 | 15 | 15 | 4.19 |
| 588470 ^o | 14 (41) | 0.074 | 3 | 20 | 16 | 47 | 0.363 | 103 | 15 | 15 | 15 | 4.36 |
| 588471 ^o | 14 (41) | 0.074 | 4 | 20 | 16 | 47 | 0.396 | 126 | 15 | 15 | 15 | 4.75 |
| 588472 | 14 (41) | 0.074 | 5 | 20 | 16 | 47 | 0.431 | 147 | 15 | 15 | 15 | 5.17 |
| 588473 ^o | 14 (41) | 0.074 | 7 | 20 | 16 | 47 | 0.466 | 199 | 14 | 14 | 14 | 5.59 |
| 598629 ^o | 14 (41) | 0.074 | 12 | 20 | 16 | 62 | 0.623 | 310 | 10 | 10 | 10 | 7.48 |
| 598630 | 14 (41) | 0.074 | 18 | 20 | 16 | 62 | 0.720 | 422 | 10 | 10 | 10 | 8.64 |
| 598631 | 14 (41) | 0.074 | 25 | 20 | 16 | 82 | 0.875 | 670 | 9 | 9 | 9 | 10.50 |
| 677084 | 12 (65) | 0.092 | 2* | 25 | 14 | 47 | 0.387 | 112 | 20 | 20 | 20 | 4.64 |
| 677194 ^o | 12 (65) | 0.092 | 3 | 25 | 14 | 47 | 0.416 | 143 | 20 | 20 | 20 | 4.99 |
| 588474 ^o | 12 (65) | 0.092 | 4 | 25 | 14 | 47 | 0.442 | 176 | 20 | 20 | 20 | 5.30 |
| 588476 | 12 (65) | 0.092 | 5 | 25 | 14 | 47 | 0.483 | 210 | 20 | 20 | 20 | 5.80 |
| 588477 | 12 (65) | 0.092 | 7 | 25 | 14 | 62 | 0.555 | 323 | 17 | 17 | 17 | 6.66 |

* 2 conductor cables contain no green/yellow ground

* 2 conductor cables are Type TC only. Not TC-ER rated



Table 1 – Measurements and Electrical

| Stock Code | Conductor Size | Cond. OD | Number of Conductors (Include Full Size Grd) | Insulation Thickness | Drain Wire Size | Outer Jacket Thickness | Nominal OD (6) | Nominal Weight | *Ampacity NEC 310.15 (B) (16) amps | | | Min Bend Radius |
|---------------------|----------------|----------|--|----------------------|-----------------|------------------------|----------------|----------------|------------------------------------|------|------|-----------------|
| | AWG (strds) | inches | | mils | AWG | mils | inches | Lbs/MFT | 60°C | 75°C | 90°C | Inches |
| 677085 | 10 (105) | 0.116 | 2* | 25 | 12 | 62 | 0.455 | 159 | 28 | 28 | 28 | 5.46 |
| 677196 [◇] | 10 (105) | 0.116 | 3 | 25 | 12 | 62 | 0.556 | 223 | 28 | 28 | 28 | 6.67 |
| 588478 [◇] | 10 (105) | 0.116 | 4 | 25 | 12 | 62 | 0.556 | 265 | 28 | 28 | 28 | 6.67 |
| 588479 | 10 (105) | 0.116 | 5 | 25 | 12 | 62 | 0.608 | 372 | 28 | 28 | 28 | 7.30 |
| 588480 | 10 (105) | 0.116 | 7 | 25 | 12 | 62 | 0.658 | 447 | 24 | 24 | 24 | 7.90 |
| 643354 [◇] | 8 (168) | 0.153 | 4 | 36 | 10 | 60 | 0.717 | 413 | 40 | 40 | 40 | 8.60 |
| 643356 [◇] | 6 (273) | 0.202 | 4 | 36 | 8 | 60 | 0.817 | 578 | 55 | 55 | 55 | 9.80 |
| 643358 [◇] | 4 (427) | 0.254 | 4 | 46 | 6 | 80 | 1.017 | 888 | 68 | 68 | 68 | 12.20 |
| 643360 [◇] | 2 (651) | 0.302 | 4 | 46 | 4 | 80 | 1.237 | 1349 | 92 | 92 | 92 | 14.84 |

*Ampacity based on 310.15 (B) (16) up to and including 2000 volts, not more than 3 current-carrying conductors, ambient 30°C (86°F)

All dimensions are nominal and subject to normal manufacturing tolerances

◇Standard stock item

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* 2 conductor cables are Type TC only. Not TC-ER rated

