

# Southwire® CU 600/1000V PVC-Nylon Insulation TPE Gray Jacket. TFFN

Type TC-ER 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

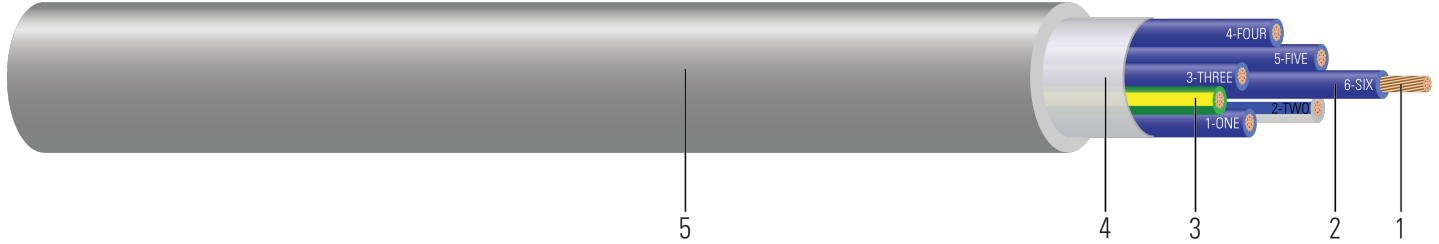


Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** Class K flexible stranded bare annealed copper per ASTM B3 and B172 or B174
2. **Insulation:** Polyvinyl Chloride (PVC) with nylon layer\* Type TFFN
3. **Ground:** Flexible stranded bare annealed copper per ASTM B3 with green with yellow stripe Polyvinyl Chloride (PVC) with nylon layer
4. **Binder:** White tissue paper
5. **Jacket:** Sunlight resistant gray Thermoplastic Elastomer (TPE)

\* Insulation Colors: All blue insulation with white number coding except phase 2 is white with a blue stripe with black text

## APPLICATIONS AND FEATURES:

Southwire's® control tray 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 150°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 machine tray cable is ideal 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. Two conductor cables contain no green/yellow ground.

## SPECIFICATIONS:

- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors
- ASTM B174 Standard Specification for Bunch-Stranded Copper
- UL 13 Power-Limited Circuit Cables
- UL 66 Fixture Wire Type TFFN (for sizes 18 and 16 AWG)
- UL 758 AWM Style 2587
- UL 1063 Machine Tool Wiring (MTW)
- UL 1277 TC-ER
- UL 1690 Data Processing Cable (DP-1)





- UL 2250 Instrumentation Tray Cable
- UL 2277 Type WTTTC
- CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 - 8AWG)
- CSA C22.2 No.230 Tray Cables - Rated TC
- CSA C22.2 No. 239 Control and instrumentation cables
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- Exceeds Ecolab PM-40-1 Material Resistance Test With 30-day Exposure, UL Verified V747862
- **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**
- NFPA 79 Electrical Standard for Industrial Machinery
- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661

**SAMPLE PRINT LEGEND:**

{SQFTG} SOUTHWIRE® XX AWG (X.XXmm<sup>2</sup>) XX/C PVC/NYLON TYPE TC-ER E75755 (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 WTTTC 1000V OR PLTC OR ITC OR AWM 2587 -- LL90458 CSA CIC/TC FT4 OR AWM I/II A/B 105{D}C 1000V -40{D}C FT4 -- {NOM}-ANCE PLTC -- {CE} RoHS-2 MADE IN USA





**Table 1 – Physical and Electrical Data**

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Cond.	Insul. Thickness	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	AC Resistance @ 75°C	Inductive Reactance	Min Bending Radius	Allowable Ampacity 75°C	Allowable Ampacity 90°C
	AWG	No.	strands	inch	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp
<b>18 AWG</b>														
TBA	18	2	16	0.044	20	45	0.266	10	35	8.613	0.036	1.0	-	14
TBA	18	3	16	0.044	20	45	0.281	15	42	8.613	0.036	1.1	-	14
TBA	18	4	16	0.044	20	45	0.306	20	54	8.613	0.036	1.2	-	11
TBA	18	5	16	0.044	20	45	0.332	25	63	8.613	0.036	1.3	-	11
TBA	18	6	16	0.044	20	45	0.348	31	84	8.613	0.036	1.4	-	11
TBA	18	7	16	0.044	20	45	0.358	35	79	8.613	0.036	1.4	-	9
TBA	18	9	16	0.044	20	45	0.411	45	101	8.613	0.036	1.6	-	9
TBA	18	12	16	0.044	20	45	0.456	60	128	8.613	0.036	1.8	-	7
TBA	18	18	16	0.044	20	45	0.554	90	225	8.613	0.036	2.2	-	7
TBA	18	19	16	0.044	20	45	0.560	95	200	8.613	0.036	2.2	-	7
TBA	18	25	16	0.044	20	60	0.635	125	253	8.613	0.036	2.5	-	6
<b>16 AWG</b>														
TBA	16	2	26	0.059	20	50	0.294	16	45	5.406	0.033	1.1	-	18
TBA	16	3	26	0.059	20	50	0.311	24	58	5.406	0.033	1.2	-	18
TBA	16	4	26	0.059	20	50	0.339	32	71	5.406	0.033	1.3	-	14
TBA	16	5	26	0.059	20	50	0.370	40	86	5.406	0.033	1.4	-	14
TBA	16	6	26	0.059	20	50	0.400	47	116	5.406	0.033	1.6	-	14
TBA	16	7	26	0.059	20	50	0.400	56	107	5.406	0.033	1.6	-	12
TBA	16	8	26	0.059	20	50	0.431	72	142	5.406	0.033	1.7	-	12
TBA	16	9	26	0.059	20	50	0.462	72	137	5.406	0.033	1.8	-	12
TBA	16	10	26	0.059	20	50	0.500	81	186	5.406	0.033	2.0	-	9
TBA	16	12	26	0.059	20	50	0.509	97	174	5.406	0.033	2.0	-	9
TBA	16	18	26	0.059	20	65	0.623	145	262	5.406	0.033	2.4	-	9
TBA	16	19	26	0.059	20	65	0.630	154	272	5.406	0.033	2.5	-	9
TBA	16	25	26	0.059	20	65	0.717	202	345	5.406	0.033	2.8	-	8
TBA	16	41	26	0.059	20	90	0.948	332	590	5.406	0.033	3.8	-	6

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

