600V CU PVC-Nylon/PVC Pairs POS

Type TC Instrumentation Cable 600 Volt Copper Conductors PVC/Nylon Insulated Singles with Overall Shield POS. PVC Jacket Heat, Moisture, Oil and Sunlight Resistant RoHS rated for -25°C to 90°C



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B stranded bare copper per ASTM B3 and B8
2. **Insulation:** Premium Grade Polyvinyl Chloride (PVC) plus nylon. Black/White alpha-numeric print alternate and inverted. 1-ONE, 2-TWO
3. **Overall Drain Wire:** Tinned Copper. Sized two AWG sizes smaller than pair size. For #18 awg pair: Drain is 20 awg. For #16 awg pair: Drain is 18 awg.
4. **Binder:** Mylar binder
5. **Overall Shielded:** 100% coverage aluminum/polyester foil shield with a drain wire.
6. **Rip Cord:** Rip cord under jacket for ease of removal
7. **Jacket:** Black sunlight, oil and moisture resistant Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's Instrumentation Cables Type TC UL 1277 are suitable for installations as outlined in NEC Article 336 for process control and instrumentation, control circuits for operation and interconnection of protective and signaling devices and for general use in manufacturing, industrial and commercial distribution systems. Cables are constructed with 7-strand copper conductors insulated with nylon covered PVC. The paired conductors are colored black, white, and alpha-numeric printed. The overall assembly is covered with an aluminum polyester foil with 100% coverage and a tinned drain wire. The cable is suited for use in cable trays, raceways, conduit, aerial (when supported with a messenger) and direct burial. The cable is rated for -25°C to 90°C and rated for Class I Div II hazardous locations, sun and oil resistant. The jacket is black PVC with a nylon ripcord for easy removal. 1 Pair is not TC-ER Rated.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 66 Fixture Wire Type TFN
- UL 1277 Electrical Power and Control Tray Cables
- IEEE 383 Flame Test (70,000 btu)
- EPA 40 CFR, Part 26, Subpart C heavy metals per Table 1, TCLP method
- RoHS-2 (European Directive 2011/65/EU)
- NEC Article 336 Power and Control Tray Cable

Copyright © 2026 Southwire Company, LLC. All Rights Reserved
UPDATED: Dec. 31, 2024, 11:07 p.m.UTC REVISION: 1.000.002

SAMPLE PRINT LEGEND:

{SQFTG} XX AWG (X.XXmm2) X/PAIRS PVC/NYLON POS TYPE TC-ER E75755 (UL) 600V 90°C DRY 75°C WET DIR BUR SUN RES MADE IN USA ROHS-2

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Number of Pairs	Diameter Over Conductor	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25°C
	AWG/ Kcmil	pair	inch	mil	mil	inch	lb/1000ft	inch	Ω/1000ft
562951	18	1	0.045	15	45	0.264	38	1.5	6.669
652254	18	2	0.045	20	45	0.379	65	2.4	6.669
TBA	18	4	0.045	20	45	0.433	95	2.5	6.669
646338	18	8	0.045	15	60	0.604	194	3.6	6.669
646339	18	12	0.045	20	60	0.710	269	4.3	6.669
TBA	18	24	0.045	20	80	1.005	496	6.0	6.669
TBA	18	36	0.045	20	80	1.145	692	6.8	6.669
562954◊	16	1	0.056	15	45	0.292	49	1.7	4.181
581376	16	2	0.056	15	45	0.423	86	2.5	4.181
TBA	16	3	0.056	15	45	0.453	145	2.7	4.181
TBA	16	8	0.056	20	60	0.651	244	3.9	4.181
581424	16	12	0.056	15	80	0.829	400	4.9	4.181
TBA	16	16	0.056	20	80	0.913	475	5.4	4.181
TBA	16	24	0.056	20	80	1.119	677	6.7	4.181
TBA	16	36	0.056	20	80	1.278	957	7.6	4.181

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† 1 Pair is not TC-ER Rated.
! Tinned copper phase conductors
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

Table 2 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Number of Pairs	Diameter Over Conductor	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25°C
	AWG/ Kcmil	pair	inch	mm	mm	mm	lb/km	mm	Ω/km
562951	18	1	0.045	0.38	1.14	6.71	57	38.10	21.88
652254	18	2	0.045	0.51	1.14	9.63	97	60.96	21.88
TBA	18	4	0.045	0.51	1.14	11.00	141	63.50	21.88
646338	18	8	0.045	0.38	1.52	15.34	289	91.44	21.88
646339	18	12	0.045	0.51	1.52	18.03	400	109.22	21.88
TBA	18	24	0.045	0.51	2.03	25.53	738	152.40	21.88
TBA	18	36	0.045	0.51	2.03	29.08	1030	172.72	21.88
562954◊	16	1	0.056	0.38	1.14	7.42	73	43.18	13.72
581376	16	2	0.056	0.38	1.14	10.74	128	63.50	13.72
TBA	16	3	0.056	0.38	1.14	11.51	216	68.58	13.72
TBA	16	8	0.056	0.51	1.52	16.54	363	99.06	13.72
581424	16	12	0.056	0.38	2.03	21.06	595	124.46	13.72
TBA	16	16	0.056	0.51	2.03	23.19	707	137.16	13.72
TBA	16	24	0.056	0.51	2.03	28.42	1007	170.18	13.72
TBA	16	36	0.056	0.51	2.03	32.46	1424	193.04	13.72

Typical Electrical Specifications for Each Pair

Size	Capacitance	Inductance
AWG	pF/ft	µH/ft
18	40.66	0.0957
16	48.51	0.0895

Copyright © 2026 Southwire Company, LLC. All Rights Reserved