

## 600V CU PVC TFN PAIRS PVC POS Instrumentation

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:

- Conductor:** Class B stranded bare copper per ASTM B3 and B8
- Insulation:** Premium Grade Polyvinyl Chloride (PVC) plus nylon. Black/White alpha-numeric print alternate and inverted. 1-ONE, 2-TWO
- 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.
- Binder:** Mylar binder
- Overall Shielded:** 100% coverage aluminum/polyester foil shield with a drain wire.
- Rip Cord:** Rip cord under jacket for ease of removal
- 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 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- 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



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## SAMPLE PRINT LEGEND:

SOUTHWIRE{R} XX AWG (0.XXmm<sup>2</sup>) XX SHIELDED PAIRS PVCN/PVC TYPE TC TFN E75755 MASTER-DESIGN (UL) 600V 90 {D}C DRY OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL -- NOM-ANCE TFN 600V 90{D}C

**Table 1 – Weights and Measurements**

Stock Number	Cond. Size	Number of Pairs	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25° C
	AWG/ Kcmil	pair	mil	mil	inch	lb/1000ft	inch	Ω/1000ft
562951	18	1	15	45	0.274	41	2.192	6.66
775502!	18	2	15	45	0.380	78	3.0	6.66
TBA	18	2	15	45	0.406	80	3.248	6.66
TBA	18	4	15	45	0.468	107	3.744	6.66
646338	18	8	15	60	0.621	198	4.968	6.66
TBA	18	12	15	60	0.726	277	5.808	6.66
TBA	18	24	15	80	1.004	536	8.032	6.66
TBA	18	36	15	80	1.136	750	9.088	6.66
562954◇	16	1	15	45	0.298	50	2.384	4.18
581376	16	2	15	45	0.448	89	3.584	4.18
TBA	16	8	15	60	0.688	266	5.504	4.18
581424	16	12	15	80	0.852	409	6.816	4.18
TBA	16	16	15	80	0.952	518	7.616	4.18
TBA	16	24	15	80	1.118	728	8.944	4.18
TBA	16	36	15	80	1.268	1029	10.144	4.18

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



**Table 2 – Weights and Measurements (Metric)**

Stock Number	Cond. Size	Number of Pairs	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25° C
	AWG/ Kcmil	pair	mm	mm	mm	lb/km	mm	Ω/km
562951	18	1	0.38	1.14	6.96	61	55.68	21.85
775502!	18	2	0.38	1.14	9.65	116	76.20	21.85
TBA	18	2	0.38	1.14	10.31	119	82.50	21.85
TBA	18	4	0.38	1.14	11.89	159	95.10	21.85
646338	18	8	0.38	1.52	15.77	295	126.19	21.85
TBA	18	12	0.38	1.52	18.44	412	147.52	21.85
TBA	18	24	0.38	2.03	25.50	798	204.01	21.85
TBA	18	36	0.38	2.03	28.85	1116	230.84	21.85
562954◇	16	1	0.38	1.14	7.57	74	60.55	13.71
581376	16	2	0.38	1.14	11.38	132	91.03	13.71
TBA	16	8	0.38	1.52	17.48	396	139.80	13.71
581424	16	12	0.38	2.03	21.64	609	173.13	13.71
TBA	16	16	0.38	2.03	24.18	771	193.45	13.71
TBA	16	24	0.38	2.03	28.40	1083	227.18	13.71
TBA	16	36	0.38	2.03	32.21	1531	257.66	13.71

**Typical Electrical Specifications for Each Pair**

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

