

600 VOLT INSTRUMENTATION TFFN/PVC TRIADS, STOS, TYPE TC-ER

Type TC-ER Instrumentation Cable 600 Volt Copper Conductors PVC/Nylon Insulated Singles Shielded Triads with Overall Shield STOS. PVC Jacket Heat, Oil, Moisture and Sunlight Resistant RoHS rated for -30°C to 90°C

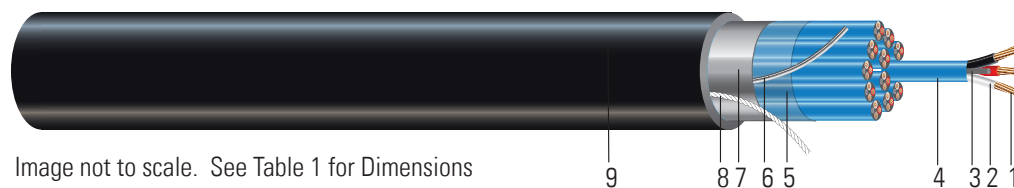


Image not to scale. See Table 1 for Dimensions

CONSTRUCTION:

- 1. Conductors:** Class B stranded bare copper per ASTM B-3 and B-8
- 2. Insulation:** Premium Grade Polyvinyl Chloride (PVC) plus nylon Black/White alpha-numeric print alternate and inverted. 1-ONE, 2-TWO. 22 AWG PVC (Orange) communication conductor included
- 3. Drain Wire:** Tinned copper
- 4. Twisted Shielded Pair:** 100% coverage aluminum/polyester foil shield with an individual drain wire shown in step 3
- 5. Binder:** Mylar binder
- 6. Overall Drain Wire:** Tinned Copper
- 7. Overall Shielded:** 100% coverage aluminum/polyester foil shield with a drain wire as shown in step 6
- 8. Rip Cord:** Rip cord under jacket for ease of removal
- 9. Jacket:** Black sunlight, oil and moisture resistant Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's Instrumentation Cables Type TC-ER per 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 triad conductors are colored black, white, red and alpha-numeric printed. Each triad has an aluminum polyester foil with 100% coverage and a tinned drain wire. 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 -30°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.

SPECIFICATIONS:

- ASTM B8 - Concentric Lay-Standard Copper
- ASTM B33 - Tinned soft or Annealed Copper
- UL 83 Thermoplastic-Insulated Wires and Cables
- UL 1277 Electrical Power and Control Cable
- UL 66 - Fixture Wire Type TFFN (18 and 16 AWG)
- UL 1685 - Vertical-Tray Fire Propagation and Smoke-Release Test.
- IEEE 1202/FT4 - Flame Test 70,000 Btu/hr Vertical Tray
- EPA 40CFR.Part 261, Subpart C, Heavy Metals Per Table 1, TCLP Method

SAMPLE PRINT LEGEND:

SOUTHWIRE® XX AWG XX SHIELDED TRIADS PVC/PVC TYPE TC-ER E75755 (UL) 600V 90°C SUN AND OIL RES FT4/IEEE 1202 SEQUENTIAL MARKING



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Table 1 – Weights & Measurements

Stock Code	Cond. Size AWG	No. of Triads	Insulation Thickness		Jacket Thickness		Nominal OD (9)		Nominal Weight		DC Resistance		Min Bend Radius	
			(mils)	(mm)	(mils)	(mm)	inches	mm	(Lbs/Mft)	kg/km	Ω/MFT	Ω/km	Inches	mm
TBA	18	2	15	0.38	45	1.14	0.492	12.5	104	155	6.66	21.84	3.936	99.97
TBA	18	4	15	0.38	60	1.52	0.603	15.32	187	278	6.66	21.84	4.824	122.53
TBA	18	8	15	0.38	60	1.52	0.776	19.71	290	432	6.66	21.84	6.208	157.68
TBA	18	12	15	0.38	80	2.03	0.983	24.97	498	741	6.66	21.84	7.864	199.75
TBA	18	16	15	0.38	95	2.41	1.112	28.24	653	972	6.66	21.84	8.896	225.96
TBA	18	24	15	0.38	100	2.54	1.384	35.15	949	1412	6.66	21.84	11.072	281.23
TBA	18	36	15	0.38	100	2.54	1.578	40.08	1334	1985	6.66	21.84	12.624	320.65
TBA	16	2	15	0.38	60	1.52	0.57	14.48	148	220	4.18	13.71	4.56	115.82
TBA	16	4	15	0.38	60	1.52	0.666	16.92	255	379	4.18	13.71	5.328	135.33
TBA	16	8	15	0.38	80	2.03	0.906	23.01	481	716	4.18	13.71	7.248	184.1
TBA	16	12	15	0.38	95	2.41	1.103	28.02	690	1027	4.18	13.71	8.824	224.13
599949	16	16	15	0.38	95	2.41	1.234	31.34	875	1302	4.18	13.71	9.872	250.75
TBA	16	24	15	0.38	100	2.54	1.54	39.12	1290	1920	4.18	13.71	12.32	312.93
TBA	16	36	15	0.38	100	2.54	1.758	44.65	1820	2708	4.18	13.71	14.064	357.23

All dimensions are nominal and subject to normal manufacturing tolerances

Typical Electrical Specifications for Each Triad		
Size	Capacitance	Inductance
18 AWG	40.66 pF/ft.	0.0957 μ Henry/ft.
16 AWG	48.51 pF/ft.	0.0895 μ Henry/ft.

