

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

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



Image not to scale. See Table 1 for Dimensions

### CONSTRUCTION:

- Conductors:** Class B stranded bare copper per ASTM B-3 and B-8
- Insulation:** Premium Grade Polyvinyl Chloride (PVC) plus nylon Black/White/Red alpha-numeric print alternate and inverted. 1-ONE, 2-TWO. 22 AWG PVC (Orange) communication conductor included.
- Twisted Triad:** Black, White and Red insulated conductors
- Binder:** Mylar binder
- Overall Drain Wire:** Tinned Copper
- Overall Shielded:** 100% coverage aluminum/polyester foil shield with a drain wire as shown in step 5
- 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-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. 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 TRIADS PVC/PVC TYPE TC-ER E75755 (UL) 90°C SUN AND OIL RES FT4/IEEE 1202 SEQUENTIAL MARKING



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**Table 1 – Measurements and Electrical**

Stock Code	Cond. Size AWG	No. of Triads.	Insulation Thickness		Jacket Thickness		Nominal OD (Ø)		Nominal Weight		DC Resistance		Min Bend Radius	
			(mils)	(mm)	(mils)	(mm)	(Inches)	(mm)	(Lbs/Mft)	kg/km	Ω/MFT	Ω/km	Inches	mm
562952	18	1	30	0.76	45	1.14	0.278	7.06	46	68	6.66	21.84	2.224	56.49
562955	16	1	30	0.76	45	1.14	0.304	7.72	58	86	4.18	13.71	2.432	61.77

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.

