

## 600V CU PVC TFFN TRIADS PVC TOS Instrumentation

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:

1. **Conductor:** Class B stranded bare copper per ASTM B3 and B8
2. **Insulation:** Premium Grade Polyvinyl Chloride (PVC) plus nylon Black/White/Red alpha-numeric print alternate and inverted. 1-ONE, 2-TWO.
3. **Twisted Triad:** Black, White and Red insulated conductors
4. **Binder:** Mylar binder
5. **Overall Drain Wire:** Tinned Copper
6. **Overall Shielded:** 100% coverage aluminum/polyester foil shield with a drain wire as shown in step 5
7. **Rip Cord:** Rip cord under jacket for ease of removal
8. **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-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- UL 66 Fixture Wire Type TFFN
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- EPA 40 CFR, Part 26, 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

### Table 1 – Weights and Measurements

Stock Number	Cond. Size	Number of Triads	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25° C
	AWG/ Kcmil	triad	mil	mil	inch	lb/1000ft	inch	Ω/1000ft
562952	18	1	15	45	0.278	46	2.224	6.66
562955	16	1	15	45	0.304	58	2.432	4.18

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

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

Stock Number	Cond. Size	Number of Triads	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25° C
	AWG/ Kcmil	triad	mm	mm	mm	lb/km	mm	Ω/km
562952	18	1	0.38	1.14	7.06	68	56.49	21.85
562955	16	1	0.38	1.14	7.72	86	61.77	13.71

### Typical Electrical Specifications for Each Triad

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

