

## 600 VOLT INSTRUMENTATION TFFN/PVC PAIRS, POS, TYPE TC-ER

Type TC-ER 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 -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 alpha-numeric print alternate and inverted. 1-ONE, 2-TWO
- Twisted Pair:** Black/White pairs
- 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 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 -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
- ASTM B3 - Tinned Soft or Annealed Copper
- UL Standard 1277 Electrical Power and Control Tray Cables
- Passes IEEE 383 Flame Test (70,000 btu)
- Passes FT4/IEEE 1202 Flame Test
- NEC Article 336
- EPA 40 CFR, Part 26, Subpart C, heavy metals per Table 1, TCLP method
- RoHS-2 (European Directive 2011/65/EU)

### SAMPLE PRINT LEGEND:

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



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | [www.southwire.com](http://www.southwire.com)



**Southwire®**

**Table 1 – Measurements and Electrical**

Stock Code	Cond Size AWG	No. of Pairs.	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
562951	18	1 <sup>†</sup>	15	0.38	45	1.14	0.274	6.96	41	61	6.66	21.84	2.192	55.68
TBA	18	2	15	0.38	45	1.14	0.406	10.31	80	119	6.66	21.84	3.248	82.5
TBA	18	4	15	0.38	45	1.14	0.468	11.89	107	159	6.66	21.84	3.744	95.1
TBA	18	8	15	0.38	60	1.52	0.621	15.77	198	295	6.66	21.84	4.968	126.19
TBA	18	12	15	0.38	60	1.52	0.726	18.44	277	412	6.66	21.84	5.808	147.52
TBA	18	24	15	0.38	80	2.03	1.004	25.5	536	798	6.66	21.84	8.032	204.01
TBA	18	36	15	0.38	80	2.03	1.136	28.85	750	1116	6.66	21.84	9.088	230.84
562954	16 <sup>†</sup>	1 <sup>†</sup>	15	0.38	45	1.14	0.298	7.57	50	74	4.18	13.71	2.384	60.55
581376	16	2	15	0.38	45	1.14	0.448	11.38	89	132	4.18	13.71	3.584	91.03
TBA	16	4	15	0.38	60	1.52	0.548	13.92	157	234	4.18	13.71	4.384	111.35
TBA	16	8	15	0.38	60	1.52	0.688	17.48	266	396	4.18	13.71	5.504	139.8
581377	16	12	15	0.38	80	2.03	0.852	21.64	409	609	4.18	13.71	6.816	173.13
581424	16	16	15	0.38	80	2.03	0.952	24.18	518	771	4.18	13.71	7.616	193.45
TBA	16	24	15	0.38	80	2.03	1.118	28.4	728	1083	4.18	13.71	8.944	227.18
TBA	16	36	15	0.38	80	2.03	1.268	32.21	1029	1531	4.18	13.71	10.144	257.66

All dimensions are nominal and subject to normal manufacturing tolerances

† 1 Pair is not TC-ER Rated.

Typical Electrical Specifications for Each Pair		
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.

