

600V INSTRUMENTATION EPR/CPE PAIRS, SPOS, TYPE TC-ER

Type TC-ER Instrumentation Cable 600 Volt Tinned Copper Conductors EPR Insulated Singles Shielded Pairs with Overall Shield SPOS. CPE Jacket Heat, Moisture, Oil and Sunlight Resistant

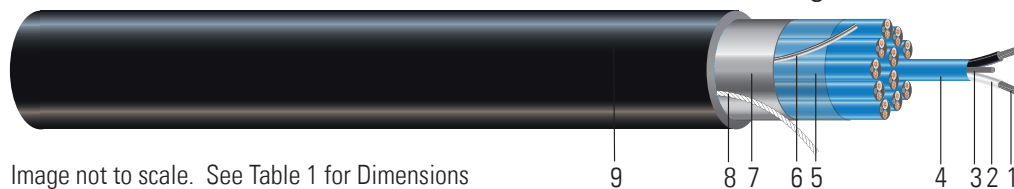


Image not to scale. See Table 1 for Dimensions

CONSTRUCTION:

1. **Conductors:** Class B stranded tinned copper per ASTM B-3 and B-33
2. **Insulation:** Flame-retardant Ethylene Propylene Rubber EPR Black/White alpha-numeric print alternate and inverted. 1-ONE, 2-TWO
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 an individual 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 thermoplastic Chlorinated Polyethylene CPE jacket

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 tinned copper conductors insulated with Ethylene Propylene Rubber EPR. The paired conductors are colored black, white, and alpha-numeric printed. Each pair 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 wet or dry and rated for Class I Div II hazardous locations, sun and oil resistant. The jacket is black Chlorinated Polyethylene CPE with a rip cord for easy removal

SPECIFICATIONS:

- ASTM B8 - Concentric Lay-Standard Copper
- ASTM B33 - Tinned soft or Annealed Copper
- UL 44 - Thermoset-Insulated Wires and Cables
- UL 1277 Electrical Power and Control Cable
- UL 1581 - Standard for Electrical Wires, Cables, and Flexible Cords
- 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
- ICEA S-73-532 - Standard for Control, Thermocouple Extension, and Instrumentation Cables

SAMPLE PRINT LEGEND:

SOUTHWIRE® XX AWG XX SHIELDED PAIRS EPR/CPE TYPE TC-ER E-FILE (UL) 600V 90°C WET/DRY SUN AND OIL RESI
DIRECT BURIAL-- FT4/IEEE 1202 SEQUENTIAL MARKING



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Table 1 – Weights & Measurements

Stock Code	Cond. Size AWG	No. of Pairs.	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	30	0.76	45	1.14	0.487	12.37	93	138	6.66	21.84	3.896	98.96
595480	18	4	30	0.76	60	1.52	0.59	14.99	164	244	6.66	21.84	4.72	119.89
TBA	18	8	30	0.76	60	1.52	0.744	18.9	279	415	6.66	21.84	5.952	151.18
TBA	18	12	30	0.76	80	2.03	0.916	23.27	424	631	6.66	21.84	7.328	186.13
TBA	18	24	30	0.76	80	2.03	1.239	31.47	790	1176	6.66	21.84	9.912	251.76
TBA	18	36	30	0.76	80	2.03	1.424	36.17	1135	1689	6.66	21.84	11.392	289.36
592121	16	2	30	0.76	45	1.14	0.559	14.2	132	196	4.18	13.71	4.472	113.59
592123	16	4	30	0.76	60	1.52	0.645	16.38	211	314	4.18	13.71	5.16	131.06
592124	16	8	30	0.76	80	2.03	0.817	20.75	366	545	4.18	13.71	6.536	166.01
592120	16	12	30	0.76	80	2.03	1.004	25.5	554	824	4.18	13.71	8.032	204.01
TBA	16	24	30	0.76	80	2.03	1.383	35.13	1068	1589	4.18	13.71	11.064	281.03
TBA	16	36	30	0.76	80	2.03	1.593	40.46	1545	2299	4.18	13.71	12.744	323.7

All dimensions are nominal and subject to normal manufacturing tolerances

Typical Electrical Specifications for Each Pair		
Size	Capacitance	Inductance
18 AWG	14.26 pF/ft.	0.1085 μ Henry/ft.
16 AWG	16.77 pF/ft.	0.1009 μ Henry/ft.

