

## 600V TFFN/CPE PAIRS, SPOS Halo-Flex™, TYPE TC-ER HL

Type TC-ER HL Instrumentation Cable 600 Volt Copper Conductors PVC/Nylon Insulated Singles Shielded Pairs with Overall Shield SPOS. CPE Jacket Heat, Moisture, Oil and Sunlight Resistant RoHS rated for -40°C to 90°C

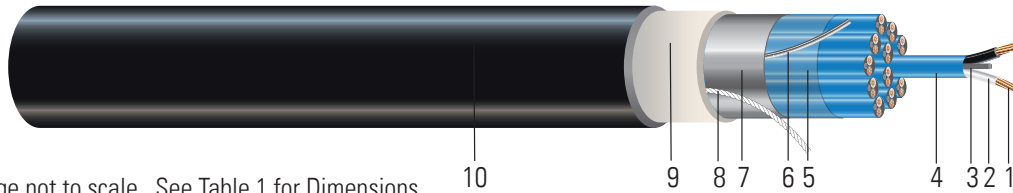


Image not to scale. See Table 1 for Dimensions

### CONSTRUCTION:

- Conductors:** Class B stranded bare copper per ASTM B3 and B8
- Insulation:** Premium Grade Polyvinyl Chloride (PVC) plus nylon. Black/White alpha-numeric print alternate and inverted. 1-ONE, 2-TWO
- Drain Wire:** Tinned Copper
- Twisted Shielded Pair:** 100% coverage aluminum/polyester foil shield with an individual drain wire shown in step 3
- Binder:** Mylar binder
- Overall Drain Wire:** Tinned Copper
- Overall Shielded:** 100% coverage aluminum/polyester foil shield with an individual drain wire as shown in step 8
- Rip Cord:** Rip cord under jacket for ease of removal
- Extruded Polymeric Layer:** 60 mils Extruded Polymeric Fill Layer
- Jacket:** -40°C Thermoplastic Chlorinated Polyethylene (CPE) Jacket  
Optional -25°C Elastomer TPE or PVC jacket upon request.

### APPLICATIONS AND FEATURES:

Southwire's Halo-Flex™ 600 Volt Type TC-ER HL instrumentation cables are suitable for installation 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. 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. A gas/vapor-tight polymeric sheath is extruded over the assembly. 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 -40°C to 90°C and rated for use in Class I, II, and III, Division 1 and 2 hazardous locations per NEC Article 501, 502, and 503. Listed for exposed runs (TC-ER HL) per NEC 336.10.

### 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)



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**Southwire®**

**SPECIFICATIONS:**

- 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
- ABS: Certified for Installation on ABS Units
- MSHA: Passes MSHA Flame Test

**SAMPLE PRINT LEGEND:**

SOUTHWIRE® 16AWG SHIELDED XXPAIRS PVCN/CPE TYPE TC-ER HL TFFN EXXXX (UL) 600V 90°C DRY OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL -- SEQUENTIAL MARKING

**Table 1 – Measurements and Electrical**

Stock Code	Cond Size AWG	No. of Pairs	Insulation Thickness	Nominal Core OD (7)	Outer Jacket Thickness	Nominal OD (10)	Min Bending Radius	Weight	DC Resistance @ 25°C
			mils	inches	mils	inches	inches	Lbs/MFT	Ω/MFT
679953	16	1	20	0.199	45	0.409	1.64	120	4.18
679955	16	2	20	0.275	45	0.515	1.94	160	4.18
679957	16	4	20	0.415	60	0.655	2.62	251	4.18
679959	16	8	20	0.556	60	0.796	3.18	467	4.18

All dimensions are nominal and subject to normal manufacturing tolerances

Typical Electrical Specifications for Each Pair		
Size	Capacitance	Inductance
16 AWG	48.51 pF/ft.	0.0895 μ Henry/ft.

