Tinned CU 3/C 2000V XLPE RHH/RHW-2 VFD Power Cable

Type TC-ER VFD Power Cable. 2000 Volt Tinned Copper Flexible Stranded Conductors. Cross-Linked Polyethylene (XLPE) Insulation RHH/RHW-2. Polyvinylchloride (PVC) Jacket with 3 Symmetrical Grounds. Rated 90°C Wet or Dry, FT4 Flame.

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class K flexible ropelay stranded tinned copper per ASTM B33 and B172
2. **Insulation:** Cross-Linked Polyethylene (XLPE); Type RHH/RHW-2
3. **Grounding Conductor:** : 3 Flexible Ropelay Stranded Bare Tinned Copper Grounds per ASTM B33 and B172
4. **Filler:** Flame & Moisture Resistant Paper Filler
5. **Tape Shield:** 5 mil Copper Tape Shield with a minimum of 50% Overlap for 100% Coverage
6. **Overall Jacket:** Black Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 2000 Volt Type TC-ER VFD power cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, aerial supported by a messenger, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation in wet and dry locations, 130°C for emergency overload, and 250°C for short circuit conditions. For uses in Class I, II, and III, Division 2 hazardous locations per NEC® Article 501 and 502. Constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC® Article 336.10.

SPECIFICATIONS:

- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors (As Applicable)
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1277 TC-ER
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 4
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE{R} VFD {UL} [#AWG or #KCMIL] 3/C TYPE TC-ER RHH OR RHW-2 CDRS CU GW 3 X # AWG CU T/S50% 90{D}C PVC JACKET SUN RES DIRECT BURIAL FT4/IEEE1202 2000 VOLTS

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Insul. Thickness	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/Kcmil	inch	mil	No. x AWG	mil	inch	lb/1000ft	lb/1000ft
TBD	8	0.155	60	3 x 14	60	0.721		413
TBD	4	0.255	60	3 x 12	80	0.97		772
TBD	2	0.315	60	3 x 10	80	1.063		1053
TBD	1	0.355	80	3 x 10	80	1.225		1400
674625	262.6	0.590	105	3 x 2	110	1.968		4125
653047	313.3	0.662	110	3 x 2	140	2.184		4888
674632	373.7	0.71	105	3 x 2	110	2.227		5388
668541!	500	0.858	110	3 x 1	115	2.578		6851
674638	535.3	0.86	120	3 x 2	110	2.616		7448
TBD	646.4	0.915	110	3 x 4	110	2.678		7503
673109	777.7	1.03	125	3 x 2/0	140	3.043		10865

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† Ampacities are based on Table 310.16 of the NEC, 2020 Edition. Allowable ampacities of Insulated Conductors Rated Up to and Including 2000 Volts and Ambient Temperature of 30°C.
! Copper conductors and grounds

Table 2 – Electrical and Engineering Data

Stock Number	Cond. Size	Min Bending Radius	Max Pull Tension	Allowable Ampacity At 75°C†	Allowable Ampacity At 90°C†
	AWG/Kcmil	inch	lb	Amp	Amp
TBD	8	8.7	396	50	55
TBD	4	11.6	1002	85	95
TBD	2	12.8	1593	115	130
TBD	1	14.7	2009	130	145
674625	262.6	23.6	6302	262	297
653047	313.3	26.2	7519	291	327
674632	373.7	26.7	8969	321	364
668541!	500	30.9	10000	380	430
674638	535.3	31.4	12847	394	445
TBD	646.4	32.1	15514	438	495
673109	777.7	26.5	18665	483	546

† Ampacities are based on Table 310.16 of the NEC, 2020 Edition. Allowable ampacities of Insulated Conductors Rated Up to and Including 2000 Volts and Ambient Temperature of 30°C.
! Copper conductors and grounds