TCU 2000V XLPE Insulation Three Grounds Cu Tape Shield PVC Jacket. RHH/RHW-2 Flexible Variable Frequency Drive (VFD). CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free

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.

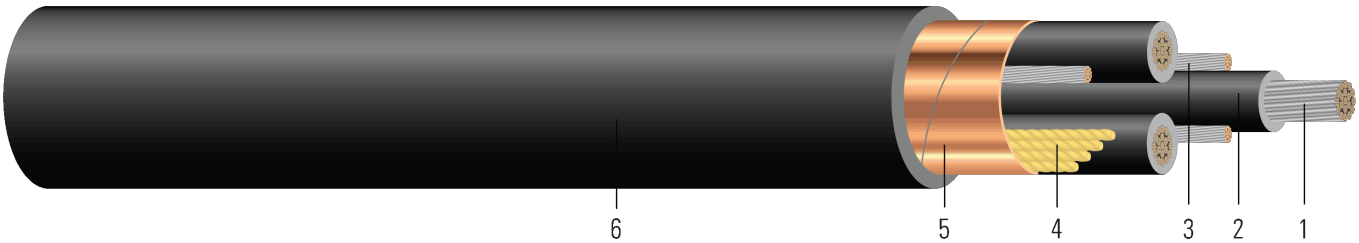

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class Class I 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 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

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SAMPLE PRINT LEGEND:

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

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Cond. Number	Strand Count	Diameter Over Conductor	Insul. Thickness	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil		No. of Strands	inch	mil	No. x AWG	mil	inch	lb/1000ft	lb/1000ft
TBA	8	3	168	0.145	60	3 x 14	60	0.707	189	346
TBA	4	3	133	0.235	60	3 x 12	80	0.942	456	713
TBA	2	3	168	0.290	60	3 x 10	80	1.061	592	895
TBA	1	3	385	0.300	80	3 x 10	80	1.169	716	1094
674625	262.6	3	646	0.565	95	3 x 2	110	1.968	3105	4052
653047	313.3	3	779	0.650	95	3 x 2	140	2.205	3637	4840
674632	373.7	3	931	0.701	95	3 x 2	110	2.227	4162	5304
668541	500	3	1221	0.858	95	3 x 1	115	2.578	5638	6871
674638	535.3	3	1332	0.843	110	3 x 2	110	2.616	5876	7330
TBA	646.4	3	1628	0.890	110	3 x 4	110	2.633	5748	7146
TBA	777.7	3	1924	0.966	110	3 x 2/0	140	2.857	6798	8483

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

Table 2 – Electrical and Engineering Data

Stock Number	Cond. Size	Cond. Number	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 60°C	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
	AWG/ Kcmil		inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
TBA	8	3	2.8	396	0.679	0.818	0.052	40	50	55
TBA	4	3	3.8	1001	0.274	0.330	0.048	70	85	95
TBA	2	3	5.3	1592	0.172	0.207	0.045	95	115	130
TBA	1	3	5.8	2008	0.137	0.164	0.046	110	130	145
674625	262.6	3	9.8	6302	0.048	0.058	0.041	215	267	304
653047	313.3	3	13.2	7519	0.039	0.048	0.041	240	298	332
674632	373.7	3	13.4	8968	0.033	0.042	0.040	260	323	365
668541	500	3	15.5	12000	0.023	0.031	0.039	320	380	430
674638	535.3	3	15.7	12847	0.021	0.028	0.039	320	394	446
TBA	646.4	3	15.8	15513	0.018	0.025	0.039	350	439	496
TBA	777.7	3	17.1	18664	0.016	0.024	0.038	400	483	543

* Ampacities based upon 2023 NEC Table 310.16. See NEC sections 310.15 and 110.14(C) for additional requirements.