Flexible CU 2000V XLPE Insulation Three Grounds Cu Tape Shield PVC Jacket. RHH/RHW-2 Variable Frequency Drive (VFD)

Type TC-ER VFD Power Cable 2000Volt Three Conductor Flexible Copper, Cross Linked Polyethylene (XLPE) insulation RHH/RHW-2 Polyvinyl Chloride (PVC) Jacket with 3 Symmetrical Bare CU Ground 50% Minimum Tape Shield Overlap. Rated 90C Dry or We. Sunlight Resistance, Direct Burial, Silicone Free

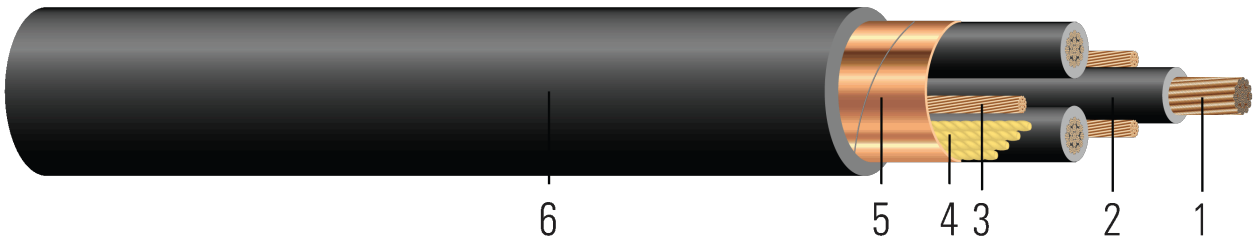


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class I flexible ropelay stranded bare copper modified per ASTM B3 and B172
2. **Insulation:** Cross-Linked Polyethylene (XLPE) Type RHH/RHW-2
3. **Grounding Conductor:** : Three Flexible Ropelay Stranded Bare Copper Grounds modified per ASTM B3 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 B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors
- 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
- ICEA S-138-738 Power Cables Rated 2000 Volts or Less for use Between Variable Frequency Drives and Motors
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661

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SAMPLE PRINT LEGEND:

{SQFTG}
SOUTHWIRE® VFD {UL} XX AWG or XX KCMIL 3/C TYPE TC-ER RHH OR RHW-2 CDRS CU GW 3 X XX AWG CU T/S50% 90ºC 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	Dia. Over Shield	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Jacket Color
	AWG/ Kcmil		No. of Strands	inch	mil	No. x AWG	inch	mil	inch	lb/1000ft	lb/1000ft	
TBA	8	3	41	0.145	70	3 x 14	0.629	60	0.749	262	343	BK
TBA	4	3	105	0.235	70	3 x 12	0.808	80	0.968	539	684	BK
TBA	2	3	133	0.29	70	3 x 10	0.934	80	1.094	817	987	BK
TBA	1	3	161	0.3	90	3 x 10	1.104	80	1.264	997	1234	BK
674625	262.6	3	646	0.565	105	3 x 2	1.748	110	1.968	3106	4125	BK
653047	313.3	3	779	0.65	110	3 x 2	1.904	140	2.184	3635	4888	BK
674632	373.7	3	931	0.701	105	3 x 2	2.007	110	2.227	4162	5388	BK
TBA	444.4	3	1121	0.782	105	3 x 1	2.42	110	2.64	5187	6680	BK
668541	500	3	1225	0.858	110	3 x 1	2.348	115	2.578	5638	6851	BK
674638	535.3	3	1332	0.859	125	3 x 2	2.396	110	2.642	5876	7135	BK
673109	777.7	3	1924	0.966	125	3 x 2/0	2.763	140	3.043	9082	10865	BK

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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 75°C	Allowable Ampacity At 90°C
	AWG/ Kcmil		inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
TBA	8	3	5.2	396	0.679	0.818	0.052	50	55
TBA	4	3	6.8	1001	0.274	0.33	0.048	85	95
TBA	2	3	7.7	1592	0.172	0.207	0.045	115	130
TBA	1	3	8.8	2008	0.137	0.164	0.046	130	145
674625	262.6	3	13.8	6302	0.048	0.058	0.041	267	304
653047	313.3	3	15.3	7519	0.039	0.048	0.041	298	332
674632	373.7	3	15.6	8968	0.033	0.042	0.04	323	365
TBA	444.4	3	18.5	100000	0.026	0.033	0.04	358	405
668541	500	3	18	100000	0.023	0.031	0.039	380	430
674638	535.3	3	18.5	100000	0.021	0.028	0.039	394	446
673109	777.7	3	21.3	100000	0.016	0.024	0.038	483	543

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

VFD Sizing Calculator

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