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

Type TC-ER VFD Power Cable 2000 Volt Three Conductor Copper, Cross Linked Polyethylene (XLPE) insulation RHH/RHW-2 Polyvinyl Chloride (PVC) Jacket with 3 Symmetrical Bare CU Ground 50% Minimum Tape Shield Overlap. Silicone Free

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Insulation:** Cross Linked Polyethylene (XLPE) Type RHH/RHW-2
3. **Grounding Conductor:** 3 Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8 (Ground size is 100% for sizes 14 - 10 awg and a minimum of 50% of the phase conductor for larger sizes.)
4. **Filler:** Fillers as needed to make round
5. **Tape Shield:** 5 mil copper tape shield with a minimum of 50% overlap
6. **Overall Jacket:** Polyvinyl Chloride (PVC) Jacket. Available in thermoplastic Chlorinated Polyethylene CPE jacket on #4 AWG and larger upon request

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. Type (TC-ER) per NEC 336.10.

Gland Reference: Glands

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 3 (1-BLACK, 2-RED, 3-BLUE)
- 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
- 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

SAMPLE PRINT LEGEND:

SOUTHWIRE® VFD {UL} XX AWG 3/C TYPE TC-ER RHH OR RHW-2 CDRS CU GW 3 X XX AWG CU T/S 50% 90°C PVC JACKET SUN RES DIRECT BURIAL 2000 VOLTS {YYYY} {SEQUENTIAL FOOTAGE MARKS} SEQ FEET 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
	AWG/ Kcmil		No. of Strands	inch	mil	No. x AWG	inch	mil	inch	lb/1000ft	lb/1000ft
580672◊	14	3	7	0.07	60	3 x 18	0.451	60	0.571	93	202
580685◊	12	3	7	0.088	60	3 x 16	0.486	60	0.606	128	244
580693◊	10	3	7	0.113	60	3 x 14	0.537	60	0.657	183	329
569388◊	8	3	7	0.141	70	3 x 14	0.652	60	0.772	270	456
580701◊	6	3	7	0.177	70	3 x 12	0.723	80	0.883	389	624
569389◊	4	3	7	0.225	70	3 x 12	0.825	80	0.985	547	815
569387◊	2	3	7	0.282	70	3 x 10	0.946	80	1.106	827	1121
677367	1	3	19	0.322	95	3 x 8	1.316	80	1.272	1065	1508
644333◊	1/0	3	19	0.361	90	3 x 6	1.220	80	1.380	1373	1858
644334◊	2/0	3	19	0.405	90	3 x 6	1.311	80	1.471	1640	2164
644337◊	3/0	3	19	0.456	90	3 x 5	1.419	80	1.579	2041	2604
644338◊	4/0	3	19	0.512	90	3 x 4	1.506	115	1.736	2542	3202
644339◊	250	3	37	0.558	105	3 x 2	1.665	115	1.895	3150	3995
TBA	300	3	37	0.61	105	3 x 3	1.783	110	2.003	2956	3906
668921	350	3	37	0.661	105	3 x 3	1.879	115	2.109	3981	4969
644340◊	350	3	37	0.661	105	3 x 2	1.879	115	2.109	4110	5098
TBA	400	3	37	0.705	105	3 x 2	1.988	110	2.208	3908	4993
644341◊	500	3	37	0.789	105	3 x 1	2.149	115	2.379	5706	6767
669099	600	3	61	0.865	120	3 x 1	2.409	115	2.639	6673	8025
TBA	750	3	61	0.968	120	3 x 2/0	2.621	140	2.901	7235	9006

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	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
	AWG/ Kcmil		inch	lb	Ω/1000ft	Amp	Amp
580672◊	14	3	6.9	98	2.631	20	25
580685◊	12	3	7.3	156	1.662	25	30
580693◊	10	3	7.9	249	1.040	35	40
569388◊	8	3	9.3	396	0.653	50	55
580701◊	6	3	10.6	629	0.411	65	75
569389◊	4	3	11.8	1001	0.258	85	95
569387◊	2	3	13.3	1592	0.162	115	130
677367	1	3	15.3	2009	0.129	130	145
644333◊	1/0	3	16.6	2534	0.102	150	170
644334◊	2/0	3	17.7	3194	0.081	175	195
644337◊	3/0	3	18.9	4027	0.064	200	225
644338◊	4/0	3	20.8	5078	0.051	230	260
644339◊	250	3	22.7	6000	0.043	255	290
TBA	300	3	24.0	7200	0.036	285	320
668921	350	3	25.3	8400	0.031	310	350
644340◊	350	3	25.3	8400	0.031	310	350
TBA	400	3	26.5	9600	0.027	335	380
644341◊	500	3	28.5	12000	0.022	380	430
669099	600	3	31.7	14400	0.018	420	475
TBA	750	3	34.8	18000	0.014	475	535

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

VFD Sizing Calculator