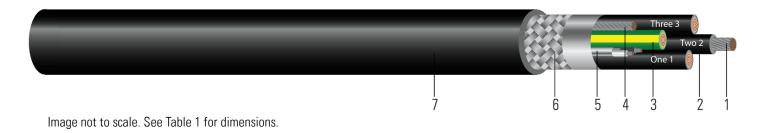


# CU 600V XLPE Insulation Shielded Signal Pair TPE jacket. XHHW-2 Reduced Diameter Flexible Variable Frequency Drive (VFD)

Reduced Diameter Type TC-ER Variable Frequency Drive Cable, 600 Volts or 1000 Volts, Tinned Copper Conductors, Crosslinked Insulation Type XHHW-2 With Shielded Pair, Thermoplastic Elastomer Jacket, Rated 90°C Dry or Wet, -40°C Cold Impact, Identification Method 4. 1000 Volts Flexible Motor Supply. CSA CIC/TC FT4 Flame.



# **CONSTRUCTION:**

- 1. Conductor: Class K, flexible stranded tinned annealed copper per ASTM B33 and B174
- 2. Insulation: Cross linked insulation on all conductors (Type XHHW-2 on 14 AWG and larger)
- 3. Ground: One green ground with yellow Stripe cross linked insulation (size equal to phase conductor)
- 4. Drain Wire: Tinned copper drain wire
- 5. Twisted Shielded Pair: 100% coverage aluminum/Mylar foil shield (color code: black, white)
- 6. Shielding: 100% coverage aluminum/Mylar/aluminum foil, overall 85% coverage tinned copper braid
- 7. Jacket: Black Thermoplastic Elastomer (TPE)

# **APPLICATIONS AND FEATURES:**

Power supply cable for VFDs and motors, suitable for cable tray, conduit, raceways, exposed run (TC-ER) and conforming to NFPA 79 2018. Suitable for free air and direct burial. Its flexible design is ideal for use on operation processes in accordance with NEC® Articles 336, 501 and 502 including, but not limited to: fans, pumps, conveyors, compressors, elevators and lifts, extruders, crushers and presses, assembly lines, food and beverage, wind energy and data centers. Cable is rated for -40C Cold Bend and Impact. Multiple approvals for multiple applications.

# **SPECIFICATIONS**:

- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B174 Standard Specification for Bunch-Stranded Copper
- UL 44 Thermoset-Insulated Wires and Cables
- UL 758 Standard for Appliance Wiring Material Style 20886
- UL 1277 Type TC-ER Standard Power and Control Cables (1000V 14AWG and Larger)
- UL 2277 Flexible Motor Supply Cable and Wind Turbine Tray Cable
- CSA C22.2 No. 210 Appliance wiring material products I/II A/B (Sizes 16 8AWG)
- CSA C22.2 No.230 Tray Cables Rated TC
- CSA C22.2 No. 239 Control and instrumentation cables
- CE/RoHS-2 The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive
- NFPA 79 Electrical Standard for Industrial Machinery



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com



 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**:

{SQFTG} SOUTHWIRE{R} XX AWG (XX{mm2}) X/C + XX AWG (XX{mm2}) X PR VFD XHHW-2 TYPE TC-ER E75755 {UL} 1000V 90{D}C DRY 90{D}C WET SUN RES OIL RES I/II DIR BUR -40{D}C OR WTTC 1000V OR AWM 20886 105{D}C 1000V OR FLEXIBLE MOTOR SUPPLY CABLE 1000V -- LL90458 {CSA} CIC/TC 600V FT4 OR AWM I/II A/B 105{D}C 1000V -40{D}C FT4 -- {CE} ROHS-3 MADE IN USA

#### Table 1 – Weights and Measurements

Cond. Size	Cond. Number	Strand Count	Diameter Over Conductor	Insul. Thickness	Ground	Drain Wire	Dia. Over Shield	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
AWG/ Kcmil		No. of Strands	inch	mil	No. x AWG	No. x AWG	inch	mil	inch	lb/1000ft	lb/1000ft
14	3	41	0.073	30	1 x 14	1x18	0.463	60	0.587	128	199

All dimensions are nominal and subject to normal manufacturing tolerances

♦ Cable marked with this symbol is a standard stock item

† Reduced signal pair (see Table 3 below)

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**

Cond. Size	Cond. Number	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 75°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
AWG/ Kcmil		inch	lb	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Amp	Amp
14	3	7.2	98	2.814	3.391	0.057	0.058	20	25

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

#### **Table 3 - Twisted Shielded Pair Construction**

Stock Number	Signal Pair Conductor Size	Drain Conductor Size		
No	AWG	AWG		
TBA	-	-		
TBA	-	-		
139306	18	20		
TBA	-	-		
TBA	-	-		
TBA	-	-		
TBA	-	-		
TBA	-	-		





## **Table 4 - Twisted Shielded Pair Size**

	Phase Conductor Size	Signal Pair Conductor Size	Signal Pair Drain Conductor Size		
	AWG	AWG	AWG		
	16	16	18		
	14	16	18		
Normal Signal Pair	12	16	18		
	10	16	18		
	8	14	14		
	16	18	18		
Reduced Signal Pair	14	18	18		
	12	18	18		



VFD Sizing Calculator

