3/C or 4/C CU 600V XLPE XHHW-2 ARMOR-X LSZH-TP Cable With Three Grounds VFD Cable

Type MC-HL Control Cable 600Volt Copper Conductors, Cross Linked Polyethylene (XLPE) Insulation XHHW-2 Continuous Corrugated Welded Armor (Armor-X), Thermoplastic SOLONON® Low Smoke Zero Halogen (LSZH-TP) Jacket with 3 Bare CU Ground

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 7 strands class B compressed tinned copper per ASTM B33 and ASTM B8
2. **Insulation:** Cross Linked Polyethylene (XLPE) XHHW-2, 30 Mils thick for all cable sizes
3. **Grounding Conductor:** 3 Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
4. **Filler:** Polypropylene filler on cables with 5 or less conductors
5. **Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
6. **Armor:** Continuous Corrugated Welded Armor (Armor-X)
7. **Overall Jacket:** Thermoplastic SOLONON® Low Smoke Zero Halogen (LSZH-TP) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 Volt Type MC-HL Armor-X® control 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, 250°C for short circuit conditions, and -50°C for cold bend. For uses in Class I, II, and III, Division 1 and 2 hazardous locations per NEC Article 501, 502, and 503.

SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1309 Marine Shipboard Cable
- UL 1569 Metal-Clad Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2
- ICEA S-73-532 Standard for Control, Thermocouple Extension and Instrumentation Cables
- 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
- NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems (500kcmil & Larger)
- ABS Listed as CWCMC

SAMPLE PRINT LEGEND:

{SQFTG_DUAL} SOUTHWIRE{R} MASTER-DESIGN {UL} ARMOR-X TYPE MC-HL 3/C XX AWG (X.XX{mm2}) CU XHHW-2 GW 3 X 16 AWG 90{D}C SOLONON{R} JACKET -40{D}C ST1 SUN.RES. DIR. BUR. FOR CT USE 600V IEEE1202/FT4 -- VFD

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Cond. Number	Diameter Over Conductor	Insul. Thickness	Ground Size	Jacket Thickness	Approx. OD	Approx. Weight
	AWG/Kcmil	No.	inch	mil	AWG	mil	inch	lb/1000ft
TBA	14	3	0.070	30	18	50	0.580	176
TBA	14	4	0.070	30	18	50	0.630	203
641468	12	3	0.087	30	16	50	0.630	221
TBA	12	4	0.087	30	16	50	0.670	256
641504	10	3	0.111	30	14	50	0.710	294
TBA	10	4	0.111	30	14	50	0.750	342

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. Ampacities of insulated conductors rated up to and including 2000 Volts with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30ºC (86ºF). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.

Table 2 – Electrical and Engineering Data

Stock Number	Cond. Size	Cond. Number	DC Resistance @ 25°C	AC Resistance @ 90°C	Min Bending Radius	Allowable Ampacity At 60°C†	Allowable Ampacity At 75°C†	Allowable Ampacity At 90°C†
	AWG/ Kcmil	No.	Ω/1000ft	Ω/1000ft	inch	Amp	Amp	Amp
TBA	14	3	2.630	3.288	4.1	15	15	15
TBA	14	4	2.630	3.288	4.4	14	15	15
641468	12	3	1.660	2.075	4.4	20	20	20
TBA	12	4	1.660	2.075	4.7	16	20	20
641504	10	3	1.040	1.300	5.0	30	30	30
TBA	10	4	1.040	1.300	5.3	24	28	30

† Ampacities are based on Table 310.16 of the NEC 2020 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30ºC (86ºF). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.