

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
- ABS Listed as CWCMC



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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 -- {NOM}-ANCE Tipo MC XHHW-2 CT FT4

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 30°C (86°F). 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 30°C (86°F). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.

