600V CU PVC PAIRS ARMOR-X® SOLONON® LSZH SPOS Instrumentation

Type MC-HL Instrumentation Cable 600 Volt PVC/Nylon Insulated Singles Shielded Pairs with Overall Shield Continuous Corrugated Armor - ARMOR-X® -40°C to 90°C

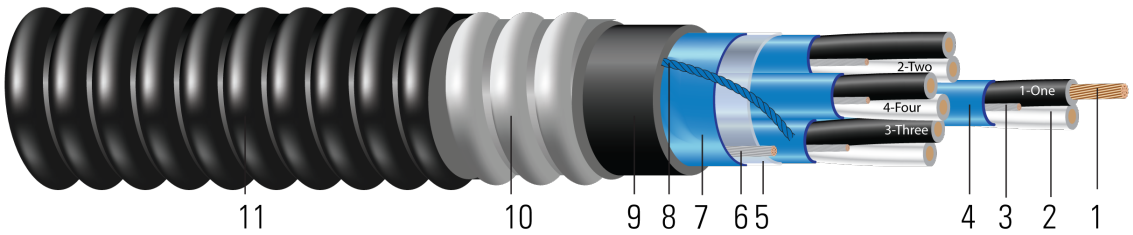


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B stranded bare copper per ASTM B3 and B8
2. **Insulation:** Premium Grade Polyvinyl Chloride (PVC) plus nylon. Color code: Black/White with alpha-numeric print on each pair. 1-ONE, 2-TWO.
3. **Drain Wire:** Tinned copper
4. **Twisted Shielded Triads:** 100% coverage aluminum/polyester foil shield with an individual drain wire shown in step 3
5. **Binder:** Mylar binder
6. **Overall Drain Wire:** Tinned Copper
7. **Overall Shielded:** 100% coverage aluminum/polyester foil shield with a drain wire as shown in step 6
8. **Rip Cord:** Rip cord under jacket for ease of removal
9. **Inner Jacket:** Black Polyvinyl Chloride (PVC)
10. **Armor:** ARMOR-X® continuous impervious weld corrugated aluminum armor
11. **Jacket:** Black sunlight and moisture resistant Solonon® Low Smoke Zero Halogen (LSZH)

APPLICATIONS AND FEATURES:

Southwire's Instrumentation Cables Type MC-HL ARMOR-X® per UL 1569 are suitable for installations as outlined in NEC Article 330 for process control and instrumentation, control circuits for operation and interconnection of protective and signaling devices and for general use in manufacturing, industrial and commercial distribution systems. Cables are constructed with 7-strand copper conductors insulated with nylon covered PVC. The paired conductors are colored black, white and alpha-numeric printed. Each pair has an aluminum polyester foil with 100% coverage and a tinned drain wire. The overall assembly is covered with an aluminum polyester foil with 100% coverage and a tinned drain wire. The cable is suited for use in cable trays, raceways, conduit, aerial (when supported with a messenger) and direct burial. The cable is rated for -40°C to 90°C and rated for Class I Div I hazardous locations. The inner jacket is black polyvinyl chloride (PVC) with a nylon rip cord for easy removal. The outer jacket is black Solonon® Low Smoke Zero Halogen (LSZH).

SPECIFICATIONS:

- ASTM B8 Concentric-Lay-Stranded Copper Conductors

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- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- UL 66 Fixture Wire
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1569 Metal-Clad Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- UL 2225 Cables and Cable-Fittings For Use In Hazardous (Classified) Locations
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- EPA 40 CFR, Part 26, Subpart C heavy metals per Table 1, TCLP method

SAMPLE PRINT LEGEND:

SOUTHWIRE® #P# ARMOR-X® TYPE MC-HL (UL) SHLD PR XXAWG OVERALL SHIELDED SOLONON-N CDRS 90°C JKT SUN RES. DIR BUR FOR CT USE IEEE 1202/FT4 -40°C 600V (YR) USA SEQUENTIAL MARKING

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Number of Pairs	Diameter Over Conductor	Insul. Thickness	Diameter Over Armor	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25°C
	AWG/ Kcmil	pair	inch	mil	inch	mil	inch	lb/1000ft	inch	Ω/1000ft
TBA	18	2	0.045	20	0.61	50	0.710	194	4.9	6.669
TBA	18	4	0.045	20	0.70	50	0.800	254	5.60000000	6.669
TBA	18	8	0.045	20	0.84	50	0.940	363	6.5	6.669
TBA	18	12	0.045	20	0.92	50	1.020	464	7.1	6.669
TBA	18	16	0.045	20	1.02	50	1.120	568	7.8	6.669
575916	16	1	0.056	15	0.53	50	0.636	177	4.4	4.181
TBA	16	2	0.056	20	0.65	50	0.750	225	5.2	4.181
TBA	16	4	0.056	20	0.75	50	0.850	304	5.9	4.181
TBA	16	8	0.056	20	0.92	50	1.020	457	7.1	4.181
TBA	16	12	0.056	20	1.02	50	1.120	602	7.8	4.181
TBA	16	16	0.056	20	1.22	50	1.320	778	9.2	4.181
TBA	16	24	0.056	20	1.43	50	1.530	1111	10.7	4.181
TBA	16	36	0.056	20	1.59	50	1.690	1486	11.8	4.181

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.

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Table 2 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Number of Pairs	Diameter Over Conductor	Insul. Thickness	Diameter Over Armor	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25°C
	AWG/ Kcmil	pair	inch	mm	mm	mm	mm	lb/km	mm	Ω/km
TBA	18	2	0.045	0.51	15.49	1.27	18.03	289	124.46	21.88
TBA	18	4	0.045	0.51	17.78	1.27	20.32	378	142.24	21.88
TBA	18	8	0.045	0.51	21.34	1.27	23.88	540	165.10	21.88
TBA	18	12	0.045	0.51	23.37	1.27	25.91	691	180.34	21.88
TBA	18	16	0.045	0.51	25.91	1.27	28.45	845	198.12	21.88
575916	16	1	0.056	0.38	13.46	1.27	16.15	263	111.76	13.72
TBA	16	2	0.056	0.51	16.51	1.27	19.05	335	132.08	13.72
TBA	16	4	0.056	0.51	19.05	1.27	21.59	452	149.86	13.72
TBA	16	8	0.056	0.51	23.37	1.27	25.91	680	180.34	13.72
TBA	16	12	0.056	0.51	25.91	1.27	28.45	896	198.12	13.72
TBA	16	16	0.056	0.51	30.99	1.27	33.53	1158	233.68	13.72
TBA	16	24	0.056	0.51	36.32	1.27	38.86	1653	271.78	13.72
TBA	16	36	0.056	0.51	40.39	1.27	42.93	2211	299.72	13.72

Typical Electrical Specifications for Each Pair

Size AWG	Capacitance pF/ft	Inductance µH/ft
18	40.66	0.0957
16	48.51	0.0895

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