INSTRUMENTATION CABLE

600 Volt

PVC/Nylon Insulated Singles

Sizes 18 AWG or 16 AWG

90°C

PVC Jacket

APPLICATIONS

Southwire's Instrumentation Cable is for use on Class 1 remote-control and signaling circuits where 600 volts is desired. For use indoors, outdoors, direct burial, free air, raceways, encased in concrete, open trays, troughs or continuous rigid cable supports. For use in Class I, Div 2, hazardous locations. For use as a nonpower-limited fire alarm circuit cable (NPLF) per NEC® Article 760. Rated for wet and dry applications at temperatures not to exceed 90°C. Provides sunlight, cold bend and cold impact resistance. Rated 90°C dry and 75°C wet. Rip cord applied to all cables with a jacket thickness of 60 mils or less. Meets -25°C cold bend. Meets -40°C cold impact.

SPECIFICATIONS

Southwire's Instrumentation Cable is manufactured and tested in accordance with the latest revisions of:

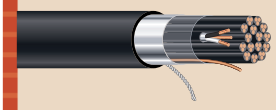
- UL 83 - Thermoplastic Insulated Wires
- UL 1277 - Electrical Power and Control Cables
- UL 1581 - Electrical Wires, Cables and Flexible Cords
- IEEE 1202 - Flame Testing of Cables for Use in Cable Tray in Industrial and Commercial Occupancies (70,000 BTU/hr)
- ICEA T-29-520 - Vertical Cable Tray Flame Test (210,000 BTU/hr)
- ICEA T-30-250 - Vertical Cable Tray Flame Test (70,000 BTU/hr)
- UL 1685 - UL Flame Exposure Test (70,000 BTU/hr)

CONSTRUCTION

Southwire's Instrumentation Cable has a PVC sheath impervious to moisture. Cable is flame retardant UL-listed for cable tray use, direct burial, sunlight resistant, RoHS Compliant and -40°C installation temperature. Conductors are sizes 18 AWG or 16 AWG, 7-strand copper conductors, PVC insulation with nylon covering, color coded, twisted pairs and triads, group of pairs and triads, numeric print identification on the groups, aluminum polyester foil with 100% coverage, overall tinned drain wire, a nylon ripcord and a black PVC jacket. Individual and overall shields are made with aluminum/polyester with a standard tinned copper drain wire. The paired conductors are colored black, white and numbered while the triads are color coded black, blue, red and numbered. Black/White conductors in pairs with alpha-numeric code for each pair. Black/White/Red for triad products.

- **Scope**

  This specification covers multiconductor PVC insulated, thermoplastic jacketed, 600 volt instrumentation cable for use indoors, outdoors, direct buried, encased in concrete, cable trays, troughs or continuous rigid cable supports. For use on Class 1 remote control and signaling circuits where 600 volts is desired. For use in Classes I, Div 2 hazardous locations. This cable is capable of operating continuously at a conductor temperature of 90°C in wet or dry locations.



WEIGHTS AND MEASUREMENTS

SIZE	NUMBER OF		INSULATION THICKNESS		INSULATION JACKET THICKNESS		JACKET THICKNESS		APPROXIMATE CORE DIAMETER		APPROXIMATE OVERALL DIAMETER		APPROXIMATE NET WEIGHT	
AWG or kcmil	PAIRS	TRIADS	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	lbs/ 1000 ft	kg/km
18	1	-	0.015	0.38	0.004	0.10	0.045	1.14	0.167	4.20	0.260	6.60	38	57
18	-	1	0.015	0.38	0.004	0.10	0.045	1.14	0.181	4.60	0.280	7.10	47	70
16	1	-	0.015	0.38	0.004	0.10	0.045	1.14	0.191	4.90	0.290	7.40	49	73
16	-	1	0.015	0.38	0.004	0.10	0.045	1.14	0.206	5.20	0.300	7.60	61	91
18	2	-	0.015	0.38	0.004	0.10	0.045	1.14	0.377	9.60	0.480	12.2	84	125
16	2	-	0.015	0.38	0.004	0.10	0.045	1.14	0.429	10.9	0.530	13.5	106	158
18	4	-	0.015	0.38	0.004	0.10	0.045	1.14	0.471	12.0	0.570	14.5	131	195
16	4	-	0.015	0.38	0.004	0.10	0.045	1.14	0.536	13.6	0.640	16.3	173	257
18	8	-	0.015	0.38	0.004	0.10	0.060	1.50	0.630	16.0	0.760	19.3	245	365
16	8	-	0.015	0.38	0.004	0.10	0.060	1.50	0.717	18.2	0.850	21.6	327	487
18	12	-	0.015	0.38	0.004	0.10	0.060	1.50	0.770	19.6	0.900	22.9	339	504
16	12	-	0.015	0.38	0.004	0.10	0.060	1.50	0.876	22.2	1.010	25.7	459	683

CONSTRUCTION (continued)

- **Standards**
  The following standards will form part of this specification - ASTM B8, UL 83, UL 1569 and UL 1277.
- **Conductor**
  The conductor will be 18 AWG or 16 AWG, 7-strand, bare copper conductor.
- **Insulation**
  The insulation will be PVC with a nylon covering meeting the requirements of the referenced standards. The insulation thickness will be 0.015" of PVC with 0.005" of nylon. Individual conductors will be color coded with the paired conductors colored black, white and numbered while the triads are color coded black, blue, red and numbered.
- **Assembly**
  The insulated conductors will be twisted pairs or triads, group of pairs or triads, numeric print identification on the groups, aluminum polyester foil with 100% coverage and tinned copper drain wire over each group, overall aluminum polyester foil with 100% coverage, overall tinned drain wire, a nylon ripcord, and a black -40°C PVC jacket.
- **Jacket**
  The cable will be covered with a black PVC jacket conforming to the requirements specified for polyvinyl chloride in ICEA. The average thickness will be in accordance with ICEA, and the minimum spot thickness will be not less than 80% of the average thickness. The jacket will be sunlight resistant and will meet the requirements of the IEEE 1202 (70,000 BTU/hr) and ICEA T-29-520 (210,000 BTU/hr) vertical cable tray flame tests. It is suitable for use at a minimum ambient temperature of -40°C.
- **Identification**
  A manufacturer's identification will be printed on the jacket.
- **Tests**
  Physical and electrical tests will be conducted in accordance with the requirements of the referenced standards.