300V CU PVC TRIADS PVC TOS Instrumentation

Type PLTC/ITC Instrumentation Cable 300 Volt Copper Conductors PVC Insulated Singles Overall Shield TOS. PVC Jacket Heat, Moisture, and Sunlight Resistant RoHS rated for -30°C to 105°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:** Twisted triad with Premium Grade Polyvinyl Chloride (PVC) Black/White/Red alpha-numeric print alternate and inverted. 1-ONE, 2-TWO.
3. **Overall Drain Wire:** Tinned Copper
4. **Overall Shielded:** 100% coverage aluminum/polyester foil shield with a drain wire as shown in step 3
5. **Rip Cord:** Rip cord under jacket for ease of removal
6. **Jacket:** Black sunlight, and moisture resistant Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's Instrumentation Cables Type PLTC per UL 13 and Type ITC per UL 2250 are suitable for installations as outlined in NEC Article 336 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 triad conductors are colored black, white, red and alpha-numeric printed. Each triad 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 -30°C to 105°C and rated for Class I Div II hazardous locations, and sun resistant. The jacket is black PVC with a nylon ripcord for easy removal.

SPECIFICATIONS:

- UL 13 Power-Limited Circuit Cables
- UL 2250 Instrumentation Tray Cable
- IEEE 383 Flame Test (70,000 btu)
- 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
- RoHS-2 (European Directive 2011/65/EU)
- NEC Article 336 Power and Control Tray Cable

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SAMPLE PRINT LEGEND:

SOUTHWIRE® XX AWG XX TRIADS PVC/PVC TYPE PLTC/ITC E220129 V3 & V4 (UL) 105°C SUN RES FT4/IEEE 1202 SEQUENTIAL MARKING

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Number of Triads	Diameter Over Conductor	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25°C
	AWG/ Kcmil	triad	inch	mil	mil	inch	lb/1000ft	inch	Ω/1000ft
TBA	20	2	0.036	20	50	0.401	66	2.4	10.50
TBA	20	4	0.036	20	50	0.463	102	2.7	10.50
TBA	20	8	0.036	20	50	0.594	176	3.5	10.50
TBA	20	12	0.036	20	60	0.740	263	4.4	10.50
TBA	20	16	0.036	20	60	0.822	332	4.9	10.50
TBA	20	24	0.036	20	70	1.033	495	6.1	10.50
566938	18	1	0.045	15	50	0.276	46	1.6	6.669
TBA	18	2	0.045	20	50	0.439	84	2.6	6.669
TBA	18	4	0.045	20	50	0.509	135	3.0	6.669
TBA	18	8	0.045	20	60	0.677	249	4.0	6.669
TBA	18	12	0.045	20	60	0.819	353	4.9	6.669
TBA	18	16	0.045	20	70	0.931	468	5.5	6.669
TBA	18	24	0.045	20	70	1.147	671	6.8	6.669
566931	16	1	0.056	15	35	0.270	53	1.6	4.181
TBA	16	2	0.056	20	50	0.483	110	2.8	4.181
TBA	16	4	0.056	20	50	0.562	182	3.3	4.181
TBA	16	8	0.056	20	60	0.750	339	4.5	4.181
TBA	16	12	0.056	20	70	0.931	504	5.5	4.181
TBA	16	16	0.056	20	70	1.035	644	6.2	4.181
TBA	16	24	0.056	20	80	1.299	957	7.7	4.181

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item

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Table 2 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Number of Triads	Diameter Over Conductor	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	DC Resistance @ 25°C
	AWG/ Kcmil	triad	inch	mm	mm	mm	lb/km	mm	Ω/km
TBA	20	2	0.036	0.51	1.27	10.19	98	60.96	34.45
TBA	20	4	0.036	0.51	1.27	11.76	152	68.58	34.45
TBA	20	8	0.036	0.51	1.27	15.09	262	88.90	34.45
TBA	20	12	0.036	0.51	1.52	18.80	391	111.76	34.45
TBA	20	16	0.036	0.51	1.52	20.88	494	124.46	34.45
TBA	20	24	0.036	0.51	1.78	26.24	737	154.94	34.45
566938	18	1	0.045	0.38	1.27	7.01	68	40.64	21.88
TBA	18	2	0.045	0.51	1.27	11.15	125	66.04	21.88
TBA	18	4	0.045	0.51	1.27	12.93	201	76.20	21.88
TBA	18	8	0.045	0.51	1.52	17.20	371	101.60	21.88
TBA	18	12	0.045	0.51	1.52	20.80	525	124.46	21.88
TBA	18	16	0.045	0.51	1.78	23.65	696	139.70	21.88
TBA	18	24	0.045	0.51	1.78	29.13	999	172.72	21.88
566931	16	1	0.056	0.38	0.89	6.86	79	40.64	13.72
TBA	16	2	0.056	0.51	1.27	12.27	164	71.12	13.72
TBA	16	4	0.056	0.51	1.27	14.27	271	83.82	13.72
TBA	16	8	0.056	0.51	1.52	19.05	504	114.30	13.72
TBA	16	12	0.056	0.51	1.78	23.65	750	139.70	13.72
TBA	16	16	0.056	0.51	1.78	26.29	958	157.48	13.72
TBA	16	24	0.056	0.51	2.03	32.99	1424	195.58	13.72

Typical Electrical Specifications for Each Triad

Size	Capacitance	Inductance
18	40.66	0.0957
16	48.51	0.0895