

# INSTRUMENTATION & THERMOCOUPLE

## MEETS OR EXCEEDS ALL NECESSARY SPECIFICATIONS

Today, the vital functions of measurement and control in manufacturing and processing operations are largely dependent on electronic circuitry. An improving technology, delivering greater control, accuracy and broadened capability, makes the reliability and durability of the interconnecting cables more significant than ever . . . to you, and to Alpha Wire.

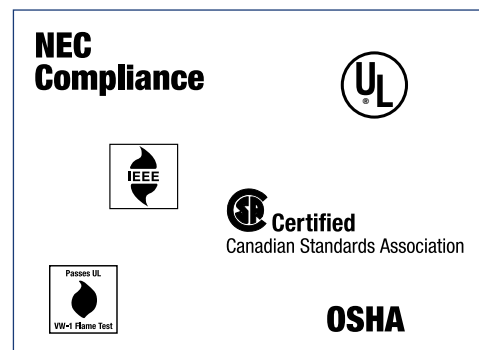
In many respects, instrumentation cables are functionally similar to other cables used in electronic devices. Alpha's line of instrumentation cables are designed for ease of installation, for the transmission of signals and energy with minimal interference and for maximum durability in full compliance with recognized industry and government standards.

Concern for safety and environmental protection has made it mandatory that the cable you design, specify, install, move or service meet specific rigid requirements. These requirements are particularly demanding for instrumentation cable utilized in process control, instrumentation, computers, control systems and monitor networks.

The Alpha line of instrumentation cable is designed to meet or exceed all necessary specifications and enable the cable used in these applications to perform safely under the most stringent and demanding environmental conditions.

- **UL Listed**
- **CSA Certified CMG FT4**
- **NEC** – meets the demanding requirements of the 1999 National Electrical Code (NEC). 300 Volt rated cables meet NEC Article-725 (Power Limited Tray Cable); 600 Volt rated cables meet NEC Article-340 (Tray Cable).
- **UL** – Alpha 300 Volt PLTC and 600 Volt Tray Cables pass the UL Vertical Tray Flame Test.
- **IEEE 383** – 300 Volt PLTC and 600 Volt Tray Cables pass the IEEE Vertical Tray Flame Test.
- **OSHA** – Alpha cables that are UL Listed and installed to meet the 1999 NEC Code are acceptable to OSHA.

Since the measurement of temperature is frequently critical in the control of manufacturing and processing operations, Alpha supplies a full line of Thermocouple Grade Wire and Thermocouple Extension Wire and Cable to complement its instrumentation Cable. Alpha Thermocouple Wire and Cable products are designed to maintain the integrity of the temperature-EMF-generated signals, even when the most sophisticated electronic circuitry is used to sense and transmit temperature measurements. Specific information on design parameters for Thermocouple Wire and Cable is covered in detail in this section on pages 326 - 332.



Product Type	Page Number (s)
<b>INSTRUMENTATION CABLE:</b>	
PLTC/PVC . . . . .	320 - 322
TC PVC/Nylon . . . . .	323 - 325
<b>THERMOCOUPLE WIRE AND CABLE:</b>	
Design Parameters . . . . .	326, 327
Extension Wire . . . . .	328
Grade Wire . . . . .	329
Hi Temp. Extension Cable . . . . .	330
Extension Cable . . . . .	331, 332

**UL TYPE PLTC  
CSA CMG FT4  
RoHS COMPLIANT  
300 VOLT**

# INSTRUMENTATION CABLE

## OVERALL SHIELDED MULTIPAIR/MULTITRIAD

### CHARACTERISTICS

**OPERATING TEMPERATURE:**

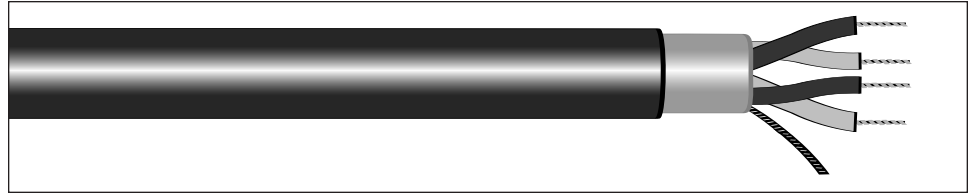
- -20°C to 105°C

**VOLTAGE RATING:**

- 300 Volt

**PRODUCT DESCRIPTION:**

- Stranded Bare Copper Conductors
- PVC Insulation:
  - Paired Construction Color Coded — One Black, One White
  - Triad Construction Color Coded — One Black, One White, One Red
  - White Conductor Printed with Pair/Triad Number at One Inch Intervals for Easy Identification
- When Shielded:
  - Aluminum/Polyester and Tinned Copper Drain Wire
- PVC Jacket — Black, UV Resistant



### OVERALL SHIELDED PAIRS

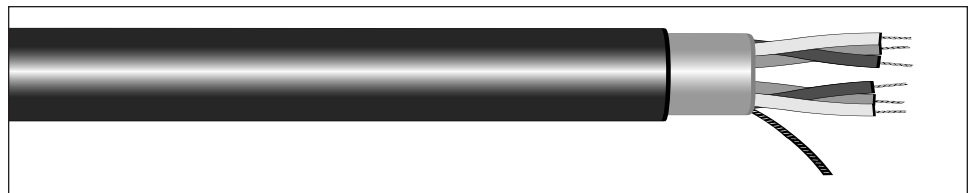
Alpha Part No.	No. of Pairs	AWG	No. of Strands	Nom. Insulation Thickness		Nom. Jacket Thickness		Nom. O.D.	
				Inches	mm	Inches	mm	Inches	mm
▲ 5610B2201	1	22	7	0.013	0,33	0.035	0,89	0.19	4,9
▲ 5610B2001	1	20	7	0.013	0,33	0.035	0,89	0.21	5,3
▲ 5610B2002	2	20	7	0.013	0,33	0.040	1,02	0.31	7,1
▲ 5610B2004	4	20	7	0.013	0,33	0.050	1,27	0.38	9,6
▲ 5610B2008	8	20	7	0.013	0,33	0.050	1,27	0.47	11,9
5610B2010	10	20	7	0.013	0,33	0.050	1,27	0.53	13,0
▲ 5610B2012	12	20	7	0.013	0,33	0.050	1,27	0.55	14,1
▲ 5610B2016	16	20	7	0.013	0,33	0.060	1,52	0.63	16,0
5610B2020	20	20	7	0.013	0,33	0.060	1,52	0.66	17,3
5610B2024	24	20	7	0.013	0,33	0.060	1,52	0.74	18,5
▲ 5610B1801	1	18	7	0.016	0,41	0.035	0,89	0.24	6,1
▲ 5610B1802	2	18	7	0.016	0,41	0.040	1,02	0.37	8,4
▲ 5610B1804	4	18	7	0.016	0,41	0.050	1,27	0.45	11,2
5610B1808	8	18	7	0.016	0,41	0.050	1,27	0.56	14,2
5610B1812	12	18	7	0.016	0,41	0.060	1,52	0.68	17,0
▲ 5610B1601	1	16	7	0.016	0,41	0.035	0,89	0.26	6,5
▲ 5610B1602	2	16	7	0.016	0,41	0.050	1,27	0.43	9,6
▲ 5610B1604	4	16	7	0.016	0,41	0.050	1,27	0.49	12,2
▲ 5610B1608	8	16	7	0.016	0,41	0.060	1,52	0.64	16,2
5610B1612	12	16	7	0.016	0,41	0.060	1,52	0.75	18,8
▲ 5610B1401	1	14	19	0.020	0,51	0.040	1,02	0.31	7,9
5610B1201	1	12	19	0.020	0,51	0.040	1,02	0.35	8,8

### SPECIFICATIONS

- UL Type PLTC
- CSA CMG FT4
- Passes UL Vertical Tray Flame Test
- Complies with NEC Article 725, Type PLTC
- RoHS Compliant



Canadian Standards Association



### OVERALL SHIELDED TRIADS

Alpha Part No.	No. of Triads	AWG	No. of Strands	Nom. Insulation Thickness		Nom. Jacket Thickness		Nom. O.D.	
				Inches	mm	Inches	mm	Inches	mm
▲ 5640B2201	1	22	7	0.013	0,33	0.035	0,89	0.20	5,8
▲ 5640B2001	1	20	7	0.013	0,33	0.035	0,89	0.22	6,6
▲ 5640B2004	4	20	7	0.013	0,33	0.050	1,27	0.44	11,2
▲ 5640B1801	1	18	7	0.016	0,41	0.035	0,89	0.25	7,4
▲ 5640B1601	1	16	7	0.016	0,41	0.040	1,01	0.27	8,6

### AVAILABILITY

- Bulk, Cut to Length
- ▲ Available in 1000 ft (305m) put-ups

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