

INSTRUMENTATION CABLE

AVOCAB manufactures a wide variety of cables suitable for process instrumentation. In projects related to power generation & distribution, chemical & fertilizer industries or other various types of engineering industries, process instrumentation plays a vital role in measurement, supervision and control of the process. Introduction of microprocessor based / computerized instrumentation demands stringent quality requirement along with special electrical parameters for instrumentation cables. Very low level electrical signals pass between measuring end and display units / controllers that are quite far from each other. These low-level signals are prone to picking up external noise and heavy silenuation during transmission.

TYPICAL INSTRUMENTATION CABLE CONSTRUCTION

Conductor: 0.4 mm dia (0.126 Sq. mm) to 2.5 Sq. mm. or higher sizes of electrolytic copper wire, Tinned/AB Cables Slid/Stranded Copper Conductors.

Insulation: 70 / 85 / 105°C Grade PVC, Polyethylene, Halogen Free FRLS Polymeric Compounds

Elements: Pair / Triple / Quad, Color Coded / Number Printing Ring Marked.

Shields: Aluminum Polyester tape screen with Copper drain wire or overall Shielding as specified.

Element Laying: Concentric formation or unit & group formation as per applicable specification.

Armoring: Galvanized steel wire / strip armoring.

Sheathing: PVC 70 / 90°C grade, PVC FRLS, ZHFR, FR.

Specification: BS; 5308 (1&2) IEC-189 (1&2) and customer specifications.

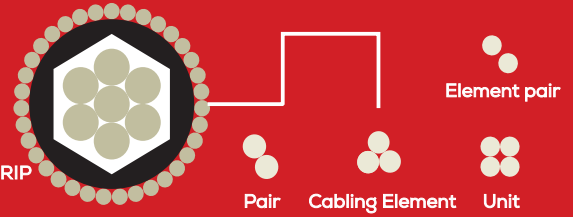
OUTER SHEATH
1) PVC (ST-1/ST-2)
2) FRLS PVC
3) Halogen Free FRLS

ARMOURING WIRE/STRIP
Galvanized Steel

INNER SHEATH
1) PVC (ST-1/ST-2)
2) FRLS PVC
3) Halogen Free FRLS

DRAIN TINNED WIRE

OVERALL SCREEN
1) Al-Polyester tape with copper drain wire



COPPER CONDUCTOR
1) Bare (ABC) 3) Solid
2) Tinned (ATC) 4) Stranded

INSULATION
1) PVC (Type A, C)
2) Polyethylene
3) Halogen Free FRLS

500 V OVERALL SCREENED SINGLE AND MULTI-PAIR ARMoured INSTRUMENTATION CABLE					
No of Pairs	Nominal area of conductor (mm ²)	Minimum Insulation Thickness (mm)	Nominal steel armour Wire Dia. (mm)	Approx. Overall Diameter (mm)	Approx. weight (kg/km)
1P	0.5	0.44	0.9	11.0	215
2P	0.5	0.44	0.9	14.0	310
5P	0.5	0.44	0.9	16.5	440
10P	0.5	0.44	0.9	21.5	690
20P	0.5	0.44	1.25	27.5	1190
1P	0.75	0.44	0.9	11.0	225
2P	0.75	0.44	0.9	14.5	345
5P	0.75	0.44	0.9	17.5	510
10P	0.75	0.44	1.25	23.5	910
20P	0.75	0.44	1.25	29.0	1360
1P	1.0	0.44	0.9	11.5	240
2P	1.0	0.44	0.9	15.0	375
5P	1.0	0.44	0.9	18.0	560
10P	1.0	0.44	1.25	25.0	1010
20P	1.0	0.44	1.25	31.0	1560
1P	1.5	0.44	0.9	12.0	270
2P	1.5	0.44	0.9	16.0	420
5P	1.5	0.44	0.9	20.0	650
10P	1.5	0.44	1.25	27.0	1210
20P	1.5	0.44	1.25	34.0	1890

500 V OVERALL SCREENED SINGLE AND MULTI-PAIR ARMoured INSTRUMENTATION CABLE					
No of Pairs	Nominal area of conductor (mm ²)	Minimum Insulation Thickness (mm)	Nominal steel armour Wire Dia. (mm)	Approx. Overall Diameter (mm)	Approx. weight (kg/km)
1T	0.5	0.44	0.9	11.5	230
2T	0.5	0.44	0.9	15.0	365
5T	0.5	0.44	0.9	18.0	540
10T	0.5	0.44	1.25	24.5	980
20T	0.5	0.44	1.25	30.5	1480
1T	0.75	0.44	0.9	11.5	250
2T	0.75	0.44	0.9	15.5	395
5T	0.75	0.44	0.9	19.0	610
10T	0.75	0.44	1.25	26.0	1130
20T	0.75	0.44	1.25	32.5	1740
1T	1.0	0.44	0.9	12.0	265
2T	1.0	0.44	0.9	16.5	430
5T	1.0	0.44	0.9	20.0	670
10T	1.0	0.44	1.25	27.5	1270
20T	1.0	0.44	1.25	34.5	1970
1T	1.5	0.44	0.9	13.0	305
2T	1.5	0.44	0.9	18.0	510
5T	1.5	0.44	0.9	22.0	820
10T	1.5	0.44	1.25	30.0	1520
20T	1.5	0.44	1.6	38.5	2660

500 V INDIVIDUAL AND OVERALL SCREENED MULTI-PAIR ARMoured INSTRUMENTATION CABLE					
No of Pairs	Nominal area of conductor (mm ²)	Minimum Insulation Thickness (mm)	Nominal steel armour Wire Dia. (mm)	Approx. Overall Diameter (mm)	Approx. weight (kg/km)
2P	0.5	0.44	0.9	15.0	365
5P	0.5	0.44	0.9	18.5	540
10P	0.5	0.44	1.25	25.0	990
20P	0.5	0.44	1.25	31.0	1480
2P	0.75	0.44	0.9	15.5	395
5P	0.75	0.44	0.9	19.0	590
10P	0.75	0.44	1.25	26.5	1100
20P	0.75	0.44	1.25	32.5	1680
2P	1.0	0.44	0.9	16.5	425
5P	1.0	0.44	0.9	20.0	650
10P	1.0	0.44	1.25	27.5	1210
20P	1.0	0.44	1.25	35.0	1900
2P	1.5	0.44	0.9	18.0	490
5P	1.5	0.44	0.9	22.0	760
10P	1.5	0.44	1.25	30.0	1430
20P	1.5	0.44	1.6	39.0	2480

500 V INDIVIDUAL AND OVERALL SCREENED MULTI-PAIR ARMoured INSTRUMENTATION CABLE					
No of Pairs	Nominal area of conductor (mm ²)	Minimum Insulation Thickness (mm)	Nominal steel armour Wire Dia. (mm)	Approx. Overall Diameter (mm)	Approx. weight (kg/km)
2T	0.5	0.44	0.9	16.5	415
5T	0.5	0.44	0.9	20.0	630
10T	0.5	0.44	1.25	27.5	1170
20T	0.5	0.44	1.25	34.0	1800
2T	0.75	0.44	0.9	17.5	470
5T	0.75	0.44	0.9	21.0	720
10T	0.75	0.44	1.25	29.5	1330
20T	0.75	0.44	1.6	37.0	2280
2T	1.0	0.44	0.9	18.0	510
5T	1.0	0.44	0.9	22.0	790
10T	1.0	0.44	1.25	30.5	1480
20T	1.0	0.44	1.6	39.5	2580
2T	1.5	0.44	0.9	19.5	570
5T	1.5	0.44	1.25	25.0	1060
10T	1.5	0.44	1.25	33.5	1750
20T	1.5	0.44	1.6	43.0	3110

Standard: En 50288-7
Voltage: 500V
Conductor: Bare Copper Conductor (Class 2 or Class5)
Insulation: PE/PVC
Pair Identification: Pairs will be numbered as per appendix

Collective Screen: Aluminium Mylar tape with Tinned Copper drain Wire
Inner Sheath: Extruded PE/PVC
Armouring: Single layer of Galvanized Steel Wire strip
Sheathing: PVC
Temperature rating: 70C Max Conductor Operating temperature

Alternative method of Identification of cable pairs

Pair number	A-wire	B-wire
01	White	Black
02 to 50	White with pair number	Black with pair number

CHANDRESH CABLES LIMITED

Corporate Office: G-6, New Madhavpura Market, Nr. Police Commissioner Office, Shahibaug, Ahmedabad-380004, Gujarat, India.
Ph.: +91-79-2562 3055 / 56 / 58

Unit I: Block No. 1108, Chhatral, Taluka Kalol, Dist. Gandhinagar - 382729, Gujarat, India. Ph.: +91 2764 232251 / 233352 / 234151

Unit II: Plot No 2059/2060, B/H-Ratnadeep Metal Industries, Nr. New Khodiyar Hotel, Village-Rajpur, Taluka Kadi, Dist. Mehsana, Gujarat - 382715, India.

Unit III: 476 & 477, Anandpura Village, Nandasan - Dangarva Road, Dist: Mehsana-382705, Gujarat, India.



www.avocab.com | sales@avocab.com | info@avocab.com