

Multipair PVC Insulated Instrumentation Cable BS5308 Part 2 Type 2

Individual and Collective Screen, Armoured 300/500V



Application

These cables are designed to connect electrical instrument circuits and provide communication services in and around process plants (e.g. petrochemical industry etc.). Suitable for direct buried applications.

Specifications

- In accordance with BS 5308 Part 2.
- **Conductors:** Stranded (Class 2) or flexible (Class 5) copper conductors to BS EN 60228.
- **Insulation:** PVC insulation Type TI.1 to BS EN 50363-3.
- **Pair Identification:** Pairs will be numbered, each pair containing 1 white and 1 blue core.
- 100mm maximum pair lay length (minimum 10 twists per metre).
- **Individual Screen:** tinned copper drain wire under and in contact with aluminium/p.e.t.p. laminated tape applied metallic side down.
- **Screen Isolation Tape:** numbered p.e.t.p. tape applied over each individually screened pair.
- **Binder Tape:** p.e.t.p. tape 50% overlap.
- **Collective Screen:** tinned copper drain wire(s) under and in contact with aluminium/p.e.t.p. laminated tape applied metallic side down.
- PVC bedding Type TM.1 to BS EN 50363-4-1.
- Mild galvanised steel wires to BS EN10257-1.
- **Outer Sheath:** PVC outer sheath Type TM.1 to BS EN 50363-4-1. In addition, outer sheath displays following characteristics:
Minimum oxygen index: 30%.
Maximum HCL Emission @ 800°C: 15%.
- Flame retardant to BS EN 60332-3-24 & IEC60332-3-24 Category C (NMV1.5).
- **Voltage Rating:** 300/500V.
- **Temperature Rating:** 65°C maximum conductor operating temperature.

Control & Instrumentation Cables
Multipair PVC Insulated Instrumentation Cable
BS5308 Part 2 Type 2
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Anixter Number	Number of Pairs/ Triple	Nominal Cond Area	Nominal Cond Stranding	Insulation Thickness	Nominal Diameter Under Armour	Armour Wire Diameter	Nominal O/D	Approx Cable Weight	Min Bending Radius (fixed bend)
		mm ²	#/mm						
A7DB2-P002LF	2P	0.5	16/0.20	0.6	12.0	0.9	16.8	505	140
A7DB2-P005LF	5P	0.5	16/0.20	0.6	15.2	1.25	20.9	830	170
A7DB2-P010LF	10P	0.5	16/0.20	0.6	21.1	1.60	27.9	1420	230
A7DB2-P020LF	20P	0.5	16/0.20	0.6	27.3	1.60	34.3	2040	280
A7DD2-P002LF	2P	0.75	24/0.20	0.6	12.8	0.9	17.6	545	150
A7DD2-P005LF	5P	0.75	24/0.20	0.6	16.3	1.25	22.0	1005	180
A7DD2-P010LF	10P	0.75	24/0.20	0.6	22.7	1.60	29.5	1760	240
A7DD2-P020LF	20P	0.75	24/0.20	0.6	29.8	2.0	37.8	2640	310
A7DA2-P002LF	2P	1.5	7/0.53	0.6	14.7	1.25	20.4	800	170
A7DA2-P005LF	5P	1.5	7/0.53	0.6	18.8	1.60	25.4	1290	210
A7DA2-P010LF	10P	1.5	7/0.53	0.6	26.5	1.60	33.5	1990	270
A7DA2-P020LF	20P	1.5	7/0.53	0.6	34.4	2.0	42.6	3310	350

N.B. The above part numbers apply to cables with blue outer sheaths. For black outer add -02, for green outer add -04. 15, 30 and 50 pair cables of the above type are also covered in BS5308 Part 2 and details are available upon request. For further technical information refer to page 4:32.

Technical Information for BS5308 Part 2

ELECTRICAL CHARACTERISTICS

Maximum Mutual Capacitance Values:

Maximum mutual capacitance of the pairs or adjacent cores - 250pF/m

Maximum capacitance between any core and screen - 450pF/m

MAXIMUM D.C. CONDUCTOR RESISTANCE @ 20°C

Conductor Size mm ²	Conductor Stranding #/mm	Resistance @ 20°C Maximum Ω/km	
		Multi-Core	Multipair
0.5	16/0.2	39.0	39.7
0.75	24/0.2	26.0	26.5
1.5	7/0.53	12.1	12.3

MAXIMUM L/R RATIO

Conductor Size mm ²	Conductor L/R Ratio (for adjacent cores)
0.5	25μH/Ω
0.75	25μH/Ω
1.5	40μH/Ω

pF/m = pico Farads per metre
 Ω/km = ohms per km
 μH/Ω = micro Henrys per ohm

INFORMATION ON HANDLING AND USAGE AT LOW TEMPERATURES

Attention is drawn to the fact that as the temperature decreases PVC compounds become increasingly stiff and brittle, with the result that if the cable is bent quickly into a small radius, or is struck sharply at temperatures in the region of 0°C or lower, there is a risk of shattering the PVC components. To avoid the risk of damage during handling, therefore, it is desirable that the cables specified in this standard should be installed only when both the cable and the ambient temperatures are above 0°C and have been so for the previous 24 hrs, or where special precautions have been taken to maintain the cable above this temperature. However, after installation, they will operate satisfactorily at temperatures between -40°C and +65°C providing that at temperatures below 0°C they are not subject to movement or impact. The manufacturer should be consulted for precise instructions if the cable is to be stored and/or used outside these temperature limits.