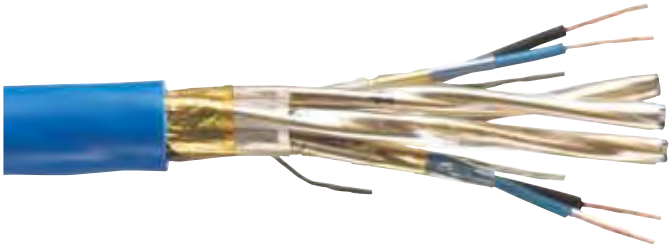
Multipair PE Insulated LSF Instrumentation Cable

BS5308 Part 1 Type 1 – LSF

Individual and Collective Screen, Unarmoured 300/500V Low Smoke Zero Halogen



Application

These cables are designed to connect electrical instrument circuits and provide communication services in and around process plants (e.g. petrochemical industry etc.). Especially for use in areas where fire would create dense smoke and toxic fumes causing a major threat to life and equipment. Not suitable for direct buried applications (see cable type 2).

Specifications

- Generally in accordance with BS 5308 Part 1.
- Conductors: Stranded (Class 2) or flexible (Class 5) copper conductors to BS EN 60228.
- Insulation: Polythene insulation Type 03 to BS6234.
- Pair Identification: Pairs will be numbered, each pair containing 1 black 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.
- Outer Sheath: Black LSF outer sheath to BS6724.
- 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.

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Anixter Number	Number of Pairs/ Triple	Nominal Cond Area	Nominal Cond Stranding	Insulation Thickness	Nominal O/D	Approx Cable Weight	Min Bending Radius (fixed bend)
		mm^2	#/mm	mm	mm	kg/km	mm
A7Z1-P002L-02	2P	0.50	16/0.20	0.60	12.00	160	100
A7Z1-P005L-02	5P	0.50	16/0.20	0.60	15.20	250	130
A7Z1-P010L-02	10P	0.50	16/0.20	0.60	21.10	480	170
A7Z1-P020L-02	20P	0.50	16/0.20	0.60	27.30	780	220
A7Z1-P030L-02	30P	0.50	16/0.20	0.60	32.3	1100	260
A7Z1-P050L-02	50P	0.50	16/0.20	0.60	41.7	1590	340
A7DG1-P002L-02	2P	0.75	24/0.20	0.60	12.80	190	110
A7DG1-P005L-02	5P	0.75	24/0.20	0.60	16.30	270	140
A7DG1-P010L-02	10P	0.75	24/0.20	0.60	22.70	550	190
A7DG1-P020L-02	20P	0.75	24/0.20	0.60	29.80	960	240
A7DG1-P030L-02	30P	0.75	24/0.20	0.60	35.50	1320	290
A7DG1-P050L-02	50P	0.75	24/0.20	0.60	45.00	2120	360
A7CS1-P002L-02	2P	1.50	7/0.53	0.60	14.70	250	120
A7CS1-P005L-02	5P	1.50	7/0.53	0.60	18.80	400	160
A7CS1-P010L-02	10P	1.50	7/0.53	0.60	26.50	800	220
A7CS1-P020L-02	20P	1.50	7/0.53	0.60	34.40	1400	280
A7CS1-P030L-02	30P	1.50	7/0.53	0.60	41.00	2040	330
A7CS1-P050L-02	50P	1.50	7/0.53	0.60	52.20	3250	420

For further technical information refer to page 4:22.

Technical Information for BS5308 Part 1

ELECTRICAL CHARACTERISTICS

MAXIMUM MUTUAL CAPACITANCE VALUES

	Conductor Size				
	0.5mm² pF/m	0.75mm² pF/m	1.0mm² pF/m	1.5mm² pF/m	2.5mm² pF/m
Cables without Screens	75	75	75	85	85
Cables with Collective Screen Only except 1 pair, 2 pair and 1 triple)	75	75	75	85	85
One Pair, One Triple and Two Pair Collectively Screened and all Cables with individually Screened Pairs	115	115	115	120	120

MAXIMUM D.C. CONDUCTOR RESISTANCE @ 20°C

Conductor Size	Conductor Stranding	Resistance @ 20°C Maximum
mm²	#/mm	Ω/km
0.5	1/0.8	36.8
0.5	16/0.2	39.7
0.75	24/0.2	26.5
1.0	1/1.13	18.4
1.5	7/0.53	12.3
2.5	7/0.67	7.56

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

MAXIMUM L/R RATIO

Conductor Size	Conductor L/R Ratio (for adjacent cores)
mm²	
0.5	25μH/Ω
0.75	25μH/Ω
1.0	25μH/Ω
1.5	40μH/Ω
2.5	65μH/Ω

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.