Controlflex® “CY-LSF” Type

Low Smoke Zero Halogen Screened Flexible Cable 300/500V 80°C

Application

These flexible cables are designed for industrial control and instrumentation circuits and interconnections between mobile and fixed equipment. Incorporates a collective tinned copper wire braid screen for electrical protection. Cables are not recommended for applications where cable is likely to be subjected to *repetitive* flexing and/or twisting e.g. robotics, reeling drum, cranes etc. Especially for use in areas where fire would create dense smoke and toxic fumes causing a major threat to life and equipment.

Specifications

- Generally in accordance with BS6500 and VDE0250.
- **Conductors:** Flexible (Class 5) plain copper conductors to BS EN 60228.
- **Insulation:** Zero halogen insulation.
- **Core Identification:** Cores will be number printed, in a contrasting colour, on black low smoke zero halogen insulation. All cables of three core and above will incorporate a green/yellow earthcore in the outer layer.
- **Binder Tape:** p.e.t.p. tape.
- Tinned copper wire braid (minimum 60% coverage).
- Grey LSF outer sheath Type LTS3 to BS7655 section 6.1. RAL 7000.
- Flame retardant to BS EN 60332-1-2.
- Meets IEC61034 3m cube smoke emission test.
- **Voltage Rating:** 300/500V.
- **Temperature Rating:** 80°C maximum conductor operating temperature.

Add suffix - KL to part number for cables up to 3 core having coloured cores, or - HKL for 4 and 5 core cables as follows: e.g. A4LN-C003-KL or A4LN-C005-HKL

2 core - blue, brown

3 core - green/yellow, blue, brown

4 core - green/yellow, brown, black, grey

5 core - green/yellow, brown, black, grey, blue

For further technical information refer to the end of the section.

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Anixter Number	Number of Cores	Nominal Conductor Size	Nominal Number and Size of Wires	Nominal O/D	Approx Cable Weight
		mm^2	#/mm	mm	kg/km
A4LK-C002	2	0.5	16/0.20	5.4	45
A4LK-C003	3	0.5	16/0.20	5.8	53
A4LK-C004	4	0.5	16/0.20	6.3	63
A4LK-C005	5	0.5	16/0.20	6.7	76
A4LL-C002	2	0.75	24/0.20	5.9	56
A4LL-C003	3	0.75	24/0.20	6.1	65
A4LL-C004	4	0.75	24/0.20	6.6	61
A4LL-C005	5	0.75	24/0.20	7.0	72
A4LM-C002	2	1.0	32/0.2	6.1	50
A4LM-C003	3	1.0	32/0.20	6.3	59
A4LM-C004	4	1.0	32/0.20	6.8	71
A4LM-C005	5	1.0	32/0.20	7.3	83
A4LN-C002	2	1.5	30/0.25	6.6	58
A4LN-C003	3	1.5	30/0.25	6.9	74
A4LN-C004	4	1.5	30/0.25	7.5	91
A4LN-C005	5	1.5	30/0.25	8.1	109
A4LO-C002	2	2.5	50/0.25	7.7	95
A4LO-C003	3	2.5	50/0.25	8.1	121
A4LO-C004	4	2.5	50/0.25	8.8	134
A4LO-C005	5	2.5	50/0.25	9.4	163
A4LOA-C004	4	4	56/0.30	10.4	196
A4LOA-C005	5	4	56/0.30	11.4	238

Continued overleaf. . .

Controlflex® "CY-LSF" Type

Low Smoke Zero Halogen Screened Flexible Cable 300/500V 80°C (continued)

Anixter Number	Number of Cores	Nominal Conductor Size	Nominal Number and Size of Wires	Nominal O/D	Approx Cable Weight
		mm^2	#/mm	mm	kg/km
A4L0B-C004	4	6	84/0.30	11.8	273
A4L0B-C005	5	6	84/0.30	17.0	545
A4L0C-C004	4	10	80/0.40	14.2	429
A4L0C-C005	5	10	80/0.40	21.0	850
A4L0D-C004	4	16	126/0.40	17.7	690
A4L0D-C005	5	16	126/0.40	25.0	1270

Larger core counts and cables having coloured cores also available.

CURRENT RATINGS

30°C ambient air temperature

Nominal Conductor Area	Current Ratings	
	Single Phase a.c. or d.c.	Three Phase a.c.
mm²	A	A
0.5	3	3
0.75	6	6
1.0	10	10
1.5	16	16
2.5	25	20
4.0	32	25
6.0	51	43
10	70	60
16	94	80
25	119	101
35	148	126
50	180	153
70	232	196
95	282	238

The above ratings are based on cable in FREE air, in an ambient air temperature of 30°C. For ambient air temperatures other than 30°C the following rating factors should be applied:

Ratings for cables up to and including 4mm² are based on 60°C conductor operating temperature with 6mm² and above based on 70°C operating temperature.

Cables up to and including 4mm² (Assuming 60°C conductor temperature)

Ambient air temp °C	35	40	45	50	55
Rating factor	0.91	0.82	0.71	0.58	0.41

Cables 6mm² and above (Assuming 70°C conductor temperature)

Ambient air temp °C	35	40	45	50	55	60
Rating factor	0.94	0.87	0.79	0.71	0.61	0.50

Technical Information for Controlflex®

VOLTAGE DROP

60°C* conductor operating temperature

Nominal Conductor Area	Voltage Drop					
	Single Phase a.c. or d.c.			Three Phase a.c.		
mm²	mV/A/m			mV/A/m		
0.5	93			80		
0.75	62			54		
1.0	46			40		
1.5	32			27		
2.5	19			16		
4.0	12			10		
6.0	7.3			6.4		
10	4.4			3.8		
16	2.8			2.4		
	r	x	z	r	x	z
25	1.75	0.170	1.75	1.50	0.145	1.50
35	1.25	0.165	1.25	1.10	0.145	1.10
50	0.93	0.165	0.94	0.80	0.140	0.81
70	0.63	0.160	0.65	0.55	0.140	0.57
95	0.47	0.155	0.50	0.41	0.135	0.43

Since cables may be used at conductor operating temperatures up to 80°C, the current ratings may be increased by the following factors:

Cable up to and including 4mm² x 1.25 cables above 6mm² x 1.10.

Ambient temperature correction factors for cables operating at 80°C conductor temperatures should be applied as follows.

Ambient air temp °C	35	40	45	50	55	60
Rating factor	0.95	0.89	0.84	0.77	0.71	0.63

For cables where four or more cores are loaded, the following rating factors should be applied:

No. of cores loaded	4	5	6	7	10	12	14	19	24	27	30	37
Rating factor	0.78	0.72	0.67	0.63	0.56	0.53	0.51	0.45	0.42	0.40	0.39	0.36

These factors need not be applied if the number of cores loaded does not exceed the square root of the total number of cores in the cable.