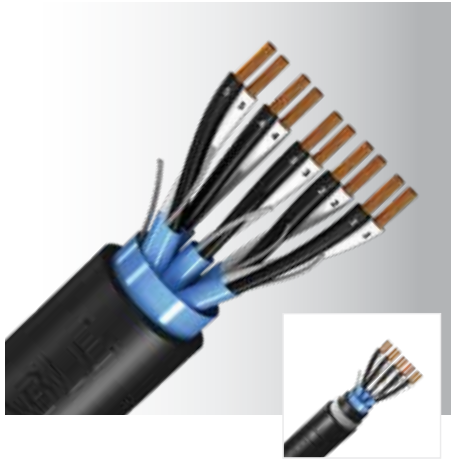


Flame Retardant Instrumentation Cables

500V Individual & Collective Screen
PE Insulated, IS OS, Unarmoured & Armoured, LSZH Sheathed Cable
CU/PE/IS OS/LSZH or CU/PE/IS OS/LSZH/SWA/LSZH
Model Code: EIOL or EIOLSL



Standard Reference	BS EN 50290, BS EN 50288-1 BS EN 50288-7
Flame Retardant Ref.	IEC 60332-3, IEC 60754 IEC 61034

Application :	This cable is intended for use in machineries, especially suitable for areas where fire would create dense smoke and toxic fumes, imposing major threat to lives and equipment
Construction :	Plain annealed copper wire, PE insulated, twisted pair or triad, individual and overall aluminium/polyester tape with tinned copper drain wire screened, unarmoured or galvanized steel wire armoured, LSZH bedding & sheathed cable
Insulation Colour :	Pair: Black, White with numbering Triple: Red, Black, White with numbering
Sheath Colour :	Black (Other colour upon request)
Operating Temperature :	70°C

Conductor			Insulation Thickness (mm)	Unarmoured			Armoured		
Nominal Area (mm ²)	No. of Pair/Triple (no.)	Stranded Dia. (mm)		Part No.	Approx. Overall Dia. (mm)	Approx. Weight (kg/km)	Part No.	Approx. Overall Dia. (mm)	Approx. Weight (kg/km)
0.5	0.9	0.6	2P		11.0	118		16.2	393
			4P		13.0	181		18.0	524
			6P		15.5	239		21.0	754
			8P		17.0	305		23.0	875
			10P		19.5	366		26.0	1020
			12P		20.0	420		27.5	1101
			16P		22.2	545		29.0	1493
			20P		25.0	676		32.0	1746
			24P		28.0	804		35.0	2017
			36P		32.5	1133		40.5	2813
			50P		38.5	1545		47.0	3542
			2T		12.2	149		17.5	462
			4T		14.2	249		19.2	609
			6T		16.8	298		22.5	867
			12T		22.0	545		29.5	1495
			16T		25.2	709		32.0	1780
			36T		36.6	1481		45.0	3384
0.75	1.11	0.6	2P		12.0	133		17.0	444
			4P		13.5	225		18.5	577
			6P		16.2	312		22.0	826
			8P		18.5	362		24.5	984
			10P		21.0	446		27.6	1332
			12P		21.5	504		28.5	1412
			16P		24.0	654		31.0	1668
			20P		27.0	813		35.0	1952
			24P		30.2	968		37.4	2272
			36P		34.8	1388		43.2	3225
			50P		41.5	1895		51.0	4550
			2T		13.2	174		18.2	507
			4T		15.5	300		21.4	811
			6T		18.2	371		24.5	1003
			12T		24.2	670		31.0	1676
			16T		27.2	873		34.5	2017
			36T		39.0	1858		48.5	3929

Flame Retardant Instrumentation Cables



tel (65) 6367 0107 fax (65) 6365 2963
www.keystone-cable.com

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Model Code: EIOL or EIOLSL

Conductor			Insulation Thickness (mm)	Unarmoured			Armoured		
Nominal Area (mm ²)	No. of Pair/Triple (no.)	Stranded Dia. (mm)		Part No.	Approx. Overall Dia. (mm)	Approx. Weight (kg/km)	Part No.	Approx. Overall Dia. (mm)	Approx. Weight (kg/km)
1.0	1.29	0.6	2P		12.5	148		17.8	477
			4P		14.5	253		19.5	621
			6P		17.2	324		23.0	905
			8P		19.5	415		25.5	1078
			10P		22.5	510		29.2	1439
			12P		23.0	590		30.0	1560
			16P		25.5	767		32.5	1860
			20P		28.8	944		36.6	2198
			24P		32.5	1126		40.5	2824
			36P		37.5	1622		46.0	3581
			50P		44.5	2217		54.5	5028
			2T		14.0	196		19.0	544
			4T		16.2	341		22.2	879
			6T		19.2	431		25.2	1089
			12T		26.0	799		33.0	1885
			16T		29.0	1039		36.5	2287
36T		42.2	2196		52.0	4856			
1.5	1.59	0.6	2P		14.0	203		19.5	657
			4P		16.0	355		23.0	882
			6P		19.2	452		25.4	1094
			8P		21.5	583		28.0	1306
			10P		24.5	727		31.5	1755
			12P		25.5	829		32.5	1895
			16P		28.5	1083		36.0	2275
			20P		32.0	1336		42.2	3020
			24P		36.0	1611		44.2	3468
			36P		41.5	2327		51.2	4917
			50P		49.5	3185		59.5	6335
			2T		15.2	256		21.5	769
			4T		18.0	452		24.0	1045
			6T		21.5	593		27.5	1312
			12T		29.0	1114		36.5	2330
			16T		32.5	1455		40.5	3131
36T		47.2	3131		57.0	6130			
2.5	2.01	0.7	2P		16.0	254		22.2	793
			4P		18.8	443		25.0	1076
			6P		22.5	586		29.5	1533
			8P		25.5	768		32.5	1857
			10P		29.2	948		36.5	2204
			12P		30.5	1085		38.5	2649
			16P		34.0	1429		42.0	3205
			20P		38.5	1760		47.0	3758
			24P		42.8	2117		52.4	4841
			36P		49.8	3052		60.0	6239
			50P		59.2	4226		70.0	8053
			2T		18.0	332		24.0	926
			4T		21.2	585		27.5	1296
			6T		25.5	793		32.5	1862
			12T		34.2	1500		42.5	3278
			16T		38.5	1955		47.5	3955
36T		56.5	4230		67.0	7860			

Note : For technical specification, please refer to Table 9 to 13 (Page 69)

Table 9 : Electrical Characteristics for Instrumentation Cables

Material	PVC	PE	XLPE	XLEVA	V-90
Max. Conductor Operating Temperature (°C)	70	70	90	105	90
Min. Ambient Temperature (°C)	-15	-15	-15	-15	-15
Max. Working Voltage (r.m.s)	300/500V	300/500V	300/500V	300/500V	300/500V
Test Voltage (1 minute)	2000 V R.M.S between conductors and screen/armour				
Min. Insulation Resistance (mΩ/km)	10	1000	1000	10	10

Table 10 : Conductor Resistance @ 20 °C

Conductor			Plain		Tinned	
Size mm ²	Class	Stranding no./mm	Single/Multi-Core	Multi-Pair/Triple	Single/Multi-Core	Multi-Pair/Triple
0.5	1	1/0.80	36.0	36.7	36.7	37.1
	2	7/0.30	36.0	36.7	36.7	37.1
	5	16/0.20	39.0	39.7	40.1	40.9
0.75	1	1/0.97	24.5	25.0	24.8	25.3
	2	7/0.37	24.5	25.0	24.8	25.3
	5	24/0.20	26.0	26.5	26.7	27.2
1.0	1	1/1.13	18.1	18.4	18.2	18.6
	2	7/0.43	18.1	18.4	18.2	18.6
	5	32/0.20	19.5	19.9	20.0	20.4
1.5	1	1/1.38	12.1	12.3	12.2	12.4
	2	7/0.53	12.1	12.3	12.2	12.4
	5	30/0.25	13.3	13.6	13.7	14.0
2.5	1	1/1.78	7.41	7.6	7.56	7.71
	2	7/0.67	7.41	7.6	7.56	7.71
	5	50/0.25	8.0	8.1	8.212	8.37

Table 11 : Maximum Inductance to Resistance Ratio (L/R)

Conductor	
Size mm ²	L/R Ratio (for adjacent cores) μH/Ω
0.50	25
0.75	25
1.0	25
1.5	40
2.5	60

Table 12 : Maximum Mutual Capacitance Values

Conductor Size mm ²	Type of Material	Requirement nF/km
0.5	PE XLPE XLEVA	150
0.75		
1.0		
1.5		
2.5	PVC	250

Table 13 : Minimum Bending Radius

Cable Type	Unarmoured	Armoured
Collective Screen (OS)	8D	10D
Individual and Overall Screen (ISOS)	8D	10D