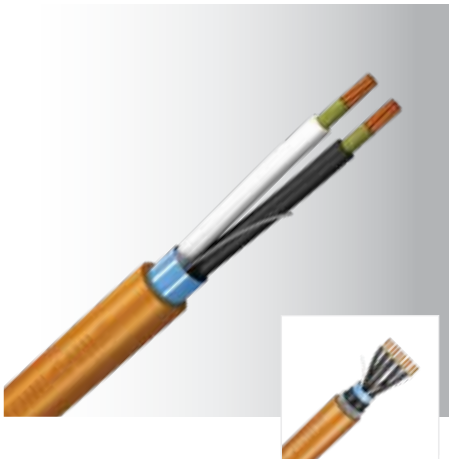


Fire Resistant Instrumentation Cables

500V Collective Screen
Mica, XLEVA Insulated, OS, Unarmoured & Armoured, LSZH Sheathed Cable
CU/MICA/XLEVA/OS/LSZH or CU/MICA/XLEVA/OS/LSZH/SWA/LSZH
Model Code: MVOL or MVOLSL



Standard Reference	BS EN 50290, BS EN 50288-1 BS EN 50288-7
Flame Retardant Ref.	IEC 60332-3, IEC 60754 IEC 61034
Fire Resistant Ref.	BS 6387, IEC 60331, SS 299

Application :	This cable is intended for use in manufacturing and processing application for emergency services such as fire detection, fire alarm, PA system, where signal has to be assured in the event of fire
Construction :	Plain annealed copper wire, mica tape fire barrier, XLEVA insulated, twisted pair or triad, 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 :	Orange (Other colour upon request)
Operating Temperature :	110°C

Nominal Area (mm ²)	Conductor		Insulation Thickness (mm)	Unarmoured			Armoured		
	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	1P		8.6	88		13.5	306
			2P		12.8	138		17.5	458
			4P		15.2	231		20.0	517
			6P		18.2	294		24.5	901
			8P		20.2	375		26.5	1060
			10P		23.0	451		30.5	1406
			12P		24.0	518		31.2	1514
			16P		26.8	669		34.2	1788
			20P		30.0	822		37.5	2085
			24P		33.5	978		42.0	2704
			36P		38.2	1378		47.5	3386
			50P		45.5	1881		55.8	4781
			1T		9.2	104		14.0	338
			4T		16.5	291		22.5	840
			6T		19.8	390		26.2	1062
			12T		26.8	717		34.5	1836
16T		30.0	924		37.5	2193			
36T		43.5	1958		54.0	4685			
0.75	1.11	0.6	1P		9.2	100		14.0	325
			2P		14.0	162		19.0	519
			4P		15.8	265		22.0	795
			6P		19.0	344		25.2	990
			8P		21.5	441		28.0	1185
			10P		24.5	544		31.8	1578
			12P		25.5	615		32.5	1689
			16P		28.5	797		35.8	1998
			20P		32.0	980		40.5	2621
			24P		35.5	1169		44.5	3023
			36P		41.2	1677		51.5	4298
			50P		49.0	2314		59.8	5447
			1T		9.5	120		14.7	364
			4T		17.5	352		24.0	947
			6T		21.2	472		27.5	1204
			12T		28.5	858		36.0	2060
16T		32.0	1115		40.5	2756			
36T		46.5	2391		57.5	5345			

Fire Resistant Instrumentation Cables



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

500V Collective Screen

Mica, XLEVA Insulated, OS, Unarmoured & Armoured, LSZH Sheathed Cable

CU/MICA/XLEVA/OS/LSZH or CU/MICA/XLEVA/OS/LSZH/SWA/LSZH

Model Code: MVOL or MVOLSL

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	1P		9.5	112		14.5	355
			2P		14.5	180		19.8	546
			4P		16.2	297		22.0	842
			6P		19.8	391		25.5	1064
			8P		22.5	503		29.0	1456
			10P		25.8	622		32.5	1716
			12P		26.8	719		33.5	1856
			16P		29.8	918		36.8	2181
			20P		33.8	1147		41.5	2903
			24P		37.8	1367		45.8	3341
			36P		43.2	1965		52.8	4735
			50P		51.5	2684		61.5	5971
			1T		10.0	130		15.0	381
			4T		18.2	399		24.8	1020
			6T		22.2	541		29.5	1475
			12T		30.0	993		38.0	2539
16T		33.5	1307		41.8	3065			
36T		48.8	2786		58.8	5917			
1.5	1.59	0.6	1P		10.2	132		15.0	390
			2P		15.5	212		21.5	718
			4P		17.8	365		24.0	971
			6P		21.5	490		28.0	1234
			8P		24.5	632		32.0	1664
			10P		28.0	781		35.5	1961
			12P		28.8	893		36.5	2114
			16P		32.2	1162		40.5	2851
			20P		36.5	1450		44.8	3359
			24P		40.8	1728		50.5	4345
			36P		47.0	2494		57.2	5494
			50P		56.0	3438		68.0	7866
			1T		11.0	161		16.0	434
			4T		20.0	496		26.0	1169
			6T		24.0	685		31.5	1701
			12T		32.5	1262		41.0	2953
16T		36.5	1666		45.0	3577			
36T		53.2	3586		63.5	7004			
2.5	2.01	0.7	1P		11.5	181		16.5	472
			2P		17.8	291		24.0	884
			4P		20.5	509		27.0	1213
			6P		24.8	682		32.2	1735
			8P		28.2	883		35.8	2097
			10P		32.5	1107		41.2	2798
			12P		33.5	1270		42.2	3024
			16P		37.5	1655		46.5	3628
			20P		42.2	2062		52.5	4737
			24P		47.2	2458		57.8	5487
			36P		54.5	3584		66.0	7103
			50P		65.0	4932		78.5	10140
			1T		12.2	425		17.2	522
			4T		22.8	696		30.2	1652
			6T		27.8	958		35.5	2137
			12T		37.5	1804		45.2	3779
16T		42.2	2378		52.8	5095			
36T		61.8	5163		75.0	10129			

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