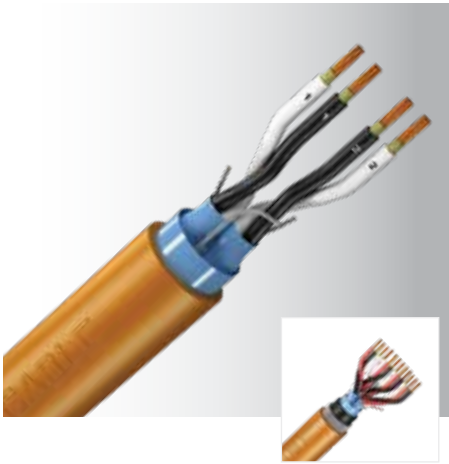


Fire Resistant Instrumentation Cables

500V Individual & Collective Screen
Mica, XLPE Insulated, IS OS, Unarmoured & Armoured, LSZH Sheathed Cable
CU/MICA/XLPE/IS OS/LSZH or CU/MICA/XLPE/IS OS/LSZH/SWA/LSZH
Model Code: MXIOL or MXIOLSL



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, XLPE insulated, twisted pair or triad, individual and overall aluminium/polyester tape with finned 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 :	90°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	0.6		14.5	159		19.2	523
					16.2	264		21.8	819
					19.8	343		25.5	1022
					22.5	433		28.2	1205
					25.5	537		32.5	1612
					26.5	599		33.2	1716
					29.5	773		36.5	2051
					33.2	951		41.2	2675
					36.8	1128		45.5	3069
					42.8	1611		52.2	4356
					51.0	2213		61.0	5513
					16.0	190		21.0	709
					18.2	322		24.0	941
					22.0	426		28.5	1358
					29.8	779		37.5	2297
					33.2	1005		41.2	2730
					48.5	2127		58.2	5252
				0.75	1.11	0.6	0.6		15.0
	17.2	298						23.0	890
	21.0	394						27.0	1112
	23.8	499						29.8	1312
	27.0	619						34.0	1758
	28.0	695						35.0	1892
	31.5	914						39.6	2570
	35.5	1124						43.5	2996
	39.5	1335						48.0	3429
	45.5	1909						55.2	4811
	54.5	2623						64.5	6167
	17.0	225						22.5	781
	19.2	393						25.2	1041
	23.5	510						30.0	1486
	31.2	915						39.2	2541
	35.2	1204						43.5	3048
	51.2	2552						61.2	5863

Fire Resistant Instrumentation Cables



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

500V Individual & Collective Screen

Mica, XLPE Insulated, IS OS, Unarmoured & Armoured, LSZH Sheathed Cable

CU/MICA/XLPE/IS OS/LSZH or CU/MICA/XLPE/IS OS/LSZH/SWA/LSZH

Model Code: MXIOL or MXIOLSL

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		16.0	195		20.8	591
			4P		18.2	330		24.0	938
			6P		21.8	441		27.8	1198
			8P		25.0	562		31.8	1614
			10P		28.5	698		35.5	1896
			12P		29.5	801		36.5	2062
			16P		33.0	1035		41.0	2759
			20P		37.0	1275		45.5	3218
			24P		41.5	1535		51.0	4202
			36P		48.0	2199		57.8	5279
			50P		57.0	3020		67.2	6725
			2T		17.5	255		23.2	836
			4T		20.2	440		26.0	1114
			6T		24.5	578		31.5	1611
			12T		33.2	1063		41.0	2786
			16T		37.0	1380		45.2	3321
			36T		53.8	2941		63.8	6407
			1.5	1.59	0.6	2P		17.5	272
4P		20.2				399		26.5	1059
6P		23.5				541		30.5	1550
8P		26.8				692		33.8	1829
10P		31.0				858		37.8	2162
12P		31.8				990		40.2	2570
16P		35.8				1282		44.0	3157
20P		40.0				1580		48.5	3708
24P		44.8				1900		54.5	4794
36P		52.0				2730		61.8	6092
50P		61.8				3750		73.5	8716
2T		18.8				302		24.5	922
4T		21.8				526		27.5	1271
6T		26.4				720		33.2	1837
12T		35.8				1333		44.0	3208
16T		40.0				1732		48.5	3833
36T		58.5				3734		68.8	7527
2.5	2.01	0.7				2P		19.2	306
			4P		22.5	542		28.5	1313
			6P		27.2	727		34.0	1866
			8P		31.0	937		38.0	2261
			10P		35.5	1175		43.8	3048
			12P		36.8	1344		45.0	3283
			16P		41.5	1765		50.8	4388
			20P		46.8	2194		56.5	5174
			24P		52.0	2612		62.0	5973
			36P		60.2	3788		72.0	8599
			50P		71.8	5235		84.0	11008
			2T		21.5	401		27.5	1120
			4T		25.2	717		32.0	1771
			6T		30.5	983		37.5	2268
			12T		41.2	1857		51.0	4504
			16T		46.5	2437		56.5	5416
			36T		68.0	5279		80.5	10664

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