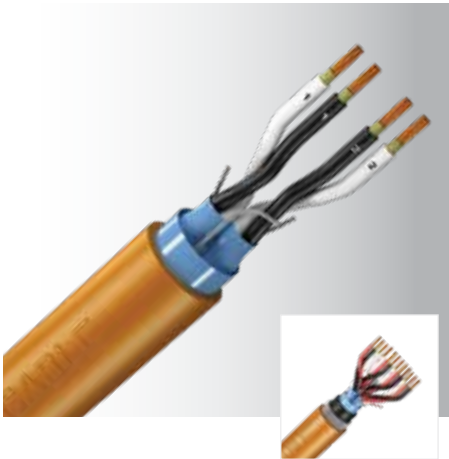


Fire Resistant Instrumentation Cables

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



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, 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 :	110°C

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

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	0.90	0.6	2P		14.5	169		19.2	533
			4P		16.2	284		22.0	838
			6P		19.8	373		25.5	1049
			8P		22.5	473		28.2	1243
			10P		25.5	586		32.5	1661
			12P		26.5	658		33.2	1774
			16P		29.5	851		36.5	2129
			20P		33.2	1048		41.2	2772
			24P		36.8	1245		45.5	3186
			36P		42.8	1787		52.2	4531
			50P		51.0	2457		61.0	5764
			2T		16.0	206		21.2	724
			4T		18.2	351		24.0	971
			6T		22.0	470		28.5	1402
			12T		29.8	866		37.5	2384
			16T		33.2	1122		41.2	2847
			36T		48.5	2390		58.2	5515
			0.75	1.11	0.6	2P		15.0	189
4P		17.2				319		23.0	912
6P		21.0				425		27.0	1144
8P		23.8				542		29.8	1355
10P		27.0				672		34.0	1811
12P		28.0				759		35.0	1956
16P		31.5				999		39.6	2655
20P		35.5				1231		43.5	3103
24P		39.5				1462		48.0	3557
36P		45.5				2101		55.2	5002
50P		54.5				2888		64.5	6433
2T		17.0				241		22.5	797
4T		19.2				425		25.2	1073
6T		23.5				558		30.0	1533
12T		31.2				1010		39.2	2637
16T		35.2				1331		43.5	3175
36T		51.2				2838		61.2	6149

Fire Resistant Instrumentation Cables



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www.keystone-cable.com

500V Individual & Collective Screen

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

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

Model Code: MVIOL or MVIOLSL

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	207		20.8	602
			4P		18.2	352		24.0	961
			6P		21.8	475		27.8	1232
			8P		25.0	607		31.8	1660
			10P		28.5	753		35.5	1953
			12P		29.5	869		36.5	2130
			16P		33.0	1126		41.0	2849
			20P		37.0	1389		45.5	3331
			24P		41.5	1672		51.0	4338
			36P		48.0	2403		57.8	5483
			50P		57.0	3303		67.2	7008
			2T		17.5	272		23.2	853
			4T		20.2	474		26.0	1148
			6T		24.5	629		31.5	1662
			12T		33.2	1165		41.0	2888
			16T		37.0	1516		45.2	3457
36T		53.8	3247		63.8	6713			
1.5	1.59	0.6	2P		17.0	248		22.8	815
			4P		19.8	424		25.5	1085
			6P		23.5	579		30.5	1588
			8P		26.8	742		33.8	1879
			10P		30.5	921		37.8	2225
			12P		31.8	1066		40.0	2726
			16P		35.8	1382		44.0	3258
			20P		40.0	1705		48.5	3834
			24P		44.8	2051		54.5	4945
			36P		52.0	2957		61.8	6318
			50P		61.8	4065		73.5	9031
			2T		18.8	321		24.5	941
			4T		21.8	564		27.5	1308
			6T		26.4	776		33.2	1893
			12T		35.8	1446		44.0	3322
			16T		40.0	1883		48.5	3984
36T		58.5	4074		68.8	7867			
2.5	2.01	0.7	2P		19.2	319		24.8	953
			4P		22.5	571		28.5	1342
			6P		27.2	772		34.0	1912
			8P		31.0	999		38.0	2323
			10P		35.5	1252		43.8	3126
			12P		36.8	1438		45.0	3377
			16P		41.5	1893		50.8	4516
			20P		46.8	2355		56.5	5335
			24P		52.0	2806		62.0	6167
			36P		60.2	4083		72.0	8895
			50P		71.8	5648		84.0	11420
			2T		21.5	427		27.5	1145
			4T		25.2	768		32.0	1822
			6T		30.5	1060		37.5	2345
			12T		41.2	2012		51.0	4659
			16T		46.5	2644		56.5	5623
36T		68.0	5744		80.5	11129			

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