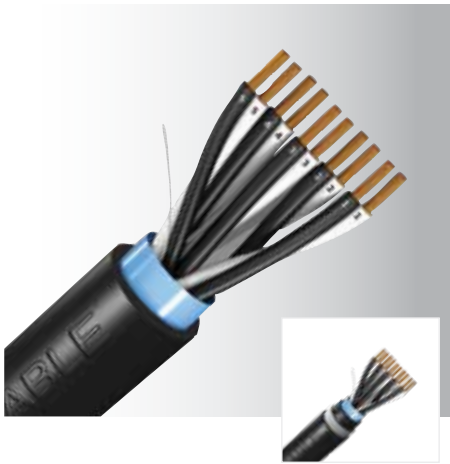


Instrumentation Cables

500V Collective Screen
PVC Insulated, OS, Unarmoured & Armoured, PVC Sheathed Cable
CU/PVC/OS/PVC or CU/PVC/OS/PVC/SWA/PVC
Model Code: POP or POPSP



Application :	This cable is used in machines, measuring instruments and control systems for the transmission of analogue and digital signals
Construction :	Plain annealed copper wire, PVC insulated, twisted pair or triad, overall aluminium/ polyester tape with tinned copper drain wire screened, unarmoured or galvanized steel wire armoured, PVC bedding and 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

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

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	1P		7.0	63		11.8	237
			2P		10.2	112		15.0	354
			4P		12.2	160		16.4	453
			6P		14.4	208		19.5	610
			8P		15.6	280		21.0	825
			10P		17.5	315		24.0	970
			12P		18.5	361		24.8	1045
			16P		20.4	460		26.8	1200
			20P		23.4	595		30.8	1570
			24P		25.4	680		32.8	1805
			36P		29.2	961		37.2	2255
			50P		34.5	1314		42.0	3203
			1T		7.4	69		12.0	251
			4T		13.2	223		18.0	555
			6T		16.0	305		20.0	664
			12T		20.5	538		26.2	1153
			16T		23.0	641		29.5	1554
			36T		33.2	1369		40.8	3011
0.75	1.11	0.6	1P		7.4	71		12.0	260
			2P		10.8	132		15.5	386
			4P		12.5	203		17.5	534
			6P		14.8	252		19.5	622
			8P		16.8	312		22.5	870
			10P		19.0	385		25.0	1024
			12P		19.8	434		25.5	1098
			16P		22.2	567		28.5	1479
			20P		25.0	703		31.5	1722
			24P		27.5	839		34.2	1982
			36P		31.6	1192		38.5	2526
			50P		37.5	1631		45.5	3549
			1T		7.8	80		12.5	276
4T		13.8	261		18.8	622			
6T		16.6	339		22.2	895			
12T		22.2	610		28.0	1349			

Instrumentation Cables



500V Collective Screen
 PVC Insulated, OS, Unarmoured & Armoured, PVC Sheathed Cable
 CU/PVC/OS/PVC or CU/PVC/OS/PVC/SWA/PVC
 Model Code: POP or POPSP

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

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		7.8	82		12.5	278
			2P		11.5	135		16.2	420
			4P		13.2	233		18.0	579
			6P		16.0	297		21.5	828
			8P		18.0	370		23.5	956
			10P		20.5	458		26.2	1135
			12P		21.0	520		27.0	1228
			16P		24.5	705		30.0	1652
			20P		26.5	843		33.0	1925
			24P		29.5	1055		36.0	2215
			36P		34.2	1453		41.5	3179
			50P		40.5	2040		48.0	4043
			1T		8.2	93		13.0	296
			4T		14.6	304		19.8	586
			6T		17.8	402		23.2	987
			12T		23.8	733		29.5	1539
			16T		26.6	959		33.2	2059
			36T		38.5	2067		46.2	4021
1.5	1.59	0.6	1P		8.5	108		13.5	311
			2P		12.5	180		17.8	492
			4P		14.5	313		19.5	665
			6P		17.5	413		23.0	953
			8P		19.8	529		25.5	1151
			10P		22.6	659		29.0	1541
			12P		23.4	753		30.0	1669
			16P		26.2	981		32.8	1987
			20P		29.2	1209		36.0	2346
			24P		32.5	1442		40.0	3006
			36P		37.8	2087		48.0	4330
			50P		44.8	2880		55.0	5560
			1T		9.0	115		13.5	340
			4T		16.4	393		25.8	1245
			6T		19.6	532		28.8	1505
			12T		26.4	982		34.0	2165
			16T		29.5	1286		36.2	2489
			36T		43.0	2803		51.5	5456
2.5	2.01	0.7	1P		10.0	144		14.5	390
			2P		14.5	231		19.5	600
			4P		17.2	409		23.0	993
			6P		20.5	554		26.5	1245
			8P		23.4	716		30.0	1519
			10P		27.0	906		34.0	2027
			12P		27.8	1043		35.0	2206
			16P		31.2	1361		38.4	2673
			20P		35.0	1681		44.5	3565
			24P		39.2	2025		47.4	4069
			36P		45.2	2939		55.0	5789
			50P		54.0	4054		64.5	7565
			1T		10.4	167		15.5	427
			4T		19.2	579		25.0	1242
			6T		23.2	782		30.0	1755
			12T		31.5	1488		38.5	2821
			16T		35.2	1947		43.0	3768
			36T		51.5	4257		61.0	7529

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