

Control Cables, with Solid Copper Conductors, PVC Insulated, Steel Wire Armoured and PVC Sheathed

CONSTRUCTION

- Conductor** : Plain annealed solid copper conductor, as per Class 1 of IEC 60228.
- Insulation** : An extruded layer of Polyvinyl chloride (PVC) insulation, rated 70 °C at normal operation to IEC 60502-1.
- Bedding** : An extruded layer of Polyvinyl chloride (PVC).
- Armouring** : Single layer of galvanized steel wires.
- Outer sheath** : An extruded layer of Polyvinyl chloride (PVC) sheathing compound type ST1 to IEC 60502-1.



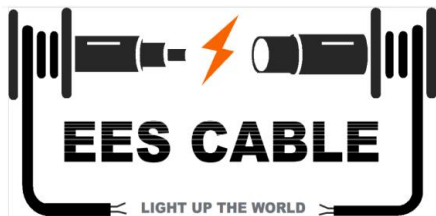
APPLICATION

For outdoor installations, for connecting signaling and control units in industries, railways, traffic signals, power stations, industrial plants and switchgears if mechanical protection is required, or in applications where mechanical damages are expected to occur.

TECHNICAL DATA

- Nominal voltage $U_0/U = 0.6/1$ kV
- Power frequency test voltage 3.5 kV for 5 minutes
- Max. admissible temperature of conductor at normal operation 70 °C
- Max. admissible temperature of conductor at short circuit 160 °C for 5 seconds

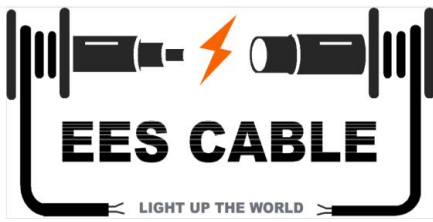
Number & Nominal cross sectional area	ELECTRICAL DATA					DIMENSIONS AND WEIGHTS		AES Code
	Max. Conductor Resistance		Current Rating			Approx. overall diameter	Approx. overall weight	
	DC at 20 °C	AC at 70 °C	Laid in ground	Laid in ducts	Laid in free air			
No. X mm ²	Ω / km	Ω / km	A	A	A	mm	Kg / km	
1.5 mm²								
5 X 1.5	12.1000	14.6000	18.0	15.5	13.5	16.0	470	C108PA1050WCBK12IMR
7 X 1.5	12.1000	14.6000	16.0	14.0	12.5	17.2	530	C108PA1070WCBK21IMR
10 X 1.5	12.1000	14.6000	14.0	12.5	11.5	20.2	740	C108PA1100WCBK21IMR
12 X 1.5	12.1000	14.6000	13.0	11.5	10.5	22.5	1050	C108PA1120WCBK21IMR
14 X 1.5	12.1000	14.6000	12.0	10.5	9.5	23.3	1110	C108PA1140WCBK21IMR
16 X 1.5	12.1000	14.6000	11.0	10.0	9.0	24.2	1220	C108PA1160WCBK21IMR
19 X 1.5	12.1000	14.6000	10.0	9.0	8.0	25.2	1320	C108PA1190WCBK21IMR
24 X 1.5	12.1000	14.6000	9.0	8.0	7.5	28.0	1530	C108PA1240WCBK21IMF
30 X 1.5	12.1000	14.6000	8.0	7.5	6.5	30.1	1800	C108PA1300WCBK21IMF
37 X 1.5	12.1000	14.6000	7.5	6.5	6.0	33.0	2180	C108PA1370WCBK21IMF



CONTROL CABLES / IEC 60502-1

CU / PVC / SWA / PVC 0.6 / 1 kV

Number & Nominal cross sectional area	ELECTRICAL DATA					DIMENSIONS AND WEIGHTS		AES Code
	Max. Conductor Resistance		Current Rating			Approx. overall diameter	Approx. overall weight	
	DC at 20 °C	AC at 70 °C	Laid in ground	Laid in ducts	Laid in free air			
No. X mm ²	Ω / km	Ω / km	A	A	A	mm	Kg / km	
2.5 mm²								
5 X 2.5	7.4100	8.8700	24.0	20.5	18.0	17.2	570	C110PA1050WCBK21IMR
7 X 2.5	7.4100	8.8700	22.0	18.5	16.0	18.4	640	C110PA1070WCBK21IMR
10 X 2.5	7.4100	8.8700	20.0	16.5	14.5	22.9	1125	C110PA1100WCBK21IMR
12 X 2.5	7.4100	8.8700	18.0	15.5	13.5	24.2	1240	C110PA1120WCBK21IMR
14 X 2.5	7.4100	8.8700	16.0	14.0	12.0	25.1	1350	C110PA1140WCBK21IMR
16 X 2.5	7.4100	8.8700	15.0	13.0	11.0	26.1	1470	C110PA1160WCBK21IMR
19 X 2.5	7.4100	8.8700	14.0	12.0	10.5	27.4	1620	C110PA1190WCBK21IMR
24 X 2.5	7.4100	8.8700	13.0	11.0	9.5	30.5	1970	C110PA1240WCBK21IMF
30 X 2.5	7.4100	8.8700	11.5	10.0	8.5	33.7	2380	C110PA1300WCBK21IMF
37 X 2.5	7.4100	8.8700	10.0	9.0	7.5	36.6	2790	C110PA1370WCBK21IMF
4.0 mm²								
5 X 4.0	4.6100	5.5100	31.0	25.5	24.0	20.2	750	C112PA1050WCBK21IMR
7 X 4.0	4.6100	5.5100	28.0	23.0	21.5	22.7	1150	C112PA1070WCBK21IMR
10 X 4.0	4.6100	5.5100	25.0	21.0	19.5	26.3	1460	C112PA1100WCBK21IMR
12 X 4.0	4.6100	5.5100	23.0	19.5	18.0	28.2	1650	C112PA1120WCBK21IMR
14 X 4.0	4.6100	5.5100	20.5	17.0	16.0	29.2	1790	C112PA1140WCBK21IMR
16 X 4.0	4.6100	5.5100	19.5	16.0	15.0	30.8	1980	C112PA1160WCBK21IMR
19 X 4.0	4.6100	5.5100	18.0	15.0	14.0	32.1	2150	C112PA1190WCBK21IMR
24 X 4.0	4.6100	5.5100	16.0	13.5	12.5	37.5	3010	C112PA1240WCBK21IMF
30 X 4.0	4.6100	5.5100	14.5	12.0	11.0	40.4	3430	C112PA1300WCBK21IMF
37 X 4.0	4.6100	5.5100	13.0	11.0	10.0	43.3	4020	C112PA1370WCBK21IMF



Control Cables, with Stranded Copper Conductors, PVC Insulated, Steel Wire Armoured and PVC Sheathed

CONSTRUCTION

- Conductor** : Plain annealed stranded circular copper conductor, as per Class 2 of IEC 60228.
- Insulation** : An extruded layer of Polyvinyl chloride (PVC) insulation, rated 70 °C at normal operation to IEC 60502-1.
- Bedding** : An extruded layer of Polyvinyl chloride (PVC).
- Armouring** : Single layer of galvanized steel wires.
- Outer sheath** : An extruded layer of Polyvinyl chloride (PVC) sheathing compound type ST1 to IEC 60502-1.



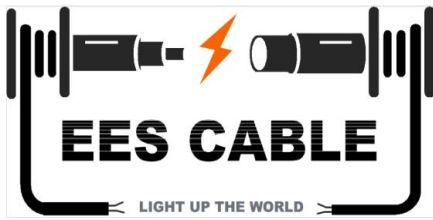
APPLICATION

For outdoor installations, for connecting signaling and control units in industries, railways, traffic signals, power stations, industrial plants and switchgears if mechanical protection is required, or in applications where mechanical damages are expected to occur.

TECHNICAL DATA

- Nominal voltage $U_0/U = 0.6/1$ kV
- Power frequency test voltage 3.5 kV for 5 minutes
- Max. admissible temperature of conductor at normal operation 70 °C
- Max. admissible temperature of conductor at short circuit 160 °C for 5 seconds

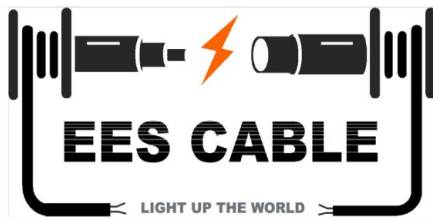
Number & Nominal cross sectional area	ELECTRICAL DATA					DIMENSIONS AND WEIGHTS		AES Code
	Max. Conductor Resistance		Current Rating			Approx. overall diameter	Approx. overall weight	
	DC at 20 °C	AC at 70 °C	Laid in ground	Laid in ducts	Laid in free air			
No. X mm ²	Ω / km	Ω / km	A	A	A	mm	Kg / km	
1.5 mm²								
5 X 1.5	12.1000	14.6000	18.0	15.5	13.5	16.6	500	C208PA1050WCBK12IMR
7 X 1.5	12.1000	14.6000	16.0	14.0	12.5	18.0	550	C208PA1070WCBK21IMR
10 X 1.5	12.1000	14.6000	14.0	12.5	11.5	21.0	770	C208PA1100WCBK21IMR
12 X 1.5	12.1000	14.6000	13.0	11.5	10.5	23.3	1080	C208PA1120WCBK21IMR
14 X 1.5	12.1000	14.6000	12.0	10.5	9.5	24.2	1140	C208PA1140WCBK21IMR
16 X 1.5	12.1000	14.6000	11.0	10.0	9.0	25.0	1260	C208PA1160WCBK21IMR
19 X 1.5	12.1000	14.6000	10.0	9.0	8.0	26.0	1370	C208PA1190WCBK21IMR
24 X 1.5	12.1000	14.6000	9.0	8.0	7.5	28.9	1620	C208PA1240WCBK21IMF
30 X 1.5	12.1000	14.6000	8.0	7.5	6.5	31.0	1850	C208PA1300WCBK21IMF
37 X 1.5	12.1000	14.6000	7.5	6.5	6.0	34.0	2250	C208PA1370WCBK21IMF



CONTROL CABLES / IEC 60502-1

CU / PVC / SWA / PVC 0.6 / 1 kV

Number & Nominal cross sectional area	ELECTRICAL DATA					DIMENSIONS AND WEIGHTS		AES Code
	Max. Conductor Resistance		Current Rating			Approx. overall diameter	Approx. overall weight	
	DC at 20 °C	AC at 70 °C	Laid in ground	Laid in ducts	Laid in free air			
No. X mm ²	Ω / km	Ω / km	A	A	A	mm	Kg / km	
2.5 mm²								
5 X 2.5	7.4100	8.8700	24.0	20.5	18.0	17.8	600	C210PA1050WCBK21IMR
7 X 2.5	7.4100	8.8700	22.0	18.5	16.0	19.2	660	C210PA1070WCBK21IMR
10 X 2.5	7.4100	8.8700	20.0	16.5	14.5	23.8	960	C210PA1100WCBK21IMR
12 X 2.5	7.4100	8.8700	18.0	15.5	13.5	25.0	1280	C210PA1120WCBK21IMR
14 X 2.5	7.4100	8.8700	16.0	14.0	12.0	26.0	1390	C210PA1140WCBK21IMR
16 X 2.5	7.4100	8.8700	15.0	13.0	11.0	27.0	1510	C210PA1160WCBK21IMR
19 X 2.5	7.4100	8.8700	14.0	12.0	10.5	28.3	1670	C210PA1190WCBK21IMR
24 X 2.5	7.4100	8.8700	13.0	11.0	9.5	31.4	2030	C210PA1240WCBK21IMF
30 X 2.5	7.4100	8.8700	11.5	10.0	8.5	34.5	2450	C210PA1300WCBK21IMF
37 X 2.5	7.4100	8.8700	10.0	9.0	7.5	37.4	2870	C210PA1370WCBK21IMF
4.0 mm²								
5 X 4.0	4.6100	5.5100	31.0	25.5	24.0	20.8	780	C212PA1050WCBK21IMR
7 X 4.0	4.6100	5.5100	28.0	23.0	21.5	23.5	1190	C212PA1070WCBK21IMR
10 X 4.0	4.6100	5.5100	25.0	21.0	19.5	27.2	1510	C212PA1100WCBK21IMR
12 X 4.0	4.6100	5.5100	23.0	19.5	18.0	29.0	1700	C212PA1120WCBK21IMR
14 X 4.0	4.6100	5.5100	20.5	17.0	16.0	30.0	1850	C212PA1140WCBK21IMR
16 X 4.0	4.6100	5.5100	19.5	16.0	15.0	31.6	2040	C212PA1160WCBK21IMR
19 X 4.0	4.6100	5.5100	18.0	15.0	14.0	33.0	2260	C212PA1190WCBK21IMR
24 X 4.0	4.6100	5.5100	16.0	13.5	12.5	38.4	3070	C212PA1240WCBK21IMF
30 X 4.0	4.6100	5.5100	14.5	12.0	11.0	41.3	3560	C212PA1300WCBK21IMF
37 X 4.0	4.6100	5.5100	13.0	11.0	10.0	44.5	4120	C212PA1370WCBK21IMF



Control Cables, with Stranded Copper Conductors, PVC Insulated, Steel Wire Armoured and PVC Sheathed

CONSTRUCTION

- Conductor** : Plain annealed stranded circular copper conductor, as per Class 2 of BS EN 60228.
- Insulation** : An extruded layer of Polyvinyl chloride (PVC) insulation, rated 70 °C at normal operation to BS 7655-3.1.
- Bedding** : An extruded layer of Polyvinyl chloride (PVC).
- Armouring** : Single layer of galvanized steel wires.
- Outer sheath** : An extruded layer of Polyvinyl chloride (PVC) sheathing compound type TM1 to BS 7655-4.1.



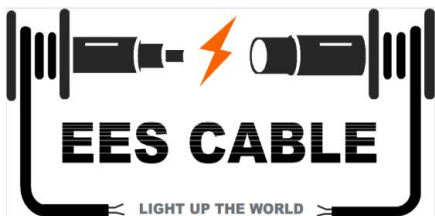
APPLICATION

For outdoor installations, for connecting signaling and control units in industries, railways, traffic signals, power stations, industrial plants and switchgears if mechanical protection is required, or in applications where mechanical damages are expected to occur.

TECHNICAL DATA

- Nominal voltage $U_0/U = 600 / 1000$ V
- Power frequency test voltage 3.5 kV for 5 minutes
- Max. admissible temperature of conductor at normal operation 70 °C
- Max. admissible temperature of conductor at short circuit 160 °C for 5 seconds

Number & Nominal cross sectional area	ELECTRICAL DATA					DIMENSIONS AND WEIGHTS		AES Code
	Max. Conductor Resistance		Current Rating			Approx. overall diameter	Approx. overall weight	
	DC at 20 °C	AC at 70 °C	Laid in ground	Laid in ducts	Laid in free air			
No. X mm ²	Ω / km	Ω / km	A	A	A	mm	Kg / km	
1.5 mm²								
7 X 1.5	12.1000	14.6000	16.0	14.0	12.5	15.6	490	C208PA1070WCBK21BMR
12 X 1.5	12.1000	14.6000	13.0	11.5	10.5	19.7	790	C208PA1120WCBK21BMR
19 X 1.5	12.1000	14.6000	10.0	9.0	8.0	22.6	1040	C208PA1190WCBK21BMR
27 X 1.5	12.1000	14.6000	8.0	7.5	6.5	27.1	1515	C208PA1270WCBK21BMF
37 X 1.5	12.1000	14.6000	7.5	6.5	6.0	30.0	1860	C208PA1370WCBK21BMF



CONTROL CABLES / BS 6346

CU / PVC / SWA / PVC 600 / 1000 V

Number & Nominal cross sectional area	ELECTRICAL DATA					DIMENSIONS AND WEIGHTS		AES Code
	Max. Conductor Resistance		Current Rating			Approx. overall diameter	Approx. overall weight	
	DC at 20 °C	AC at 70 °C	Laid in ground	Laid in ducts	Laid in free air			
No. X mm ²	Ω / km	Ω / km	A	A	A	mm	Kg / km	
2.5 mm²								
7 X 2.5	7.4100	8.8700	22.0	18.5	16.0	18.3	725	C210PA1070WCBK21BMR
12 X 2.5	7.4100	8.8700	18.0	15.5	13.5	22.4	1025	C210PA1120WCBK21BMR
19 X 2.5	7.4100	8.8700	14.0	12.0	10.5	26.9	1575	C210PA1190WCBK21BMR
27 X 2.5	7.4100	8.8700	11.5	10.0	8.5	31.0	2020	C210PA1270WCBK21BMF
37 X 2.5	7.4100	8.8700	10.0	9.0	7.5	34.4	2495	C210PA1370WCBK21BMF
4.0 mm²								
7 X 4.0	4.6100	5.5100	28.0	23.0	21.5	20.9	940	C212PA1070WCBK21BMR
12 X 4.0	4.6100	5.5100	23.0	19.5	18.0	27.1	1570	C212PA1120WCBK21BMR
19 X 4.0	4.6100	5.5100	18.0	15.0	14.0	31.1	2115	C212PA1190WCBK21BMR
27 X 4.0	4.6100	5.5100	14.5	12.0	11.0	37.1	3110	C212PA1270WCBK21BMF
37 X 4.0	4.6100	5.5100	13.0	11.0	10.0	41.1	3840	C212PA1370WCBK21BMF