

6491X Cable to BS6004 H07V-R/H07V-U

Eland Product Group **A2X**



Application

6491X Cable H07V-R/H07V-U to BS6004 is suitable for power and lighting circuits and building wiring. The cable is intended for use in semi-flush exposed conduits and embedded conduits as well as in closed installation ducts, and is ideal for the internal wiring of appliances and apparatus.

Standards

BS6004, BASEC approved*

Technical Data

Conductor

H07V-R: Class 2 stranded plain copper conductors to BS EN 60228:2005 (previously BS6360)

H07V-U: Class 1 solid plain copper conductor to BS EN 60228:2005 (previously BS6360)

Insulation

PVC (Polyvinyl Chloride) Type T11 to BS7655

Insulation Colour

Red, Black, Blue, Yellow, Brown, White, Green/Yellow, Grey

Voltage Rating

450/750V

Temperature Rating

0°C to +70°C

Minimum Bending Radius

Up to 10mm²: 3 x overall diameter
10mm² to 25mm²: 4 x overall diameter
Above 25mm²: 5 x overall diameter

Note

*Sizes up to and including 150mm² are BASEC approved. For sizes 185mm² and above please call for more information.

Dimensions

Eland Part Number	No. of Cores x Nominal Cross Sectional Area # x mm ²	Nominal Thickness of Insulation mm	Maximum Overall Diameter mm	Nominal Weight kg/Km
A2X*0015	1 x 1.5	0.7	3.3	22
A2X*0025	1 x 2.5	0.8	3.9	32
A2X*0040	1 x 4.0	0.8	4.6	50
A2X*0060	1 x 6.0	0.8	5.2	71
A2X*010	1 x 10.0	1.0	6.7	120
A2X*016	1 x 16.0	1.0	7.8	180
A2X*025	1 x 25.0	1.2	9.7	280
A2X*035	1 x 35.0	1.2	10.9	380
A2X*050	1 x 50.0	1.4	12.8	510
A2X*070	1 x 70.0	1.4	14.6	710
A2X*095	1 x 95.0	1.6	17.1	970
A2X*120	1 x 120.0	1.6	18.8	1200
A2X*150	1 x 150.0	1.8	20.9	1480
A2X*185	1 x 185.0	2.0	23.3	1900
A2X*240	1 x 240.0	2.2	26.6	2480
A2X*300	1 x 300.0	2.4	29.6	3100

Eland Part Numbers shown above designate the sheath colour (). For each colour substitute * for a colour code as listed below. e.g. A2XR0040 = 4.0mm² Red

Colour	Black	Blue	Grey	Green/Yellow	Red	Yellow	Brown	White
Code	BK	BL	GR	GY	RD	YW	BR	WH

Conductors

Class 2 stranded conductors for Single Core and Multi-Core cables

1	2	3	4	5	6	7	8
Nominal Cross Sectional Area mm ²	Minimum Number of Wires in the Conductor						Maximum Resistance of Conductor at 20°C Annealed Copper Conductor
	Circular		Circular Compacted		Shaped		
	Cu	Al	Cu	Al	Cu	Al	Plain Wires ohms/Km
1.00	7	-	-	-	-	-	18.1000
1.50	7	-	6	-	-	-	12.1000
2.50	7	-	6	-	-	-	7.4100
4.00	7	-	6	-	-	-	4.6100
6.00	7	-	6	-	-	-	3.0800
10.00	7	7	6	6	-	-	1.8300
16.00	7	7	6	6	-	-	1.1500
25.00	7	7	6	6	6	6	0.7270
35.00	7	7	6	6	6	6	0.5240
50.00	19	19	6	6	6	6	0.3870
70.00	19	19	12	12	12	12	0.2680
95.00	19	19	15	15	15	15	0.1930
120.00	37	37	18	15	18	15	0.1530
150.00	37	37	18	15	18	15	0.1240
185.00	37	37	30	30	30	30	0.0991
240.00	37	37	34	30	34	30	0.0754
300.00	61	61	34	30	34	30	0.0601
630.00	91	91	53	53	53	53	0.0283

Table in accordance with BS EN 60228:2005 (previously BS6360)

Current Carrying Capacity (amperes)

Conductor Cross Sectional Area mm ²	Reference Method A (enclosed in conduit in thermally insulating wall etc.) Amps		Reference Method B (enclosed in conduit on a wall or in a trunking etc) Amps		Reference Method C (clipped direct) Amps		Reference Method F (in free air or on a perforated cable tray etc horizontal or vertical) Amps				
	2 Cables Single Phase AC or DC	3 or 4 Cables Three Phase AC	2 Cables Single Phase AC or DC	3 or 4 Cables Three Phase AC	2 Cables Single Phase AC or DC flat or touching	3 or 4 Cables Three Phase AC flat and touching or trefoil	Touching			Spaced by one diameter	
							2 Cables Single Phase AC or DC flat	3 Cables Three Phase AC flat	3 Cables Three Phase AC trefoil	2 Cables Single Phase AC or DC or 3 Cables Three Phase AC flat	Horizontal
1	2	3	4	5	6	7	8	9	10	11	12
1.0	11.0	10.5	13.5	12.0	15.5	14.0	-	-	-	-	-
1.5	14.5	13.5	17.5	15.5	20.0	18.0	-	-	-	-	-
2.5	20.0	18.0	24.0	21.0	27.0	25.0	-	-	-	-	-
4.0	26.0	24.0	32.0	28.0	37.0	33.0	-	-	-	-	-
6.0	34.0	31.0	41.0	36.0	47.0	43.0	-	-	-	-	-
10.0	46.0	42.0	57.0	50.0	65.0	59.0	-	-	-	-	-
16.0	61.0	56.0	76.0	68.0	87.0	79.0	-	-	-	-	-
25.0	80.0	73.0	101.0	89.0	114.0	104.0	131	114	110	146	130
35.0	99.0	89.0	125.0	110.0	141.0	129.0	162	143	137	181	162
50.0	119.0	108.0	151.0	134.0	182.0	167.0	196	174	167	219	197
70.0	151.0	136.0	192.0	171.0	234.0	214.0	251	225	216	281	254
95.0	182.0	164.0	232.0	207.0	284.0	261.0	304	275	264	341	311
120.0	210.0	188.0	269.0	239.0	330.0	303.0	352	321	308	396	362
150.0	240.0	216.0	300.0	262.0	381.0	349.0	406	372	356	456	419
185.0	273.0	245.0	341.0	296.0	436.0	400.0	463	427	409	521	480
240.0	321.0	286.0	400.0	346.0	515.0	472.0	546	507	485	615	569
300.0	367.0	328.0	458.0	394.0	594.0	545.0	629	587	561	709	659
400.0	-	-	546.0	467.0	694.0	634.0	754	589	656	852	795
500.0	-	-	626.0	533.0	792.0	723.0	868	789	749	982	920
630.0	-	-	720.0	611.0	904.0	826.0	1005	905	855	1138	1070

Ambient temperature: 30°C
 Conductor operating temperature: 70°C

The above table is in accordance with Table 4D1A of the 17th Edition of IEE Wiring Regulations.

Voltage Drop (per ampere per metre)

Conductor Cross Sectional Area mm ²	2 Cables DC mV/A/m	2 Cables Single Phase AC mV/A/m									3 or 4 Cables Three Phase AC mV/A/m											
		Reference Methods A & B (enclosed in conduit or trunking)			Reference Methods C, F & G (clipped direct, on tray or in free air)						Reference Methods A & B (enclosed in conduit or trunking)			Reference Methods C, F & G (clipped direct, on tray or in free air)								
					Cable Touching			Cable Spaced*						Cable Touching Trefoil		Cable Touching Flat		Cable Spaced*				
1	2	3			4			5			6			7		8		9				
1.0	44.000	44.0			44.0			44.0			38.0			38.0		38.0		38.0				
1.5	29.000	29.0			29.0			29.0			25.0			25.0		25.0		25.0				
2.5	18.000	18.0			18.0			18.0			15.0			15.0		15.0		15.0				
4.0	11.000	11.0			11.0			11.0			9.5			9.5		9.5		9.5				
6.0	7.300	7.3			7.3			7.3			6.4			6.4		6.4		6.4				
10.0	4.400	4.4			4.4			4.4			3.8			3.8		3.8		3.8				
16.0	2.800	2.8			2.8			2.8			2.4			2.4		2.4		2.4				
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25.0	1.750	1.800	0.33	1.80	1.750	0.200	1.750	1.750	0.29	1.80	1.500	0.29	1.55	1.500	0.175	1.500	0.150	0.25	1.55	1.500	0.32	1.55
35.0	1.250	1.300	0.31	1.30	1.250	0.195	1.250	1.250	0.28	1.30	1.100	0.27	1.10	1.100	0.170	1.100	0.100	0.24	1.10	1.100	0.32	1.15
50.0	0.930	0.950	0.30	1.00	0.930	0.190	0.950	0.930	0.28	0.97	0.810	0.26	0.85	0.800	0.165	0.820	0.800	0.24	0.84	0.800	0.32	0.86
70.0	0.630	0.650	0.29	0.72	0.630	0.185	0.660	0.630	0.27	0.69	0.560	0.25	0.61	0.550	0.160	0.570	0.550	0.24	0.60	0.550	0.31	0.63
95.0	0.460	0.490	0.28	0.56	0.470	0.180	0.500	0.470	0.27	0.54	0.420	0.24	0.48	0.410	0.155	0.430	0.410	0.23	0.47	0.400	0.31	0.51
120.0	0.360	0.390	0.27	0.47	0.370	0.175	0.410	0.370	0.26	0.45	0.330	0.23	0.41	0.320	0.150	0.360	0.320	0.23	0.40	0.320	0.30	0.44
150.0	0.290	0.310	0.27	0.41	0.300	0.170	0.340	0.290	0.26	0.39	0.270	0.23	0.36	0.260	0.150	0.300	0.260	0.23	0.34	0.260	0.30	0.40
185.0	0.230	0.250	0.27	0.37	0.240	0.170	0.290	0.240	0.26	0.35	0.220	0.23	0.32	0.210	0.145	0.260	0.210	0.22	0.31	0.210	0.30	0.36
240.0	0.180	0.195	0.26	0.33	0.185	0.165	0.250	0.185	0.25	0.31	0.170	0.23	0.29	0.160	0.145	0.220	0.160	0.22	0.27	0.160	0.29	0.34
300.0	0.145	0.160	0.26	0.31	0.150	0.165	0.220	0.150	0.25	0.29	0.140	0.23	0.27	0.130	0.140	0.190	0.130	0.22	0.25	0.130	0.29	0.32
400.0	0.105	0.130	0.26	0.29	0.120	0.160	0.200	0.115	0.25	0.27	0.120	0.22	0.25	0.105	0.140	0.175	0.105	0.21	0.24	0.100	0.29	0.31
500.0	0.086	0.110	0.26	0.28	0.098	0.155	0.185	0.093	0.24	0.26	0.100	0.22	0.25	0.086	0.135	0.160	0.086	0.21	0.23	0.081	0.29	0.30
630.0	0.068	0.094	0.25	0.27	0.081	0.155	0.175	0.076	0.24	0.25	0.080	0.22	0.24	0.072	0.135	0.150	0.072	0.21	0.22	0.066	0.28	0.29

Conductor operating temperature: 70°C

*Spacings larger than one cable diameter will result in a larger voltage drop.

The above table is in accordance with Table 4D1B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm² or less cross-sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16mm², cross-sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is extracted from Appendix 4 of the 16th Edition of IEE Wiring Regulations.

Electrical Characteristics

Current Carrying Capacity (amperes)

Nominal Cross Sectional Area mm ²	Reference Method 4 (enclosed in conduit in thermally insulating wall etc.)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc.)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray horizontal or vertical)		Reference Method 12 (free air)		
	2 Cables Single Phase AC or DC Amps	3 or 4 Cables Three Phase AC Amps	2 Cables Single Phase AC or DC Amps	3 or 4 Cables Three Phase AC Amps	2 Cables Single Phase AC or DC Flat and Touching Amps	3 or 4 Cables Three Phase AC Flat and Touching or Trefoil Amps	2 Cables Single Phase AC or DC Flat and Touching Amps	3 or 4 Cables Three Phase AC Flat and Touching or Trefoil Amps	Horizontal Flat Spaced	Vertical Flat Spaced	Trefoil
									2 Cables Single Phase AC or DC or 3 Cables Three Phase AC Amps	2 Cables Single Phase AC or DC or 3 Cables Three Phase AC Amps	3 Cables Trefoil. Three Phase AC Amps
1	2	3	4	5	6	7	8	9	10	11	12
1.0	11.0	10.5	13.5	12.0	15.5	14	-	-	-	-	-
1.5	14.5	13.5	17.5	15.5	20.0	18	-	-	-	-	-
2.5	19.5	18.0	24.0	21.0	27.0	25	-	-	-	-	-
4.0	26.0	24.0	32.0	28.0	37.0	33	-	-	-	-	-
6.0	34.0	31.0	41.0	36.0	47.0	43	-	-	-	-	-
10.0	46.0	42.0	57.0	50.0	65.0	59	-	-	-	-	-
16.0	61.0	56.0	76.0	68.0	87.0	79	-	-	-	-	-
25.0	80.0	73.0	101.0	89.0	114.0	104	126	112	146	130	110
35.0	99.0	89.0	125.0	110.0	141.0	129	156	141	181	162	137
50.0	119.0	108.0	151.0	134.0	182.0	167	191	172	219	197	167
70.0	151.0	136.0	192.0	171.0	234.0	214	246	223	281	254	216
95.0	182.0	164.0	232.0	207.0	284.0	261	300	273	341	311	264
120.0	210.0	188.0	269.0	239.0	330.0	303	349	318	396	362	308
150.0	240.0	216.0	300.0	262.0	381.0	349	404	369	456	419	356
185.0	273.0	245.0	341.0	296.0	436.0	400	463	424	521	480	409
240.0	320.0	286.0	400.0	346.0	515.0	472	549	504	615	569	485
300.0	367.0	328.0	458.0	394.0	594.0	545	635	584	709	659	561
400.0	-	-	546.0	467.0	694.0	634	732	679	852	795	656
500.0	-	-	626.0	533.0	792.0	723	835	778	982	920	749
630.0	-	-	720.0	611.0	904.0	826	953	892	1138	1070	855
800.0	-	-	-	-	1030.0	943	1086	1020	1265	1188	971
1000.0	-	-	-	-	1154.0	1058	1216	1149	1420	1337	1079

Ambient Temperature: 30°C

Conductor Operating Temperature: 70°C

The information contained within this datasheet is for guidance only. When selecting accessories such as cleats, glands, etc please note that actual cable dimensions may vary due to manufacturing tolerances.