

Tri-rated Cable H05V2-K / H07V2-K

Eland Product Group **A2T**



Application

High temperature, flame retardant cable designed for use in the switch control, relay and instrumentation panels of power switchgear and for purposes such as internal connectors in rectifier equipment, motor starters and controllers. Tri-rated Cable is sometimes referred to as BS6231 Cable, H07V2-K or Panel Wire.

Standards

BS6231 Type CK, UL Subj.758, CSA c.22.2 No. 127 (only applicable for sizes up to 120mm²), HD 21.7 S2*

Technical Data

UL Style Number

1015

Conductor

Class 5 flexible plain copper conductor to BS EN 60228:2005 (previously BS6360)

Insulation

PVC (Polyvinyl Chloride)

Insulation Colour

Black, Red, Blue, Light Blue, Dark Blue, Yellow, Green/Yellow, Grey, Brown, Orange, White, Violet, Green, Pink

Voltage Rating (Uo/U)

BS6231: 600/1000V
UL, CSA: 600V/1000V
HD21.7 S2: 300V/500V, 450V/750V

Temperature Rating

BS6231: 90°C (105°C for 15,000 hours)
UL, CSA: 105°C

Minimum Bending Radius

6 x overall diameter

Note

Cables above 120mm² in size are referred to as Bi-rated since the CSA standard applies only to sizes up to and including 120mm².

HD 21.7 S2 covers conductor sizes up to 35mm², cables above this size are generally to the specification. Where it is intended to connect cables contained within this datasheet to equipment or accessories confirmation should be obtained to ensure that they are capable of withstanding the operating temperature of the cable. In the event of the equipment or accessories having a lower temperature range the cables should be de-rated accordingly as per BS 7671 Regulation 512.1.5.

Dimensions

Eland Part Number	No of Cores x Nominal Cross Sectional Area # x mm ²	AWG	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/Km	UL Style Number
A2T*0005	1 x 0.50	22	0.80	2.50	12	1015
A2T*00075	1 x 0.75	20	0.80	2.70	15	1015
A2T*0010	1 x 1.00	18	0.80	2.95	18	1015
A2T*0015	1 x 1.50	16	0.80	3.20	23	1015
A2T*0025	1 x 2.50	14	0.80	3.65	34	1015
A2T*0040	1 x 4.00	12	0.80	4.20	48	1015
A2T*0060	1 x 6.00	10	0.80	4.70	67	1015
A2T*010	1 x 10.00	8	1.14	6.50	119	1015
A2T*016	1 x 16.00	6	1.52	8.00	187	1015
A2T*025	1 x 25.00	4	1.52	9.40	291	1015
A2T*035	1 x 35.00	2	1.52	10.60	406	1015
A2T*050	1 x 50.00	1	2.02	12.90	580	1015
A2T*070	1 x 70.00	2/0	2.02	14.60	780	1015
A2T*095	1 x 95.00	3/0	2.02	16.10	1055	1015
A2T*120	1 x 120.00	4/0	2.02	17.90	1175	1015
A2T*150	1 x 150.00	250 MCM	2.41	20.20	1425	1015
A2T*185	1 x 185.00	350 MCM	2.41	22.85	1735	1015
A2T*240	1 x 240.00	450 MCM	2.41	24.40	2310	1015

Eland Part Numbers shown above designate the sheath colour (). For each colour substitute * for a colour code as listed below. e.g. A2TRD0040 = 4.0mm² Red, A2TPK0015 = 1.5mm² Pink

Colour	Black	Green	Blue	Light Blue	Dark Blue	Grey	Green/Yellow	Orange	Red	Pink	Yellow	Violet	Brown	White
Code	BK	GN	BL	LTBL	DKBL	GR	GY	OR	RD	PK	YW	VI	BR	WH

Conductors

Class 5 flexible Copper Conductors for Single Core and Multi-Core cables

1	2	3
Nominal Cross Sectional Area mm ²	Maximum Diameter of Wires in Conductor mm	Maximum Resistance of Conductor at 20°C Plain Wires ohms/Km
0.50	0.21	39.0000
0.75	0.21	26.0000
1.00	0.21	19.5000
1.50	0.26	13.3000
2.50	0.26	7.9800
4.00	0.31	4.9500
6.00	0.31	3.3000
10.00	0.41	1.9100
16.00	0.41	1.2100
25.00	0.41	0.7800
35.00	0.41	0.5540
50.00	0.41	0.3860
70.00	0.51	0.2720
95.00	0.51	0.2060
120.00	0.51	0.1610
150.00	0.51	0.1290
185.00	0.51	0.1060
240.00	0.51	0.0801

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

Electrical Characteristics

Current Carrying Capacity (amperes) and Voltage Drop (per ampere per metre)

Nominal Cross Sectional Area mm ²	Current Rating (Peak) Amps	Voltage Drop mV/A/m
0.50	11	46.00
0.75	14	31.00
1.00	17	22.00
1.50	21	15.00
2.50	30	9.10
4.00	41	5.70
6.00	53	3.80
10.00	75	2.20
16.00	100	1.40
25.00	136	0.89
35.00	167	0.64
50.00	204	0.45
70.00	259	0.32
95.00	321	0.24
120.00	374	0.19
150.00	418	0.16
185.00	480	0.13
240.00	593	0.10

Current ratings are based on a conductor operating temperature of 85°C and an ambient air temperature of 45°C and assumes single cable isolated in free air.

De-rating Factors

Ambient Temperature	45°C	50°C	55°C	60°C	65°C	70°C	75°C
De-rating Factor	1.0	0.97	0.90	0.82	0.73	0.63	0.52

Where Cables are to be grouped, the following factors should be applied:

Number of cables in group	2	3	4	5	6	7	8
De-rating Factor	0.80	0.70	0.65	0.60	0.56	0.53	0.50

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.