



# Tri-rated - H05V2-K / H07V2-K / BS 6231 UL1015 CSA 22.2 Flexible PVC Cable



Eland Product Group: A2T

## APPLICATION

Heat resistant, 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 BS 6231 cable, H07V2-K or panel wire.

## CHARACTERISTICS

### Voltage Rating (U<sub>o</sub>/U)

UL, CSA, BS 6231: 0.6/1kV  
0.5mm<sup>2</sup> - 1mm<sup>2</sup>: BS EN 50525-2-31 - H05V2-K: 300/500V  
1.5mm<sup>2</sup> and above\*: BS EN 505-2-31 - H07V2-K: 450/750V

### Temperature Rating

UL, CSA: -15°C to +105°C  
BS 6231: -15°C to +90°C

### Minimum Bending Radius

6 x overall diameter

## CONSTRUCTION

### UL Style Number

1015

### Conductor

Class 5 flexible copper conductor

### Insulation

PVC (Polyvinyl Chloride)

### Insulation Colour

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

### Note

\*BS EN 50525-2-31 covers harmonised conductor sizes up to 35mm<sup>2</sup>, 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.

## CABLE THIRD-PARTY ACCREDITATION



Cables are tested and accredited by BASEC, The British Approvals Service for Cables

## STANDARDS

BS EN 50525-2-31\*, BS 6231 Type CK, UL Subj.758, CSA C22.2 No. 210 (HD 21.7 S2) #LL246095, BS EN 60228

Flame Retardant according to BS EN/IEC 60332-1-2

## ISO/IEC 17025 LABORATORY TESTED

This product is subject to the Quality Assurance protocols of The Cable Lab®, an ISO/IEC 17025 accredited cable testing laboratory. Testing includes vertical flame, conductor resistance, tensile & elongation, and dimensional consistency, verified to published standards and approved product drawings.



8578



FS 672069



EMS 672067



OHS 672066

## REGULATORY COMPLIANCE

This cable is compliant with European Regulation EN 50575, the Construction Products Regulation.



This cable meets the requirements of the Low Voltage Directive 2014/35/EU and the RoHS Directive 2011/65/EU. RoHS compliance has been tested and confirmed by The Cable Lab® as meeting the requirements of the BSI RoHS Trusted Kitemark™.



KM 634267





## DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	APPROXIMATE AWG	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A2T*0005	1	0.5	21	0.8	2.7	11
A2T*00075	1	0.75	19	0.8	2.85	15
A2T*0010	1	1	18	0.8	3	18
A2T*0015	1	1.5	16	0.8	3.3	23
A2T*0025	1	2.5	14	0.8	3.75	35
A2T*0040	1	4	12	0.8	4.35	48
A2T*0060	1	6	10	0.8	4.85	69
A2T*010	1	10	8	1	6.3	117
A2T*016	1	16	6	1	8.1	191
A2T*025	1	25	4	1.2	9.4	281
A2T*035	1	35	2	1.2	10.9	389
A2T*050	1	50	1	1.4	13.1	560
A2T*070	1	70	2/0	1.4	15.1	774
A2T*095	1	95	3/0	1.6	16.1	991
A2T*120	1	120	4/0	1.6	17.9	1231
A2T*150	1	150	250 MCM	1.8	20.2	1534
A2T*185	1	185	350 MCM	2	22.85	1878
A2T*240	1	240	450 MCM	2.2	24.4	2381

\* Designates the sheath colour. For each Eland Cables part number replace with the colour code as listed below. e.g. A2TWH00075 = 0.75mm<sup>2</sup> White

## COLOUR CODES

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

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km
		Plain Wires
0.5	0.21	39
0.75	0.21	26
1	0.21	19.5
1.5	0.26	13.3
2.5	0.26	7.98
4	0.31	4.95
6	0.31	3.3
10	0.41	1.91
16	0.41	1.21
25	0.41	0.78
35	0.41	0.554
50	0.41	0.386
70	0.51	0.272
95	0.51	0.206
120	0.51	0.161
150	0.51	0.129
185	0.51	0.106
240	0.51	0.0801

The above table is in accordance with BS EN 60228 (previously BS 6360)



## ELECTRICAL CHARACTERISTICS

### Current Carrying Capacity and Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CURRENT RATING (PEAK) Amps	VOLTAGE DROP mV/A/m
0.5	11	46
0.75	14	31
1	17	22
1.5	21	15
2.5	30	9.1
4	41	5.7
6	53	3.8
10	75	2.2
16	100	1.4
25	136	0.89
35	167	0.64
50	204	0.45
70	259	0.32
95	321	0.24
120	374	0.19
150	429	0.16
185	496	0.13
240	595	0.1

Current ratings are based on a conductor operating temperature of 90°C and an ambient air temperature of 45°C and assumes single cable isolated in free air.

## DE-RATING FACTORS

### De-Rating Factor for Ambient Temperature 60°C Thermoplastic or Thermosetting Insulated Cords

AIR TEMPERATURE	45°C	50°C	55°C	60°C	65°C	70°C	75°C
DE-RATING FACTOR	1.00	0.97	0.90	0.82	0.73	0.63	0.52

Where cables are to be grouped, the following factors should be applied

NO. 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 and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.