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 (Uo/U)
UL, CSA, BS 6231: 0.6/1kV
0.5mm² - 1mm²: BS EN 50525-2-31 - H05V2-K: 300/500V
1.5mm² 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

*Suitable for temperature of -40°C for fixed installations only

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 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.

CABLE THIRD-PARTY ACCREDITATION

We supply BASEC approved products
Cables are tested and certified by BASEC, The British Approvals Service for Cables

STANDARDS

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

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

THE CABLE LAB®

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.

SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions, our comprehensive recycling services, and wider ESG activities for sustainable operations at: www.elandcables.com/company/about-us/esg-sustainability

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, the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab®.

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	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 = 0.75mm² 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 mm²	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 EN 60228

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ELECTRICAL CHARACTERISTICS

Current Carrying Capacity and Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm²	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