

RZ1-K LSZH Cable

Eland Product Group **A9R**

Application

For installation where fire, smoke emission and toxic fumes create a potential threat to life and equipment. A flexible power and control cable designed for fixed applications. Manufactured with flexible conductors in order to facilitate installations with sinuous courses.



Standards

UNE 21 123-2, 60502-1, EN 50265, IEC 60332-1

Conductor

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

Insulation

XLPE (Cross-Linked Polyethylene) Type DIX-3 to HD603

Sheath

LSZH (Low Smoke Zero Halogen) Polyolephine to UNE 21 123

Sheath Colour

Green

Voltage Rating

600/1000V

Temperature Rating

-15°C to +90°C

Minimum Bending Radius

5 x overall diameter

Core Identification

- 1 Core: Black
- 2 Cores: Blue, Brown
- 3 Cores including Earth Core: Blue, Brown, Green/Yellow
- 3 Cores: Brown, Black, Grey
- 4 Cores including Earth Core: Brown, Black, Grey, Green/Yellow
- 4 Cores: Brown, Black, Grey, Blue
- 5 Cores including Earth Core: Brown, Black, Grey, Green/Yellow, Blue



Dimensions

Eland Part Number	No. of Cores x Nominal Cross Sectional Area # x mm ²	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
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RZ1-K LSZH Cable - 1 Core

A9R01025LS	1 x 2.5	0.7	6.2	54
A9R01040LS	1 x 4.0	0.7	6.7	70
A9R01060LS	1 x 6.0	0.7	7.3	90
A9R0110LS	1 x 10.0	0.7	8.2	133
A9R0116LS	1 x 16.0	0.7	9.2	189
A9R0125LS	1 x 25.0	0.9	11.0	284
A9R0135LS	1 x 35.0	0.9	12.1	381
A9R0150LS	1 x 50.0	1.0	13.8	517
A9R0170LS	1 x 70.0	1.1	15.7	712
A9R0195LS	1 x 95.0	1.1	17.6	923
A9R01120LS	1 x 120.0	1.2	19.2	1165
A9R01150LS	1 x 150.0	1.4	21.5	1446
A9R01185LS	1 x 185.0	1.6	23.9	1748
A9R01240LS	1 x 240.0	1.7	26.9	2280
A9R01300LS	1 x 300.0	1.8	29.6	2829
A9R01400LS	1 x 400.0	2.0	33.8	3731
A9R01500LS	1 x 500.0	2.2	37.4	4776
A9R01630LS	1 x 630.0	2.4	42.7	6276

RZ1-K LSZH Cable - 2 Cores

A9R02015LS	2 x 1.5	0.7	8.2	90
A9R02025LS	2 x 2.5	0.7	9.2	120
A9R02040LS	2 x 4.0	0.7	10.3	161
A9R02060LS	2 x 6.0	0.7	11.3	211
A9R0210LS	2 x 10.0	0.7	13.2	316
A9R0216LS	2 x 16.0	0.7	14.9	450

RZ1-K LSZH Cable - 3 Cores including Earth Core

A9R03015LS	3 x 1.5	0.7	8.9	108
A9R03025LS	3 x 2.5	0.7	9.8	144
A9R03040LS	3 x 4.0	0.7	11.0	198
A9R03060LS	3 x 6.0	0.7	12.1	263
A9R0310LS	3 x 10.0	0.7	14.3	405

RZ1-K LSZH Cable - 3 Cores

A9R0316LS	3 x 16.0	0.7	16.4	593
A9R0325LS	3 x 25.0	0.9	21.3	975
A9R0335LS	3 x 35.0	0.9	24.1	1319
A9R0350LS	3 x 50.0	1.0	27.8	1812
A9R0370LS	3 x 70.0	1.1	30.8	2463

RZ1-K LSZH Cable - 4 Cores including Earth Core

A9R04015LS	4 x 1.5	0.7	9.7	129
A9R04025LS	4 x 2.5	0.7	10.7	175
A9R04040LS	4 x 4.0	0.7	12.0	243
A9R04060LS	4 x 6.0	0.7	13.4	328
A9R0410LS	4 x 10.0	0.7	15.7	505

RZ1-K LSZH Cable - 4 Cores

A9R0410LS	4 x 16.0	0.7	18.2	749
A9R0425LS	4 x 25.0	0.9	24.1	1245
A9R0435LS	4 x 35.0	0.9	26.3	1671
A9R0450LS	4 x 50.0	1.0	31.3	2313
A9R0470LS	4 x 70.0	1.1	36.1	3204
A9R0495LS	4 x 95.0	1.1	40.2	4126

Datasheet Continues »

RZ1-K LSZH Cable [Continued]

Eland Part Number	No. of Cores x Nominal Cross Sectional Area # x mm ²	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
A9R04120LS	4 x 120.0	1.2	44.6	5245
A9R04150LS	4 x 150.0	1.4	49.8	6573
A9R04185LS	4 x 185.0	1.6	56.1	8050
A9R04240LS	4 x 240.0	1.7	64.5	10695

RZ1-K LSZH Cable - 5 Cores including Earth Core

A9R05015LS	5 x 1.5	0.7	10.4	153
A9R05025LS	5 x 2.5	0.7	11.6	213
A9R05040LS	5 x 4.0	0.7	13.2	298
A9R05060LS	5 x 6.0	0.7	14.7	403
A9R0510LS	5 x 10.0	0.7	17.2	624
A9R0516LS	5 x 16.0	0.7	20.2	931
A9R0525LS	5 x 25.0	0.9	25.6	1555
A9R0535LS	5 x 35.0	0.9	29.3	2076
A9R0550LS	5 x 50.0	1.0	34.5	2878

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
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
300.00	0.51	0.0641
400.00	0.51	0.0486
500.00	0.61	0.0384
630.00	0.61	0.0287

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

Electrical Characteristics

Current Carrying Capacity (amperes) and Resistance Values (ohms per kilometre)

No. of Cores x Nominal Cross Sectional Area # x mm ²	Current Carrying Capacity		Voltage Drop V/A/Km
	In Air Amps	In Earth Amps	

RZ1-K LSZH Cable - 1 Core

1 x 2.5	29	29	17.700
1 x 4.0	40	37	11.000
1 x 6.0	53	46	7.320
1 x 10.0	74	61	4.230
1 x 16.0	101	79	2.680
1 x 25.0	135	101	1.730
1 x 35.0	169	122	1.230
1 x 50.0	207	144	0.860
1 x 70.0	268	178	0.603
1 x 95.0	328	211	0.457
1 x 120.0	383	240	0.357
1 x 150.0	444	271	0.286
1 x 185.0	510	304	0.235
1 x 240.0	607	351	0.178
1 x 300.0	703	396	0.142
1 x 400.0	823	464	0.108
1 x 500.0	946	525	0.085
1 x 630.0	1088	596	0.064

Datasheet Continues »

No. of Cores x Nominal Cross Section Area # x mm ²	Current Carrying Capacity		Voltage Drop V/A/Km
	In Air Amps	In Earth Amps	
2 x 1.5	26	26	34.000
2 x 2.5	36	34	20.400
2 x 4.0	49	44	12.700
2 x 6.0	63	56	8.450
2 x 10.0	86	73	4.890
2 x 16.0	115	95	3.100

RZ1-K LSZH Cable - 3 Cores including Earth Core

3 x 1.5	26	26	34.000
3 x 2.5	36	34	20.400
3 x 4.0	49	44	12.700
3 x 6.0	63	56	8.450
3 x 10.0	86	73	4.890

RZ1-K LSZH Cable - 3 Cores

3 x 16.0	100	79	2.680
3 x 25.0	127	101	1.730
3 x 35.0	158	122	1.230
3 x 50.0	192	144	0.860
3 x 70.0	246	178	0.603

RZ1-K LSZH Cable - 4 Cores including Earth Core

4 x 1.5	23	22	29.500
4 x 2.5	32	29	17.700
4 x 4.0	42	37	11.000
4 x 6.0	54	46	7.320
4 x 10.0	75	61	4.230

RZ1-K LSZH Cable - 4 Cores

4 x 16.0	100	79	2.680
4 x 25.0	127	101	1.730
4 x 35.0	158	122	1.230
4 x 50.0	192	144	0.860
4 x 70.0	246	178	0.603
4 x 95.0	298	211	0.457
4 x 120.0	346	240	0.357
4 x 150.0	399	271	0.286
4 x 185.0	456	304	0.235
4 x 240.0	538	351	0.178

RZ1-K LSZH Cable - 5 Cores including Earth Core

5 x 1.5	23	22	29.500
5 x 2.5	32	29	17.700
5 x 4.0	42	37	11.000
5 x 6.0	54	46	7.320
5 x 10.0	75	61	4.230
5 x 16.0	100	79	2.680
5 x 25.0	127	101	1.730
5 x 35.0	158	122	1.230
5 x 50.0	192	144	0.860

Short Circuit Current Carrying Capacities

The maximum short-circuit current that a cable can withstand depends on the time of reaction of the protection elements installed in the line. The maximum current-carrying capacity in a short-circuit accident, for a specific type of cable, is the result of multiplying the cross-section of the cable for the values shown in the table below.

Time s	0.1	0.2	0.3	0.5	1.0	1.5	2.0	2.5	3.0
Amps/mm ²	452	320	261	202	143	117	101	90	83

These values are taken from IEC 949.

Correction Factors

For air temperature other than 30°C

Air Temperature	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
Factor	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71

For ground temperature other than 20°C

Ground Temperature	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Factor	1.07	1.04	1.00	0.96	0.93	0.89	0.85	0.80	0.76

For soil thermal resistivity, which depends on dampness, other than 2.5°K • m/W

Moisture degree of soil	Very Damp	Slightly Damp	Slightly Dry	Dry	Very Dry
Thermal Resistivity (°K • m/W)	1.0	1.5	2.0	2.5	3.0
Factor	1.18	1.10	1.05	1.00	0.96