



AJ-2Y(L)2YDB2Y S(H45)

Applications

The cables are designed for transmission of low frequent signals up to 90 KHz through symmetric circuits in railway networks, and are suitable for laying directly into the ground or in ducts.

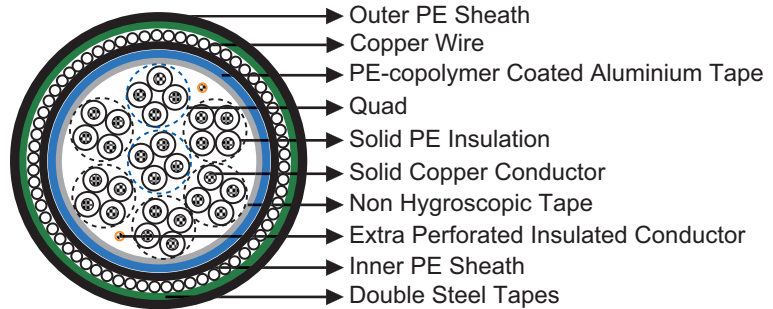


Standards

- Dlk 1.013.109y
- Dlk 1.013.110y

Construction

- Conductors: Solid Annealed copper, 0.9 or 1.4 mm nominal diameter.
- Insulation: Solid polyethylene.
- Cabling Element: Four insulated conductors are twisted together to form a quad.
- Stranding: Quads are helically stranded in concentric layers. Cables from 7 quads on, have two extra conductors of 0.5mm with perforated insulation (surveillance conductors).
- Core Wrapping: Plastic tape(s) with overlapping.
- Moisture Barrier: One laminated sheath made of aluminium tape (0.15mm) coated with PE-Copolymer on at least one side is applied with longitudinally overlap.
- Inner Sheath: Low density polyethylene.
- Electrostatic Shield: One layer of helically applied copper wires (0.9, 1.2, 1.4 or 1.8mm).
- Electromagnetic Shield: Two helically applied steel tapes (0.5 or 0.8mm thick, depending on required reduction factor).
- Outer Sheath: Low density polyethylene.



Type Codes

AJ-	outdoor cable with protection against inductive influences
2Y	solid PE conductor insulation
(L)2Y	inner laminated PE sheath
D	copper wire concentric screen
B	steel tape armor
2Y	outer PE sheath

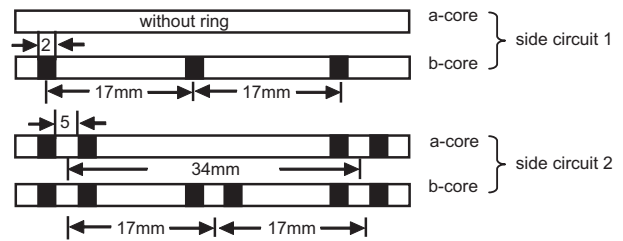


S signal cable
LG layer stranding
H(n) operating capacity

Ring marking of Quad

The single core is identified by black ring markings:

Side Circuit 1	a-wire	without marking
	b-wire	1 mark distance 17mm
Side Circuit 2	a-wire	2 marks distance 34mm
	b-wire	2 marks distance 17mm



Electrical Characteristics at 20°C

Nominal Conductor Diameter	mm	0.9	1.4
Maximum Conductor Resistance	Ω/km	56.6	23.4
Minimum Insulation Resistance @500 V DC (1min)	MΩ.km	10000	10000
Maximum Conductor Capacitance @800Hz (AC)	nF/km	45	45
Maximum Capacitance Unbalance @800Hz			
K_1 (100% / 50% all values)	pF/km	650/150	650/150
K_{9-12} neighboured quads	pF/km	500/150	500/150
K_{9-12} over-neighboured quads	pF/km	150	150
$ea_{1/2}$	pF/km	1300	1300
Minimum Far-end Crosstalk Attenuation @90KHz			
100% / 80% all values	dB/km	58/62	33/45
Maximum Attenuation @90KHz	dB/km	3.3	2.6
Dielectric Strength, conductor to conductor (DC voltage 1min)	V	3535	3535
Surveillance Conductors			
Loop resistance, maximum	Ω/km	190	190
Insulation resistance			
- dry cable core, minimum	MΩ.km	1000	1000
- wet cable core, maximum	KΩ.km	30	30
Optional: Nominal Reduction Factor @ 100 V/km, 16 2/3 Hz			
rk 401 series		0.15	0.15
rk 501 series		0.35	0.35
rk 601 series		0.55	0.55
Operating Voltage AC/DC	V	420/600	420/600
Test Voltage 50 Hz 1 min			
Core to Core	V_{eff}	2500	2500
Core to Screen	V_{eff}	2500	2500

Mechanical and Thermal Properties

- Minimum Bending Radius: 10×OD
- Temperature Range: -40°C to +60°C (during operation); -10°C +60°C (during installation)

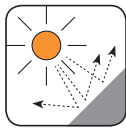


Dimensions and Weight

Cable Code	Number of Quads	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
0.9mm Conductor, 1.8mm Insulated Wire rk 601 Series					
RS109y-2Y(L)2YDB2Y-3Q0.9-S(H45)-R6	3	1.3	1.2	21.0	650
RS109y-2Y(L)2YDB2Y-5Q0.9-S(H45)-R6	5	1.3	1.2	23.0	800
RS109y-2Y(L)2YDB2Y-10Q0.9-S(H45)-R6	10	1.3	1.2	28.0	1130
RS109y-2Y(L)2YDB2Y-20Q0.9-S(H45)-R6	20	1.3	1.2	35.0	1670
RS109y-2Y(L)2YDB2Y-30Q0.9-S(H45)-R6	30	1.3	1.2	40.0	2180
RS109y-2Y(L)2YDB2Y-40Q0.9-S(H45)-R6	40	1.3	1.2	45.0	2650
0.9mm Conductor, 1.8mm Insulated Wire rk 401 Series					
RS109y-2Y(L)2YDB2Y-10Q0.9-S(H45)-R4	10	1.3	1.2	31.0	1880
RS109y-2Y(L)2YDB2Y-20Q0.9-S(H45)-R4	20	1.3	1.2	38.0	2640
RS109y-2Y(L)2YDB2Y-30Q0.9-S(H45)-R4	30	1.3	1.2	43.0	3310
RS109y-2Y(L)2YDB2Y-40Q0.9-S(H45)-R4	40	1.3	1.2	48.0	3880
1.4mm Conductor, 2.6mm Insulated Wire rk 501 Series					
RS109y-2Y(L)2YDB2Y-3Q1.4-S(H45)-R5	3	1.3	1.2	25.0	1060
RS109y-2Y(L)2YDB2Y-5Q1.4-S(H45)-R5	5	1.3	1.2	29.0	1360
RS109y-2Y(L)2YDB2Y-10Q1.4-S(H45)-R5	10	1.3	1.2	37.0	2040
RS109y-2Y(L)2YDB2Y-20Q1.4-S(H45)-R5	20	1.3	1.2	47.0	3180
RS109y-2Y(L)2YDB2Y-30Q1.4-S(H45)-R5	30	1.3	1.2	54.0	4220
RS109y-2Y(L)2YDB2Y-40Q1.4-S(H45)-R5	40	1.3	1.2	61.0	5180
1.4mm Conductor, 2.6mm Insulated Wire rk 401 Series					
RS109y-2Y(L)2YDB2Y-3Q1.4-S(H45)-R4	3	1.3	1.2	28.0	1650
RS109y-2Y(L)2YDB2Y-5Q1.4-S(H45)-R4	5	1.3	1.2	31.0	1950
RS109y-2Y(L)2YDB2Y-10Q1.4-S(H45)-R4	10	1.3	1.2	39.0	2880
RS109y-2Y(L)2YDB2Y-20Q1.4-S(H45)-R4	20	1.3	1.2	49.0	4180
RS109y-2Y(L)2YDB2Y-30Q1.4-S(H45)-R4	30	1.3	1.2	56.0	5330
RS109y-2Y(L)2YDB2Y-40Q1.4-S(H45)-R4	40	1.3	1.2	63.0	6430



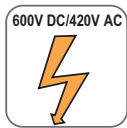
Anti Induction



UV Resistant



Water Resistant



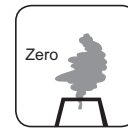
Rated Voltage



Laid In Ducts



Buried in Ciround



Zero Halogen
IEC 60754-1/NF C20-454
EN 50267-2-1

