PRODUCT DATASHEET

RLKU114-50JFLAH

1-1/4" RADIAFLEX® RLKU Cable, A-series

- RADIAFLEX® functions as a distributed antenna to provide communications in tunnels, mines and large building complexes and is the solution for any application in confined areas.
- Slots in the copper outer conductor allow a controlled portion of the internal RF energy to be radiated into the surrounding environment. Conversely, a signal transmitted near the cable will couple into the slots and be carried along the cable length.
- RADIAFLEX® is used for both one-way and two-way communication systems and because of its broadband capability, a single radiating cable can handle multiple communication systems simultaneously.
- This RADIAFLEX® radiating cable utilize a low-loss cellular polyethylene foam dielectric and a smooth copper outer conductor which offers a superior electrical performance together with good bending properties.

Feature / Benefits

- Ultra wideband from 30 MHz to 2700 MHz
- For applications in tunnels and buildings
- Low coupling loss variations

Technical features

GENERAL SPECIFICATIONS

Size	1-1/4

ELECTRICAL SPECIFICATIONS

Max. Operating Frequency	2700 MHz
Cable Type	RLKU
Impedance	50 +/- 2
Velocity	90 percent
Capacitance	74pF/m (22.6pF/ft)
DC-resistance inner conductor	0.83ohm/1000 m (0.253ohm/1000 ft)
DC-resistance outer conductor	1.75ohm/1000 m (0.534ohm/1000 ft)
Stop bands	540-610
Frequency Selection	600, 900, 1800/1900, 2200, 2400, 2500, 2700

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MECHANICAL SPECIFICATIONS

Jacket	JFL, EN50575:2017 classified cable
Jacket Description	Halogen free, non corrosive, flame and fire retardant, low smoke, polyolefin + flame barrier tape above outer conductor for lowest cable loss
Slot Design	Groups of vertical slots at short intervals
Inner Conductor Material	Corrugated Copper Tube
Outer Conductor Material	Overlapping Copper Strip
Diameter Inner Conductor	13.9mm (0.55in)
Diameter Outer Conductor	34mm (1.34in)
Minimum Bending Radius	500mm (20in)
Cable Weight	0.87kg/m (0.58lb/ft)
Tensile Force	2000N (440lb)
Indication of Slot Alignment	Guides opposite to slots
Recommended / Maximum Clamp Spacing	1.3m (4.3ft)
Minimum Distance to Wall	80mm (3.15in)

TESTING AND ENVIRONMENTAL

Jacket Testing Methods	Test methods for fire behaviour of cable : IEC 60754-1/-2 smoke emission: halogen free, non corrosive IEC 61034 low smoke IEC 60332-1 flame retardant IEC 60332-3-24 fire retardant NFPA130 (ed. 2014) Ch.12 (NFPA70) via UL-1685/FT4/IEEE1202 UL1666, ASTM E 662, NES711 and NES713 EN50575:2017 (Hannover production) class Dca s1 d2 a1

TEMPERATURE SPECIFICATIONS

Storage Temperature	-70°C to 85°C (-94°F to 185°F)
Installation Temperature	-25°C to 60°C (-13°F to 140°F)
Operation Temperature	-40°C to 85°C (-40°F to 185°F)

ATTENUATION AND POWER RATING

Frequency, MHz	Longitudinal Loss, dB/100 m (dB/100 ft)	Coupling Loss 50%, dB	Coupling Loss 95%, dB
75	0.71 (0.23)	58 (61)	68 (71)
150	1.08 (0.33)	64 (67)	75 (78)
500	2.03 (0.62)	69 (73)	81 (84)
700	2.55 (0.78)	62 (65)	66 (69)
800	2.75 (0.84)	62 (65)	67 (70)
860	2.88 (0.88)	67 (70)	73 (76)
870	2.90 (0.89)	68 (71)	74 (77)
900	2.97 (0.91)	64 (67)	67 (70)
1900	5.39 (1.64)	62 (65)	67 (70)
2000	5.69 (1.64)	63 (66)	69 (72)
2100	5.96 (1.82)	62 (65)	67 (70)
2200	6.37 (1.94)	61 (64)	66 (69)
2300	6.79 (2.07)	62 (65)	67 (70)
2400	7.32 (2.23)	61 (64)	67 (70)
2700	9.12 (2.78)	61 (64)	67 (70)

NOTES

- Coupling loss as well as longitudinal attenuation of RADIAFLEX® cables are measured by the free space method according to IEC 61196-4.
- Coupling loss values are measured with a radial (below 550 MHz) or parallel (above 550 MHz) orientated dipole antenna.
- The coupling loss values given in brackets are average values of all three spatial orientations (radial, parallel and orthogonal) of dipole antenna.
- Coupling loss values are given with a tolerance of +5 dB and longitudinal loss values with a tolerance of +5%. Note: Measured values below nominal are better. They are not limited by any tolerance-range.
- In case of a conflict of operational and stop band, please contact RFS for further assistance.
- As with any radiating cable, the performance in building or tunnel environments may deviate from figures based on free space method.

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