Product Specifications

AL4RPV-50

AL4RPV-50, HELIAX® Plenum Rated Air Dielectric Coaxial Cable, corrugated aluminum, 1/2 in, off white PVC jacket

- This product is part of the CommScope Wired for Wireless® Solution

Construction Materials

Jacket Material	PVC
Dielectric Material	PE spline
Flexibility	Standard
Inner Conductor Material	Copper-clad aluminum wire
Jacket Color	Off-white
Outer Conductor Material	Corrugated aluminum

Dimensions

Nominal Size	1/2 in
Cable Weight	0.21 kg/m | 0.14 lb/ft
Diameter Over Jacket	15.748 mm | 0.620 in
Inner Conductor OD	4.5720 mm | 0.1800 in
Outer Conductor OD	14.046 mm | 0.553 in

Electrical Specifications

Cable Impedance	50 ohm ±2 ohm
Capacitance	76.0 pF/m | 23.0 pF/ft
dc Resistance, Inner Conductor	1.570 ohms/km | 0.480 ohms/kft
dc Resistance, Outer Conductor	1.570 ohms/km | 0.480 ohms/kft
dc Test Voltage	4000 V
Inductance	0.190 µH/m | 0.058 µH/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	5000 V
Operating Frequency Band	1 – 6000 MHz
Peak Power	40.0 kW
Power Attenuation	2.325
Pulse Reflection	0.5%
Velocity	88%

Environmental Specifications

Installation Temperature	-5 °C to +60 °C (+23 °F to +140 °F)
Operating Temperature	-20 °C to +85 °C (-4 °F to +185 °F)
Storage Temperature	-20 °C to +85 °C (-4 °F to +185 °F)

General Specifications

Brand	HELIAX®
Ordering Note	CommScope® standard product (Global)

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Mechanical Specifications

Bending Moment	6.8 N-m | 5.0 ft lb
Fire Retardancy Test Method	NFPA 262/CATVP/CMP
Flat Plate Crush Strength	1.4 kg/mm | 80.0 lb/in
Minimum Bend Radius, Multiple Bends	127.00 mm | 5.00 in
Minimum Bend Radius, Single Bend	64.00 mm | 2.50 in
Number of Bends, minimum	15
Tensile Strength	79 kg | 175 lb

Note

Performance Note	Values typical, unless otherwise stated

Standard Conditions

Attenuation, Ambient Temperature	20 °C | 68 °F
Average Power, Ambient Temperature	40 °C | 104 °F
Average Power, Inner Conductor Temperature	100 °C | 212 °F

Return Loss/VSWR

Frequency Band	VSWR	Return Loss (dB)
806–960 MHz	1.25	19.00
1700–2200 MHz	1.25	19.00

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.152	0.046	40.00
1	0.216	0.066	35.37
1.5	0.264	0.081	28.84
2	0.306	0.093	24.95
10	0.691	0.211	11.04
20	0.985	0.3	7.75
30	1.213	0.37	6.29
50	1.581	0.482	4.83
85	2.087	0.636	3.66
88	2.126	0.648	3.59
100	2.274	0.693	3.35
108	2.368	0.722	3.22
150	2.821	0.86	2.70
174	3.054	0.931	2.50
200	3.292	1.003	2.32
204	3.327	1.014	2.29
300	4.104	1.251	1.86
400	4.808	1.466	1.59
450	5.134	1.565	1.49
500	5.445	1.659	1.40
512	5.517	1.682	1.38
600	6.032	1.839	1.26
700	6.583	2.007	1.16
800	7.105	2.166	1.07
824	7.227	2.203	1.06
894	7.574	2.308	1.01
960	7.892	2.405	0.97
1000	8.081	2.463	0.94
1218	9.068	2.764	0.84
1250	9.207	2.806	0.83
1500	10.256	3.126	0.74
1700	11.053	3.369	0.69
1800	11.439	3.487	0.67
2000	12.192	3.716	0.63
2100	12.559	3.828	0.61
2200	12.92	3.938	0.59
2300	13.276	4.046	0.57
2500	13.975	4.259	0.55
2700	14.656	4.467	0.52
3000	15.649	4.77	0.49
3400	16.928	5.159	0.45
3700	17.859	5.443	0.43
4000	18.768	5.72	0.41
5000	21.671	6.605	0.35
6000	24.42	7.443	0.31

** Values typical, guaranteed within 5%*

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system