HL4RPV-50

HL4-50, HELIAX® Plenum Rated Air Dielectric Coaxial Cable, corrugated copper, 1/2 in, off white PVDF jacket

Product Classification

Brand	HELIAX®
Product Series	HL4-50A
Product Type	Air coaxial cable

Construction Materials

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

Dimensions

Nominal Size	1/2 in
Cable Weight	0.25 kg/m | 0.17 lb/ft
Diameter Over Jacket	15.367 mm | 0.605 in
Inner Conductor OD	4.8006 mm | 0.1890 in
Outer Conductor OD	13.843 mm | 0.545 in

Electrical Specifications

Cable Impedance	50 ohm ±2 ohm
Capacitance	23.0 pF/ft | 75.5 pF/m
dc Resistance, Inner Conductor	1.476 ohms/km | 0.450 ohms/kft
dc Resistance, Outer Conductor	1.903 ohms/km | 0.580 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 – 8800 MHz
Peak Power	40.0 kW
Power Attenuation	2.325

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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 +80 °C (-4 °F to +176 °F)
Storage Temperature	-20 °C to +85 °C (-4 °F to +185 °F)

Mechanical Specifications

Bending Moment	5.4 N-m | 4.0 ft lb
Fire Retardancy Test Method	NFPA 262/CATVP/CMP
Flat Plate Crush Strength	80.0 lb/in | 1.4 kg/mm
Minimum Bend Radius, Multiple Bends	127.00 mm | 5.00 in
Number of Bends, minimum	15
Number of Bends, typical	25
Tensile Strength	113 kg | 250 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)
700–894 MHz	1.25	19.10
806–960 MHz	1.25	19.10
1700–2200 MHz	1.25	19.10

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Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.149	0.045	40.00
1	0.211	0.064	36.18
1.5	0.259	0.079	29.51
2	0.299	0.091	25.54
10	0.673	0.205	11.34
20	0.957	0.292	7.97
30	1.177	0.359	6.48
50	1.529	0.466	4.99
85	2.011	0.613	3.79
88	2.048	0.624	3.73
100	2.188	0.667	3.49
108	2.278	0.694	3.35
150	2.705	0.824	2.82
174	2.924	0.891	2.61
200	3.147	0.959	2.42
204	3.18	0.969	2.40
300	3.903	1.19	1.95
400	4.554	1.388	1.68
450	4.853	1.479	1.57
460	4.911	1.497	1.55
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500	5.138	1.566	1.48
512	5.205	1.586	1.47
600	5.675	1.73	1.34
700	6.176	1.882	1.24
800	6.648	2.026	1.15
824	6.758	2.06	1.13
894	7.07	2.155	1.08
960	7.357	2.242	1.04
1000	7.526	2.294	1.01
1218	8.407	2.562	0.91
1250	8.531	2.6	0.89
1500	9.461	2.884	0.81
1700	10.164	3.098	0.75
1794	10.483	3.195	0.73
1800	10.503	3.201	0.73
2000	11.163	3.402	0.68
2100	11.483	3.5	0.66
2200	11.798	3.596	0.65
2300	12.108	3.69	0.63
2500	12.714	3.875	0.60
2700	13.303	4.055	0.57
3000	14.159	4.315	0.54
3400	15.256	4.65	0.50
3600	15.788	4.812	0.48

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3700	16.051	4.892	0.48
3800	16.311	4.971	0.47
3900	16.568	5.05	0.46
4000	16.824	5.128	0.45
4100	17.078	5.205	0.45
4200	17.329	5.282	0.44
4300	17.579	5.358	0.43
4400	17.827	5.433	0.43
4500	18.073	5.508	0.42
4600	18.317	5.583	0.42
4700	18.559	5.657	0.41
4800	18.8	5.73	0.41
4900	19.04	5.803	0.40
5000	19.277	5.875	0.40
6000	21.581	6.577	0.35
8000	25.868	7.884	0.29
8800	27.494	8.38	0.28

** Values typical, guaranteed within 5%*

Regulatory Compliance/Certifications

Agency	**Classification**
UL/ETL Certification	CATVP/CMP
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
c(ETL)us Certification	CATVP/CMP

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