HL4RPV-50B (520099902/00)

HL4-50A, HELIAX® Plenum Rated Air Dielectric Coaxial Cable, corrugated copper, 1/2 in, blue PVC jacket

Product Classification

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

General Specifications

Flexibility	Standard
Jacket Color	Blue

Dimensions

Diameter Over Jacket	0.605 in | 15.367 mm
Inner Conductor OD	0.189 in | 4.801 mm
Outer Conductor OD	0.545 in | 13.843 mm
Nominal Size	1/2 in

Electrical Specifications

Attenuation, Ambient Temperature	68 °F | 20 °C
Cable Impedance	50 ohm ±2 ohm
Capacitance	23 pF/ft | 75.459 pF/m
dc Resistance, Inner Conductor	0.45 ohms/kft | 1.476 ohms/km
dc Resistance, Outer Conductor	0.58 ohms/kft | 1.903 ohms/km
dc Test Voltage	4000 V
Inductance	0.058 µH/ft | 0.19 µH/m
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	5000 V
Operating Frequency Band	1 – 8800 MHz

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Peak Power	40 kW
Power Attenuation	2.325
Pulse Reflection	0.5%
Velocity	88 %

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
700–894 MHz	1.25	19.1
806–960 MHz	1.25	19.1
1700–2200 MHz	1.25	19.1

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
1.0	0.211	0.064	36.18
1.5	0.259	0.079	29.51
2.0	0.299	0.091	25.54
10.0	0.673	0.205	11.34
20.0	0.957	0.292	7.97
30.0	1.177	0.359	6.48
50.0	1.529	0.466	4.99
85.0	2.011	0.613	3.79
88.0	2.048	0.624	3.73
100.0	2.188	0.667	3.49
108.0	2.278	0.694	3.35
150.0	2.705	0.824	2.82
174.0	2.924	0.891	2.61
200.0	3.147	0.959	2.42
204.0	3.18	0.969	2.4
300.0	3.903	1.19	1.95
400.0	4.554	1.388	1.68
450.0	4.853	1.479	1.57
460.0	4.911	1.497	1.55
500.0	5.138	1.566	1.48
512.0	5.205	1.586	1.47
600.0	5.675	1.73	1.34
700.0	6.176	1.882	1.24

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800.0	6.648	2.026	1.15
824.0	6.758	2.06	1.13
894.0	7.07	2.155	1.08
960.0	7.357	2.242	1.04
1000.0	7.526	2.294	1.01
1218.0	8.407	2.562	0.91
1250.0	8.531	2.6	0.89
1500.0	9.461	2.884	0.81
1700.0	10.164	3.098	0.75
1794.0	10.483	3.195	0.73
1800.0	10.503	3.201	0.73
2000.0	11.163	3.402	0.68
2100.0	11.483	3.5	0.66
2200.0	11.798	3.596	0.65
2300.0	12.108	3.69	0.63
2500.0	12.714	3.875	0.6
2700.0	13.303	4.055	0.57
3000.0	14.159	4.315	0.54
3400.0	15.256	4.65	0.5
3600.0	15.788	4.812	0.48
3700.0	16.051	4.892	0.48
3800.0	16.311	4.971	0.47
3900.0	16.568	5.05	0.46
4000.0	16.824	5.128	0.45
4100.0	17.078	5.205	0.45
4200.0	17.329	5.282	0.44
4300.0	17.579	5.358	0.43
4400.0	17.827	5.433	0.43
4500.0	18.073	5.508	0.42
4600.0	18.317	5.583	0.42
4700.0	18.559	5.657	0.41
4800.0	18.8	5.73	0.41
4900.0	19.04	5.803	0.4
5000.0	19.277	5.875	0.4
6000.0	21.581	6.577	0.35
8000.0	25.869	7.884	0.29

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8800.0	27.494	8.38	0.28

Material Specifications

Dielectric Material	PE spline
Jacket Material	PVC
Inner Conductor Material	Copper-clad aluminum wire
Outer Conductor Material	Corrugated copper

Mechanical Specifications

Minimum Bend Radius, multiple Bends	5 in | 127 mm
Number of Bends, minimum	15
Number of Bends, typical	25
Tensile Strength	113 kg | 249.122 lb
Bending Moment	4 ft lb | 5.423 N-m
Flat Plate Crush Strength	80 lb/in | 1.429 kg/mm

Environmental Specifications

Installation temperature	-20 °C to +60 °C (-4 °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)
Average Power, Ambient Temperature	104 °F | 40 °C
Average Power, Inner Conductor Temperature	212 °F | 100 °C
Fire Retardancy Test Method	NFPA 262/CATVP/CMP

Packaging and Weights

Cable weight	0.17 lb/ft | 0.024 kg/m

Regulatory Compliance/Certifications

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

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