HL4RPV-50BL-CBAND

HL4-50, 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

Product Number	520099902/00
Flexibility	Standard
Jacket Color	Blue
Performance Note	Attenuation values typical, guaranteed within 5%

Dimensions

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

Electrical Specifications

Cable Impedance	50 ohm ±2 ohm
Capacitance	75.459 pF/m | 23 pF/ft
dc Resistance, Inner Conductor	1.476 ohms/km | 0.45 ohms/kft
dc Resistance, Outer Conductor	1.903 ohms/km | 0.58 ohms/kft
dc Test Voltage	4000 V
Inductance	0.19 µH/m | 0.058 µH/ft
Insulation Resistance	100000 MOhms-km

HL4RPV-50BL-CBAND

Jacket Spark Test Voltage (rms)	5000 V
Operating Frequency Band	1 – 8800 MHz
Peak Power	40 kW
Power Attenuation	2.325
Pulse Reflection	0.5%
Velocity	88 %

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
450–680 MHz	1.288	18
680–960 MHz	1.13	24.3
1695–2200 MHz	1.13	24.3
2300–2700 MHz	1.173	22
3100–3300 MHz	1.288	18
3300–4200 MHz	1.288	18
5150–5925 MHz	1.377	16

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
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
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	127 mm | 5 in
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	1.429 kg/mm | 80 lb/in

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)
Attenuation, Ambient Temperature	68 °F | 20 °C
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

HL4RPV-50BL-CBAND

Cable weight	0.253 kg/m | 0.17 lb/ft