

L4-PDMNF-8

LDF4-50A Jumper with interface types 7-16 DIN Male and N Female,
2.439 m



Product Classification

Product Type	SureFlex® standard
Product Brand	HELIAX®
Product Series	LDF4-50A

General Specifications

Body Style, Connector A	Straight
Body Style, Connector B	Straight
Interface, Connector A	7-16 DIN Male
Interface, Connector B	N Female
Specification Sheet Revision Level	A

Dimensions

Length	2.439 m 8.002 ft
Nominal Size	1/2 in

Electrical Specifications

DTF, Connector A	-32 dB
DTF, Connector B	-32 dB

Jumper Assembly Sample Label

L4-PDMNF-8



Environmental Specifications

Immersion Test Method Meets IEC 60529:2001, IP68 in mated condition

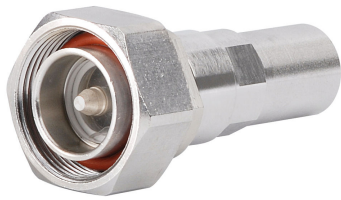
Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

Included Products

- L4TDM-PS – 7-16 DIN Male Positive Stop™ for 1/2 in LDF4-50A cable
- L4TDM-PSA – 7-16 DIN Male Positive Stop™ for 1/2 in AL4RPV-50, LDF4-50A, HL4RPV-50 cable
- L4TNF-PS – Type N Female Positive Stop™ for 1/2 in LDF4-50A cable
- L4TNF-PSA – Type N Female Positive Stop™ for 1/2 in AL4RPV-50, LDF4-50A, HL4RPV-50 cable
- LDF4-50A – LDF4-50A, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black PE jacket Halogen free jacketing non-fire-retardant (General propose cable for outdoor use only)

L4TDM-PS



7-16 DIN Male Positive Stop™ for 1/2 in LDF4-50A cable

Product Classification

Product Type	Wireless and radiating connector
Product Brand	HELIAX® Positive Stop™

General Specifications

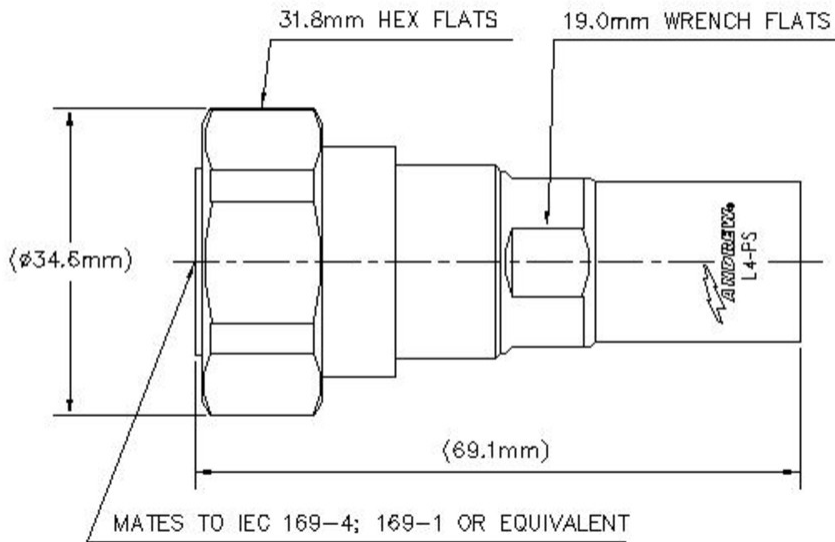
Body Style	Straight
Cable Family	LDF4-50A
Inner Contact Attachment Method	Captivated
Inner Contact Plating	Silver
Interface	7-16 DIN Male
Mounting Angle	Straight
Outer Contact Attachment Method	Ring-flare
Outer Contact Plating	Trimetal
Pressurizable	No

Dimensions

Length	68.07 mm 2.68 in
Diameter	36.07 mm 1.42 in
Nominal Size	1/2 in

Outline Drawing

L4TDM-PS



Electrical Specifications

3rd Order IMD at Frequency	-120 dBm @ 910 MHz
3rd Order IMD Test Method	Two +43 dBm carriers
Insertion Loss Coefficient, typical	0.05
Average Power at Frequency	1.1 kW @ 900 MHz
Cable Impedance	50 ohm
Connector Impedance	50 ohm
dc Test Voltage	4000 V
Inner Contact Resistance, maximum	0.8 mOhm
Insulation Resistance, minimum	5000 MOhm
Operating Frequency Band	0 – 8800 MHz
Outer Contact Resistance, maximum	1.5 mOhm
Peak Power, maximum	40 kW
RF Operating Voltage, maximum (vrms)	1415 V
Shielding Effectiveness	-110 dB

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
45–1000 MHz	1.023	38.89

L4TDM-PS

1010–2200 MHz	1.029	36.9
2200–3000 MHz	1.046	32.96
3010–4000 MHz	1.074	28.95
4010–6000 MHz	1.106	25.96
6010–8000 MHz	1.152	23.02

Mechanical Specifications

Attachment Durability	25 cycles
Connector Retention Tensile Force	889.64 N 200 lbf
Connector Retention Torque	5.42 N-m 47.998 in lb
Coupling Nut Proof Torque	25 N-m 221.269 in lb
Coupling Nut Retention Force	1000 N 224.81 lbf
Coupling Nut Retention Force Method	MIL-C-39012C-3.25, 4.6.22
Insertion Force	200.17 N 45 lbf
Insertion Force Method	IEC 61169-1:15.2.4
Interface Durability	500 cycles
Interface Durability Method	IEC 61169-4:9.5
Mechanical Shock Test Method	MIL-STD-202, Method 213, Test Condition I

Environmental Specifications

Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Attenuation, Ambient Temperature	20 °C 68 °F
Average Power, Ambient Temperature	40 °C 104 °F
Corrosion Test Method	MIL-STD-1344A, Method 1001.1, Test Condition A
Immersion Depth	1 m
Immersion Test Mating	Unmated
Immersion Test Method	IEC 60529:2001, IP68
Moisture Resistance Test Method	MIL-STD-202F, Method 106F
Thermal Shock Test Method	MIL-STD-202F, Method 107G, Test Condition A-1, Low Temperature -55 °C
Vibration Test Method	IEC 60068-2-6
Water Jetting Test Mating	Unmated
Water Jetting Test Method	IEC 60529:2001, IP66

L4TDM-PS

Packaging and Weights

Weight, net 123 g | 0.271 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Above maximum concentration value
ROHS	Compliant/Exempted
UK-ROHS	Compliant/Exempted



* Footnotes

Insertion Loss Coefficient, typical 0.05√freq (GHz) (not applicable for elliptical waveguide)

Immersion Depth Immersion at specified depth for 24 hours

L4TDM-PSA



7-16 DIN Male Positive Stop™ for 1/2 in AL4RPV-50, LDF4-50A, HL4RPV-50 cable

Product Classification

Product Type	Wireless and radiating connector
Product Brand	HELIAX® Positive Stop™
Product Series	LDF4-50A
Ordering Note	CommScope® standard product (Global)

General Specifications

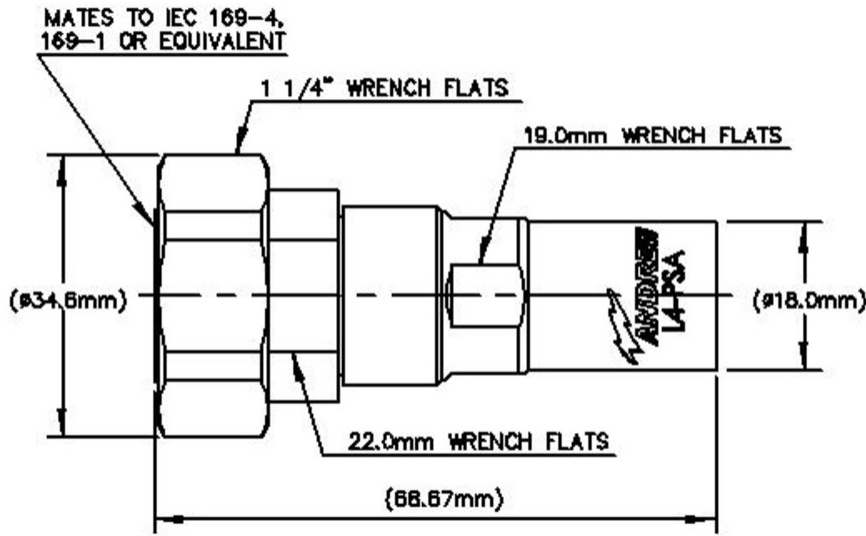
Body Style	Straight
Cable Family	AL4-50
Harmonized System (HS) Code	85366910 (Coaxial cable and other coaxial electric conductors)
Inner Contact Attachment Method	Captivated
Inner Contact Plating	Silver
Interface	7-16 DIN Male
Mounting Angle	Straight
Outer Contact Attachment Method	Ring-flare
Outer Contact Plating	Trimetal

Dimensions

Length	68.58 mm 2.7 in
Diameter	34.54 mm 1.36 in
Nominal Size	1/2 in

Outline Drawing

L4TDM-PSA



Electrical Specifications

3rd Order IMD at Frequency	-120 dBm @ 910 MHz
3rd Order IMD Test Method	Two +43 dBm carriers
Insertion Loss Coefficient, typical	0.05
Average Power at Frequency	1.1 kW @ 900 MHz
Cable Impedance	50 ohm
Connector Impedance	50 ohm
dc Test Voltage	4000 V
Inner Contact Resistance, maximum	0.8 mOhm
Insulation Resistance, minimum	5000 MOhm
Operating Frequency Band	0 – 8800 MHz
Outer Contact Resistance, maximum	1.5 mOhm
Peak Power, maximum	40 kW
RF Operating Voltage, maximum (vrms)	1415 V
Shielding Effectiveness	-110 dB

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
45–1000 MHz	1.023	38.89

L4TDM-PSA

1010–2200 MHz	1.029	36.9
2200–3000 MHz	1.046	32.96
3010–4000 MHz	1.074	28.95
4010–6000 MHz	1.106	25.96
6010–8000 MHz	1.152	23.02

Mechanical Specifications

Attachment Durability	25 cycles
Connector Retention Tensile Force	889.64 N 200 lbf
Connector Retention Torque	5.42 N-m 47.998 in lb
Coupling Nut Proof Torque	25 N-m 221.269 in lb
Coupling Nut Retention Force	1000 N 224.81 lbf
Coupling Nut Retention Force Method	MIL-C-39012C-3.25, 4.6.22
Insertion Force	200.17 N 45 lbf
Insertion Force Method	IEC 61169-1:15.2.4
Interface Durability	500 cycles
Interface Durability Method	IEC 61169-4:9.5
Mechanical Shock Test Method	MIL-STD-202, Method 213, Test Condition I

Environmental Specifications

Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Corrosion Test Method	MIL-STD-1344A, Method 1001.1, Test Condition A
Immersion Depth	1 m
Immersion Test Mating	Unmated
Immersion Test Method	IEC 60529:2001, IP68
Moisture Resistance Test Method	MIL-STD-202F, Method 106F
Thermal Shock Test Method	MIL-STD-202F, Method 107G, Test Condition A-1, Low Temperature -55 °C
Vibration Test Method	IEC 60068-2-6
Water Jetting Test Mating	Unmated
Water Jetting Test Method	IEC 60529:2001, IP66

Packaging and Weights

L4TDM-PSA

Weight, net

120.09 g | 0.265 lb

Regulatory Compliance/Certifications

Agency

Classification

CHINA-ROHS

Above maximum concentration value

ISO 9001:2015

Designed, manufactured and/or distributed under this quality management system

REACH-SVHC

Compliant as per SVHC revision on www.commscope.com/ProductCompliance

ROHS

Compliant/Exempted

UK-ROHS

Compliant/Exempted



* Footnotes

Insertion Loss Coefficient, typical 0.05√freq (GHz) (not applicable for elliptical waveguide)

Immersion Depth Immersion at specified depth for 24 hours

L4TNF-PS

Type N Female Positive Stop™ for 1/2 in LDF4-50A cable



Product Classification

Product Type	Wireless and radiating connector
Product Brand	HELIAX® Positive Stop™

General Specifications

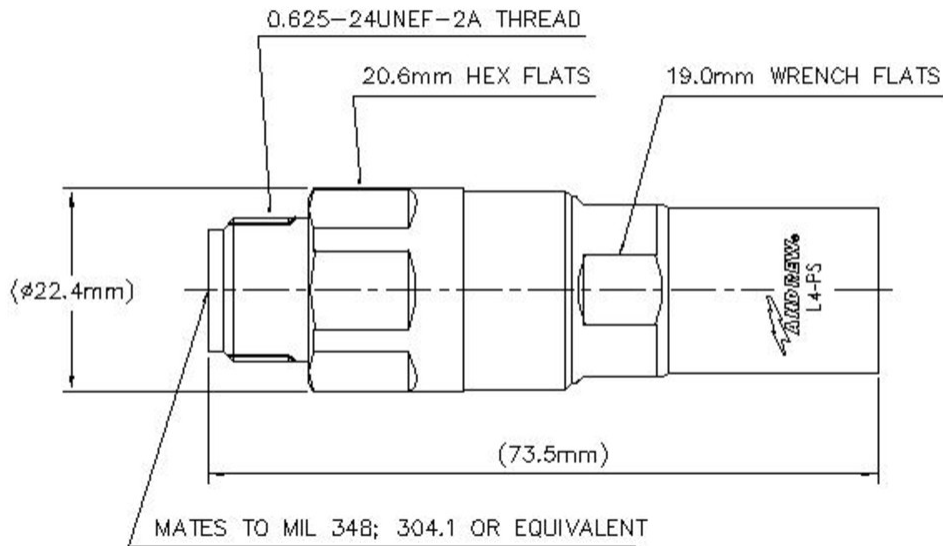
Body Style	Straight
Cable Family	LDF4-50A
Inner Contact Attachment Method	Captivated
Inner Contact Plating	Silver
Interface	N Female
Mounting Angle	Straight
Outer Contact Attachment Method	Ring-flare
Outer Contact Plating	Trimetal
Pressurizable	No

Dimensions

Length	73.41 mm 2.89 in
Diameter	22.35 mm 0.88 in
Nominal Size	1/2 in

Outline Drawing

L4TNF-PS



Electrical Specifications

3rd Order IMD at Frequency	-116 dBm @ 910 MHz
3rd Order IMD Test Method	Two +43 dBm carriers
Insertion Loss Coefficient, typical	0.05
Average Power at Frequency	0.6 kW @ 900 MHz
Cable Impedance	50 ohm
Connector Impedance	50 ohm
dc Test Voltage	2000 V
Inner Contact Resistance, maximum	2 mOhm
Insulation Resistance, minimum	5000 MOhm
Operating Frequency Band	0 – 8800 MHz
Outer Contact Resistance, maximum	0.3 mOhm
Peak Power, maximum	10 kW
RF Operating Voltage, maximum (vrms)	707 V
Shielding Effectiveness	-130 dB

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
50–1000 MHz	1.023	38.89

L4TNF-PS

1010–2200 MHz	1.029	36.9
2210–3000 MHz	1.046	32.96
3010–4000 MHz	1.074	28.95
4010–6000 MHz	1.119	25.01

Mechanical Specifications

Attachment Durability	25 cycles
Connector Retention Tensile Force	889.64 N 200 lbf
Connector Retention Torque	5.42 N-m 47.998 in lb
Insertion Force	66.72 N 15 lbf
Insertion Force Method	MIL-C-39012C-3.12, 4.6.9
Interface Durability	500 cycles
Interface Durability Method	IEC 61169-16:9.5
Mechanical Shock Test Method	MIL-STD-202, Method 213, Test Condition I

Environmental Specifications

Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Attenuation, Ambient Temperature	20 °C 68 °F
Average Power, Ambient Temperature	40 °C 104 °F
Corrosion Test Method	MIL-STD-1344A, Method 1001.1, Test Condition A
Immersion Depth	1 m
Immersion Test Mating	Unmated
Immersion Test Method	IEC 60529:2001, IP68
Moisture Resistance Test Method	MIL-STD-202F, Method 106F
Thermal Shock Test Method	MIL-STD-202F, Method 107G, Test Condition A-1, Low Temperature -55 °C
Vibration Test Method	IEC 60068-2-6
Water Jetting Test Mating	Unmated
Water Jetting Test Method	IEC 60529:2001, IP66

Packaging and Weights

Weight, net	89.63 g 0.198 lb
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* Footnotes

L4TNF-PS

Insertion Loss Coefficient, typical $0.05\sqrt{\text{freq (GHz)}}$ (not applicable for elliptical waveguide)

Immersion Depth Immersion at specified depth for 24 hours

L4TNF-PSA



Type N Female Positive Stop™ for 1/2 in AL4RPV-50, LDF4-50A, HL4RPV-50 cable

Product Classification

Product Type	Wireless and radiating connector
Product Brand	HELIAX® Positive Stop™
Product Series	LDF4-50A
Ordering Note	CommScope® standard product (Global)

General Specifications

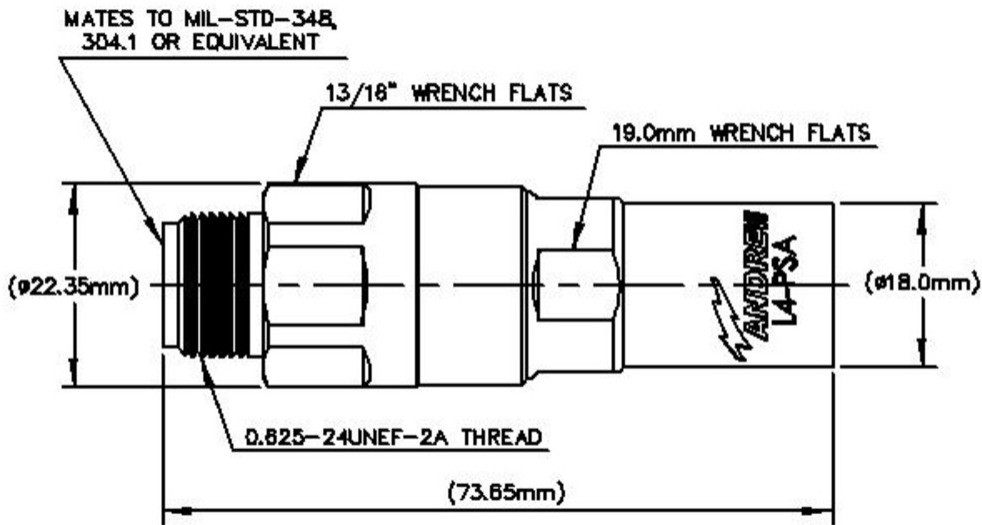
Body Style	Straight
Cable Family	AL4-50
Harmonized System (HS) Code	85366910 (Coaxial cable and other coaxial electric conductors)
Inner Contact Attachment Method	Captivated
Inner Contact Plating	Silver
Interface	N Female
Mounting Angle	Straight
Outer Contact Attachment Method	Ring-flare
Outer Contact Plating	Trimetal

Dimensions

Length	73.66 mm 2.9 in
Diameter	22.35 mm 0.88 in
Nominal Size	1/2 in

Outline Drawing

L4TNF-PSA



Electrical Specifications

3rd Order IMD at Frequency	-116 dBm @ 910 MHz
3rd Order IMD Test Method	Two +43 dBm carriers
Insertion Loss Coefficient, typical	0.05
Average Power at Frequency	0.6 kW @ 900 MHz
Cable Impedance	50 ohm
Connector Impedance	50 ohm
dc Test Voltage	2000 V
Inner Contact Resistance, maximum	2 mOhm
Insulation Resistance, minimum	5000 MOhm
Operating Frequency Band	0 – 8800 MHz
Outer Contact Resistance, maximum	0.3 mOhm
Peak Power, maximum	10 kW
RF Operating Voltage, maximum (vrms)	707 V
Shielding Effectiveness	-130 dB

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
50–1000 MHz	1.023	38.89

L4TNF-PSA

1010–2200 MHz	1.029	36.9
2210–3000 MHz	1.046	32.96
3010–4000 MHz	1.074	28.95
4010–6000 MHz	1.119	25.01

Mechanical Specifications

Attachment Durability	25 cycles
Connector Retention Tensile Force	889.64 N 200 lbf
Connector Retention Torque	5.42 N-m 47.998 in lb
Insertion Force	66.72 N 15 lbf
Insertion Force Method	MIL-C-39012C-3.12, 4.6.9
Interface Durability	500 cycles
Interface Durability Method	IEC 61169-16:9.5
Mechanical Shock Test Method	MIL-STD-202, Method 213, Test Condition I

Environmental Specifications

Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Corrosion Test Method	MIL-STD-1344A, Method 1001.1, Test Condition A
Immersion Depth	1 m
Immersion Test Mating	Unmated
Immersion Test Method	IEC 60529:2001, IP68
Moisture Resistance Test Method	MIL-STD-202F, Method 106F
Thermal Shock Test Method	MIL-STD-202F, Method 107G, Test Condition A-1, Low Temperature -55 °C
Vibration Test Method	IEC 60068-2-6
Water Jetting Test Mating	Unmated
Water Jetting Test Method	IEC 60529:2001, IP66

Packaging and Weights

Weight, net	88.46 g 0.195 lb
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Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Above maximum concentration value

L4TNF-PSA

ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant/Exempted
UK-ROHS	Compliant/Exempted



* Footnotes

Insertion Loss Coefficient, typical $0.05\sqrt{\text{freq}}$ (GHz) (not applicable for elliptical waveguide)

Immersion Depth Immersion at specified depth for 24 hours

LDF4-50A



LDF4-50A, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black PE jacket Halogen free jacketing non-fire-retardant (General propose cable for outdoor use only)

Product Classification

Product Type	Coaxial wireless cable
Product Brand	HELIAX®
Product Series	LDF4-50A
Ordering Note	CommScope® standard product (Global)

General Specifications

Product Number	520094002/00 SZ520094902/00
Flexibility	Standard
Jacket Color	Black
Performance Note	Attenuation values typical, guaranteed within 5%

Dimensions

Diameter Over Dielectric	12.954 mm 0.51 in
Diameter Over Jacket	15.875 mm 0.625 in
Inner Conductor OD	4.826 mm 0.19 in
Outer Conductor OD	13.97 mm 0.55 in
Nominal Size	1/2 in

Electrical Specifications

Cable Impedance	50 ohm ±1 ohm
Capacitance	75.8 pF/m 23.104 pF/ft
dc Resistance, Inner Conductor	1.48 ohms/km 0.451 ohms/kft
dc Resistance, Outer Conductor	2.69 ohms/km 0.82 ohms/kft
dc Test Voltage	4000 V

LDF4-50A

Inductance	0.19 μ H/m 0.058 μ H/ft
Insulation Resistance	100000 MOhms-km
Jacket Spark Test Voltage (rms)	8000 V
Operating Frequency Band	1 – 8800 MHz
Peak Power	40 kW
Velocity	88 %

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
680–800 MHz	1.13	24.3
800–960 MHz	1.13	24.3
1700–2200 MHz	1.13	24.3
2300–2700 MHz	1.13	24.3

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
1.0	0.211	0.064	36.11
1.5	0.259	0.079	29.46
2.0	0.299	0.091	25.5
10.0	0.672	0.205	11.35
20.0	0.954	0.291	7.99
30.0	1.172	0.357	6.51
50.0	1.521	0.463	5.02
85.0	1.995	0.608	3.82
88.0	2.031	0.619	3.76
100.0	2.169	0.661	3.52
108.0	2.256	0.688	3.38
150.0	2.673	0.815	2.85
174.0	2.887	0.88	2.64
200.0	3.103	0.946	2.46
204.0	3.135	0.956	2.43
300.0	3.835	1.169	1.99
400.0	4.462	1.36	1.71
450.0	4.749	1.447	1.61
460.0	4.804	1.464	1.59

LDF4-50A

500.0	5.021	1.53	1.52
512.0	5.085	1.55	1.5
600.0	5.533	1.686	1.38
700.0	6.009	1.831	1.27
800.0	6.456	1.968	1.18
824.0	6.56	1.999	1.16
894.0	6.855	2.089	1.11
960.0	7.124	2.171	1.07
1000.0	7.284	2.22	1.05
1218.0	8.11	2.472	0.94
1250.0	8.226	2.507	0.93
1500.0	9.093	2.771	0.84
1700.0	9.744	2.97	0.78
1794.0	10.039	3.06	0.76
1800.0	10.058	3.066	0.76
2000.0	10.666	3.251	0.72
2100.0	10.961	3.341	0.7
2200.0	11.251	3.429	0.68
2300.0	11.535	3.516	0.66
2500.0	12.09	3.685	0.63
2700.0	12.627	3.849	0.6
3000.0	13.407	4.086	0.57
3400.0	14.401	4.389	0.53
3600.0	14.882	4.536	0.51
3700.0	15.118	4.608	0.5
3800.0	15.353	4.679	0.5
3900.0	15.585	4.75	0.49
4000.0	15.815	4.82	0.48
4100.0	16.042	4.889	0.48
4200.0	16.268	4.958	0.47
4300.0	16.492	5.027	0.46
4400.0	16.714	5.094	0.46
4500.0	16.934	5.161	0.45
4600.0	17.153	5.228	0.44
4700.0	17.37	5.294	0.44

LDF4-50A

4800.0	17.585	5.36	0.43
4900.0	17.798	5.425	0.43
5000.0	18.01	5.489	0.42
6000.0	20.055	6.113	0.38
8000.0	23.826	7.262	0.32
8800.0	25.244	7.694	0.3

Material Specifications

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

Mechanical Specifications

Minimum Bend Radius, multiple Bends	127 mm 5 in
Minimum Bend Radius, single Bend	50.8 mm 2 in
Number of Bends, minimum	15
Number of Bends, typical	50
Tensile Strength	113 kg 249.122 lb
Bending Moment	3.8 N-m 33.633 in lb
Flat Plate Crush Strength	2 kg/mm 111.995 lb/in

Environmental Specifications

Installation temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-70 °C to +85 °C (-94 °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

Packaging and Weights

Cable weight	0.22 kg/m 0.148 lb/ft
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Regulatory Compliance/Certifications

LDF4-50A

Agency

CENELEC

CHINA-ROHS

ISO 9001:2015

REACH-SVHC

ROHS

UK-ROHS

Classification

EN 50575 compliant, Declaration of Performance (DoP) available

Below maximum concentration value

Designed, manufactured and/or distributed under this quality management system

Compliant as per SVHC revision on www.commscope.com/ProductCompliance

Compliant

Compliant

