L4-DMDM-22M-SGW-D

D-CLASS LDF4-50A SureFlex® Jumper with interface types 7-16 DIN Male and 7-16 DIN Male with HELIAX® SureGuard weatherproofing, 22 m

- If there are threads along the entire device port length, the HELIAX® SureGuard weatherproofing solutions will only seal properly if the HSG-M29-ADPT adapter is installed on the device port

Product Classification

Product Type	SureFlex® D-CLASS, dynamic PIM
Product Brand	HELIAX® | SureFlex®
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	7-16 DIN Male
Specification Sheet Revision Level	A

Dimensions

Length	22 m | 72.178 ft
Nominal Size	1/2 in

Logo Image

L4-DMDM-22M-SGW-D

Electrical Specifications

3rd Order IMD Dynamic	-116 dBm
3rd Order IMD Dynamic Test Method	Two +43 dBm carriers per IEC 62037
DTF, Connector A	-34 dB
DTF, Connector B	-34 dB

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
698–960 MHz	1.101	26.36
1700–2200 MHz	1.101	26.36
2200–2700 MHz	1.135	23.98

Jumper Assembly Sample Label

L4-DMDM-22M-SGW-D

Environmental Specifications

Immersion Test Method	Meets IEC 60529:2001, IP68 in mated condition
Weatherproofing Method	HELIAX® SureGuard weatherproofing boot

Packaging and Weights

Included	Weatherproofing boot

Regulatory Compliance/Certifications

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

Included Products

HSG-LDF4	–	HELIAX® SureGuard® Boot for 1/2 in jumpers to antennas or devices
HSG-M29-ADPT	–	HELIAX® SureGuard® sealing adpapter for fully threaded device ports that will form a weather seal with the HELIAX® SureGuard Boots (HSG-LDF4, HSG-LDF4-DR, HSG-FSJ4 and HSG-FSJ4-DR)
HSG-M29-ADPT-L	–	HELIAX® SureGuard® sealing adpapter for fully threaded device ports that will form a weather seal with the HELIAX® SureGuard Boots (HSG-LDF4, HSG-LDF4-DR, HSG-FSJ4 and HSG-FSJ4-DR)
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)

HSG-LDF4

HELIAX® SureGuard® Boot for 1/2 in jumpers to antennas or devices

- If there are threads along the entire device port length, the HELIAX® SureGuard weatherproofing solutions will only seal properly if the HSG-M29-ADPT adapter is installed on the device port

Product Classification

Product Type	Weatherproofing boot
Product Brand	HELIAX® | SureGuard®
Ordering Note	ANDREW® non-standard product

General Specifications

Application	Provides additional moisture seal for cable connections
Applications per Kit	One 1/2 in to antenna or device connection
Color	Black

Dimensions

Width	55 mm | 2.165 in
Length	99 mm | 3.898 in
Cable Diameter for Seal, maximum	16.26 mm | 0.64 in
Cable Diameter for Seal, minimum	15.59 mm | 0.614 in
Inner Diameter	14.35 mm | 0.565 in
Nominal Size	1/2 in

Material Specifications

Material Type	Silicone rubber

Environmental Specifications

Installation temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Operating Temperature	-40 °C to +85 °C (-40 °F to +185 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
UV Resistance Test Method	ASTM G154-12a
UV Resistance, minimum with no degradation	≥1000 hours

Weather Resistance Test Method	IEC 60068-2-11 | IEC 60529:2001, IP68

Packaging and Weights

Height, packed	41 mm | 1.614 in
Width, packed	120 mm | 4.724 in
Length, packed	140 mm | 5.512 in
Packaging quantity	1
Weight, gross	27 g | 0.06 lb

HSG-M29-ADPT

HELIAX® SureGuard® sealing adpapter for fully threaded device ports that will form a weather seal with the HELIAX® SureGuard Boots (HSG-LDF4, HSG-LDF4-DR, HSG-FSJ4 and HSG-FSJ4-DR)

Product Classification

Product Type	Weatherproofing boot
Product Brand	HELIAX® | SureGuard®
Ordering Note	ANDREW® non-standard product

General Specifications

Application	Provides moisture seal for fully threaded device ports
Applications per Kit	Ten device connections
Color	Black
Device Port Interface	7-16 DIN Female
Thread Size	M29

Dimensions

Width	35.5 mm | 1.398 in
Length	12 mm | 0.472 in
Inner Diameter	28.3 mm | 1.114 in

Material Specifications

Material Type	Thermoplastic elastomer (TPE)

Environmental Specifications

Installation temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Operating Temperature	-40 °C to +85 °C (-40 °F to +185 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
UV Resistance Test Method	ASTM G154-12a
UV Resistance, minimum with no degradation	≥1000 hours
Weather Resistance Test Method	IEC 60068-2-11 | IEC 60529:2001, IP68

HSG-M29-ADPT

Packaging and Weights

Height, packed	25.5 mm | 1.004 in
Width, packed	120 mm | 4.724 in
Length, packed	140 mm | 5.512 in
Packaging quantity	10
Weight, gross	37 g | 0.082 lb

HSG-M29-ADPT-L

HELIAX® SureGuard® sealing adpapter for fully threaded device ports that will form a weather seal with the HELIAX® SureGuard Boots (HSG-LDF4, HSG-LDF4-DR, HSG-FSJ4 and HSG-FSJ4-DR)

Product Classification

Product Type	Weatherproofing boot
Product Brand	HELIAX® | SureGuard®
Ordering Note	ANDREW® non-standard product

General Specifications

Application	Provides moisture seal for fully threaded device ports
Applications per Kit	Ten device connections
Color	Black
Device Port Interface	7-16 DIN Female
Thread Size	M29

Dimensions

Width	41 mm | 1.614 in
Length	14.6 mm | 0.575 in
Inner Diameter	28.3 mm | 1.114 in

Material Specifications

Material Type	Thermoplastic elastomer (TPE)

Environmental Specifications

Installation temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Operating Temperature	-40 °C to +85 °C (-40 °F to +185 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
UV Resistance Test Method	ASTM G154-12a
UV Resistance, minimum with no degradation	≥1000 hours
Weather Resistance Test Method	IEC 60068-2-11 | IEC 60529:2001, IP68

HSG-M29-ADPT-L

Packaging and Weights

Height, packed	15 mm | 0.591 in
Width, packed	120 mm | 4.724 in
Length, packed	140 mm | 5.512 in
Packaging quantity	10
Weight, gross	55 g | 0.121 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
REACH-SVHC	Compliant as per SVHC revision on www.andrew.com/ProductCompliance
ROHS	Compliant
UK-ROHS	Compliant

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	ANDREW® 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
Inductance	0.19 µH/m | 0.058 µH/ft
Insulation Resistance	100000 MOhms-km
Jacket Spark Test Voltage (rms)	8000 V

LDF4-50A

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
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
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

Regulatory Compliance/Certifications

Agency	Classification
CENELEC	EN 50575 compliant, Declaration of Performance (DoP) available
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

LDF4-50A

REACH-SVHC	Compliant as per SVHC revision on www.andrew.com/ProductCompliance
ROHS	Compliant
UK-ROHS	Compliant