

L4A-DMDM-6M-P-SGW



LDF4-50A SureFlex® Jumper with interface types 7-16 DIN Male and 7-16 DIN Male with HELIAX® SureGuard weatherproofing, 6 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® Premium, static PIM |
| Product Series | LDF4-50A |
| Ordering Note | CommScope® standard product in the United States and Canada |

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 | 6 m 19.685 ft |
| Nominal Size | 1/2 in |

Electrical Specifications

| | |
|---|----------------------|
| 3rd Order IMD Static | -116 dBm |
| 3rd Order IMD Static Test Method | Two +43 dBm carriers |
| DTF, Connector A | -34 dB |
| DTF, Connector B | -34 dB |

VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|-------|------------------|
| 698–960 MHz | 1.065 | 30.04 |
| 1700–2200 MHz | 1.065 | 30.04 |

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2200–2700 MHz

1.106

25.96

Jumper Assembly Sample Label



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 adapter 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) |

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- HSG-M29-ADPT-L
 - HELIAX® SureGuard® sealing adapter 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)

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 | CommScope® 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) |

HSG-LDF4

| | |
|---|---------------------------------------|
| 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 adapter 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 | CommScope® 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 |

HSG-M29-ADPT

| | |
|---|---------------------------------------|
| 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 | 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 adapter 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 | CommScope® 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 |

HSG-M29-ADPT-L

| | |
|---|---------------------------------------|
| 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 | 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.commscope.com/ProductCompliance |
| 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)



Product Classification

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

General Specifications

| | |
|-------------------------|--|
| 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 | 1.9 ohms/km 0.579 ohms/kft |
| dc Test Voltage | 4000 V |
| Inductance | 0.19 µH/m 0.058 µH/ft |

LDF4-50A

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|--|-----------------|
| 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 |
| 500.0 | 5.021 | 1.53 | 1.52 |

LDF4-50A

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|---------------|--------|-------|------|
| 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 |

LDF4-50A

| | | | |
|---------------|--------|-------|------|
| 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 |
|---------------|-----------------------|
|---------------|-----------------------|

LDF4-50A

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|---------------|--|
| 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 |
| REACH-SVHC | Compliant as per SVHC revision on www.commscope.com/ProductCompliance |
| ROHS | Compliant |

