

# L4A-DMDM-25-P-SGW



LDF4-50A SureFlex® Jumper with interface types 7-16 DIN Male and 7-16 DIN Male with HELIAX® SureGuard weatherproofing, 25 ft

- 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 Brand  | HELIAX®   SureFlex®                                      |
| Product Series | LDF4-50A   |
| Ordering Note  | ANDREW® 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 | B             |

## Dimensions

|              |                |
|--------------|----------------|
| Length       | 7.62 m   25 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    | 1.106 | 25.96            |

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|               |       |       |
|---------------|-------|-------|
| 1700–2200 MHz | 1.106 | 25.96 |
| 2200–2700 MHz | 1.135 | 23.98 |

## Jumper Assembly Sample Label



## Environmental Specifications

|                               |   |
|-------------------------------|---|
| <b>Immersion Test Method</b>  | Meets IEC 60529:2001, IP68 in mated condition |
| <b>Weatherproofing Method</b> | HELIAX® SureGuard weatherproofing boot        |

## Packaging and Weights

|                 |                      |
|-----------------|----------------------|
| <b>Included</b> | Weatherproofing boot |
|-----------------|----------------------|

## Regulatory Compliance/Certifications

|               |  |
|---------------|--|
| <b>Agency</b> | <b>Classification</b>  |
| 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) |
| HSG-M29-ADPT-L | – | HELIAX® SureGuard® sealing adapter for fully threaded device ports that will form a weather   |

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|          |   |  |
|----------|---|--|
| LDF4-50A | – | seal with the HELIAX® SureGuard Boots (HSG-LDF4, HSG-LDF4-DR, HSG-FSJ4 and HSG-FSJ4-DR)<br>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                          |

# HSG-LDF4

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**Weather Resistance Test Method**

IEC 60068-2-11 | IEC 60529:2001, IP68

## Packaging and Weights

|                           |                   |
|---------------------------|-------------------|
| <b>Height, packed</b>     | 41 mm   1.614 in  |
| <b>Width, packed</b>      | 120 mm   4.724 in |
| <b>Length, packed</b>     | 140 mm   5.512 in |
| <b>Packaging quantity</b> | 1                 |
| <b>Weight, gross</b>      | 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 | 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

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## 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 | 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

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## 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 <a href="http://www.andrew.com/ProductCompliance">www.andrew.com/ProductCompliance</a> |
| 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 purpose 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               |

# LDF4-50A

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

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

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|            |  |
|------------|--|
| REACH-SVHC | Compliant as per SVHC revision on <a href="http://www.andrew.com/ProductCompliance">www.andrew.com/ProductCompliance</a> |
| ROHS       | Compliant  |
| UK-ROHS    | Compliant  |

