

# L4-DMDM-6M-SGW-D

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D-CLASS 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

|                       |                                |
|-----------------------|--------------------------------|
| <b>Product Type</b>   | SureFlex® D-CLASS, dynamic PIM |
| <b>Product Series</b> | LDF4-50A                       |

## General Specifications

|   |               |
|---|---------------|
| <b>Body Style, Connector A</b>            | Straight      |
| <b>Body Style, Connector B</b>            | Straight      |
| <b>Interface, Connector A</b>             | 7-16 DIN Male |
| <b>Interface, Connector B</b>             | 7-16 DIN Male |
| <b>Specification Sheet Revision Level</b> | A             |

## Dimensions

|                     |                 |
|---------------------|-----------------|
| <b>Length</b>       | 6 m   19.685 ft |
| <b>Nominal Size</b> | 1/2 in          |

## Electrical Specifications

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

## Logo Image

# L4-DMDM-6M-SGW-D



## VSWR/Return Loss

| Frequency Band | VSWR  | Return Loss (dB) |
|----------------|-------|------------------|
| 698–960 MHz    | 1.065 | 30.04            |
| 1700–2200 MHz  | 1.065 | 30.04            |
| 2200–2700 MHz  | 1.106 | 25.96            |

## Jumper Assembly Sample Label

Batch Manufacturing Date (two digit year and week)  
Manufacturing Plant Product Revision

0123456789 US22 1240 /A

COMMSCOPE® Andrew Solutions™  
**F4-DMDM-2M-D** Part Number  
2 M (6.562 FT)  
SUREFLEX ASSEMBLY  
U.S. PATENT 5802710  
Product of UNITED STATES  
12US220001242 Serial Number



# L4-DMDM-6M-SGW-D

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## 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 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

|                      |                                 |
|----------------------|---------------------------------|
| <b>Product Type</b>  | Weatherproofing boot            |
| <b>Product Brand</b> | HELIAX®   SureGuard®            |
| <b>Ordering Note</b> | CommScope® non-standard product |

## General Specifications

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

## Dimensions

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

## Material Specifications

|                      |                 |
|----------------------|-----------------|
| <b>Material Type</b> | Silicone rubber |
|----------------------|-----------------|

## Environmental Specifications

|                                 |                                      |
|---------------------------------|--------------------------------------|
| <b>Installation temperature</b> | -40 °C to +65 °C (-40 °F to +149 °F) |
| <b>Operating Temperature</b>    | -40 °C to +85 °C (-40 °F to +185 °F) |
| <b>Storage Temperature</b>      | -55 °C to +85 °C (-67 °F to +185 °F) |

# HSG-LDF4

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|   |                                       |
|---|---------------------------------------|
| <b>UV Resistance Test Method</b>                  | ASTM G154-12a                         |
| <b>UV Resistance, minimum with no degradation</b> | ≥1000 hours                           |
| <b>Weather Resistance Test Method</b>             | 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

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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

|                      |                                 |
|----------------------|---------------------------------|
| <b>Product Type</b>  | Weatherproofing boot            |
| <b>Product Brand</b> | HELIAX®   SureGuard®            |
| <b>Ordering Note</b> | CommScope® non-standard product |

## General Specifications

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

## Dimensions

|                       |                    |
|-----------------------|--------------------|
| <b>Width</b>          | 35.5 mm   1.398 in |
| <b>Length</b>         | 12 mm   0.472 in   |
| <b>Inner Diameter</b> | 28.3 mm   1.114 in |

## Material Specifications

|                      |                               |
|----------------------|-------------------------------|
| <b>Material Type</b> | Thermoplastic elastomer (TPE) |
|----------------------|-------------------------------|

## Environmental Specifications

|                                  |                                      |
|----------------------------------|--------------------------------------|
| <b>Installation temperature</b>  | -40 °C to +65 °C (-40 °F to +149 °F) |
| <b>Operating Temperature</b>     | -40 °C to +85 °C (-40 °F to +185 °F) |
| <b>Storage Temperature</b>       | -55 °C to +85 °C (-67 °F to +185 °F) |
| <b>UV Resistance Test Method</b> | ASTM G154-12a                        |

# HSG-M29-ADPT

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|   |                                       |
|---|---------------------------------------|
| <b>UV Resistance, minimum with no degradation</b> | ≥1000 hours                           |
| <b>Weather Resistance Test Method</b>             | IEC 60068-2-11   IEC 60529:2001, IP68 |

## Packaging and Weights

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

# HSG-M29-ADPT-L

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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

|                      |                                 |
|----------------------|---------------------------------|
| <b>Product Type</b>  | Weatherproofing boot            |
| <b>Product Brand</b> | HELIAX®   SureGuard®            |
| <b>Ordering Note</b> | CommScope® non-standard product |

## General Specifications

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

## Dimensions

|                       |                    |
|-----------------------|--------------------|
| <b>Width</b>          | 41 mm   1.614 in   |
| <b>Length</b>         | 14.6 mm   0.575 in |
| <b>Inner Diameter</b> | 28.3 mm   1.114 in |

## Material Specifications

|                      |                               |
|----------------------|-------------------------------|
| <b>Material Type</b> | Thermoplastic elastomer (TPE) |
|----------------------|-------------------------------|

## Environmental Specifications

|                                  |                                      |
|----------------------------------|--------------------------------------|
| <b>Installation temperature</b>  | -40 °C to +65 °C (-40 °F to +149 °F) |
| <b>Operating Temperature</b>     | -40 °C to +85 °C (-40 °F to +185 °F) |
| <b>Storage Temperature</b>       | -55 °C to +85 °C (-67 °F to +185 °F) |
| <b>UV Resistance Test Method</b> | ASTM G154-12a                        |



# HSG-M29-ADPT-L

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|   |                                       |
|---|---------------------------------------|
| <b>UV Resistance, minimum with no degradation</b> | ≥1000 hours                           |
| <b>Weather Resistance Test Method</b>             | IEC 60068-2-11   IEC 60529:2001, IP68 |

## Packaging and Weights

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

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>  |
|---------------|--|
| CHINA-ROHS    | Below maximum concentration value  |
| REACH-SVHC    | Compliant as per SVHC revision on <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a> |
| ROHS          | Compliant  |



# LDF4-50A

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



## Product Classification

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

## General Specifications

|                         |  |
|-------------------------|--|
| <b>Flexibility</b>      | Standard   |
| <b>Jacket Color</b>     | Black  |
| <b>Performance Note</b> | Attenuation values typical, guaranteed within 5% |

## Dimensions

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

## Electrical Specifications

|                                       |                               |
|---------------------------------------|-------------------------------|
| <b>Cable Impedance</b>                | 50 ohm ±1 ohm                 |
| <b>Capacitance</b>                    | 75.8 pF/m   23.104 pF/ft      |
| <b>dc Resistance, Inner Conductor</b> | 1.48 ohms/km   0.451 ohms/kft |
| <b>dc Resistance, Outer Conductor</b> | 1.9 ohms/km   0.579 ohms/kft  |
| <b>dc Test Voltage</b>                | 4000 V                        |
| <b>Inductance</b>                     | 0.19 µH/m   0.058 µH/ft       |

# LDF4-50A

|  |                 |
|--|-----------------|
| <b>Insulation Resistance</b>           | 100000 MOhms-km |
| <b>Jacket Spark Test Voltage (rms)</b> | 8000 V          |
| <b>Operating Frequency Band</b>        | 1 – 8800 MHz    |
| <b>Peak Power</b>                      | 40 kW           |
| <b>Velocity</b>                        | 88 %            |

## Attenuation

| <b>Frequency (MHz)</b> | <b>Attenuation (dB/100 m)</b> | <b>Attenuation (dB/100 ft)</b> | <b>Average Power (kW)</b> |
|------------------------|-------------------------------|--------------------------------|---------------------------|
| 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                      |

# LDF4-50A

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

# LDF4-50A

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|                                 |                           |
|---------------------------------|---------------------------|
| <b>Jacket Material</b>          | PE                        |
| <b>Inner Conductor Material</b> | Copper-clad aluminum wire |
| <b>Outer Conductor Material</b> | Corrugated copper         |

## Mechanical Specifications

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

## Environmental Specifications

|   |                                      |
|---|--------------------------------------|
| <b>Installation temperature</b>                   | -40 °C to +60 °C (-40 °F to +140 °F) |
| <b>Operating Temperature</b>                      | -55 °C to +85 °C (-67 °F to +185 °F) |
| <b>Storage Temperature</b>                        | -70 °C to +85 °C (-94 °F to +185 °F) |
| <b>Attenuation, Ambient Temperature</b>           | 68 °F   20 °C                        |
| <b>Average Power, Ambient Temperature</b>         | 104 °F   40 °C                       |
| <b>Average Power, Inner Conductor Temperature</b> | 212 °F   100 °C                      |

## Packaging and Weights

|                     |                         |
|---------------------|-------------------------|
| <b>Cable weight</b> | 0.22 kg/m   0.148 lb/ft |
|---------------------|-------------------------|

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>  |
|---------------|--|
| 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 <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a> |
| ROHS          | Compliant  |

