

LDF4RK-50A-NAV

LDF4-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black non-halogenated, fire retardant polyolefin jacket with jacket printed NAVSEA 8485339 B2ca-s1a, d1, a1



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Product Classification

| | |
|-----------------------|------------------------|
| Product Type | Coaxial wireless cable |
| Product Brand | HELIAX® SureFlex® |
| Product Series | LDF4-50A |

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 | 16.002 mm 0.63 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 |

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|--|-----------------|
| Insulation Resistance | 100000 MOhms-km |
| Jacket Spark Test Voltage (rms) | 5000 V |
| Operating Frequency Band | 1 – 8800 MHz |
| Peak Power | 40 kW |
| Velocity | 88 % |

VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|-----------------------|-------------|-------------------------|
| 10–700 MHz | 1.2 | 20.83 |
| 806–960 MHz | 1.13 | 24.3 |
| 1700–2000 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 |

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

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

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|---------------------------------|--|
| Dielectric Material | Foam PE |
| Jacket Material | Non-halogenated, fire retardant polyolefin |
| 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

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|---|--------------------------------------|
| Installation temperature | -40 °C to +60 °C (-40 °F to +140 °F) |
| Operating Temperature | -40 °C to +60 °C (-40 °F to +140 °F) |
| Storage Temperature | -40 °C to +60 °C (-40 °F to +140 °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 |
| EN50575 CPR Cable EuroClass Fire Performance | B2ca |
| EN50575 CPR Cable EuroClass Smoke Rating | s1a |
| EN50575 CPR Cable EuroClass Droplets Rating | d1 |
| EN50575 CPR Cable EuroClass Acidity Rating | a1 |
| Fire Retardancy Test Method | IEC 60332-1-2 UL 1666/CATVR |
| Smoke Index Test Method | IEC 61034 |

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Toxicity Index Test Method

IEC 60754-1 | IEC 60754-2

Packaging and Weights

Cable weight

0.25 kg/m | 0.168 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 |
| REACH-SVHC | Compliant as per SVHC revision on www.commscope.com/ProductCompliance |
| ROHS | Compliant |
| UK-ROHS | Compliant |
| UL/ETL Certification | CATVR |

