



LDF4-50A

LDF4-50A, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black PE jacket

Product Classification

| | |
|--------------|------------------------|
| Brand | HELIAX® |
| Product Type | Coaxial wireless cable |

Construction Materials

| | |
|--------------------------|---------------------------|
| Jacket Material | PE |
| Outer Conductor Material | Corrugated copper |
| Dielectric Material | Foam PE |
| Flexibility | Standard |
| Inner Conductor Material | Copper-clad aluminum wire |
| Jacket Color | Black |

Dimensions

| | |
|--------------------------|------------------------|
| Nominal Size | 1/2 in |
| Cable Weight | 0.15 lb/ft 0.22 kg/m |
| Diameter Over Dielectric | 12.954 mm 0.510 in |
| Diameter Over Jacket | 15.875 mm 0.625 in |
| Inner Conductor OD | 4.8260 mm 0.1900 in |
| Outer Conductor OD | 13.970 mm 0.550 in |

Electrical Specifications

| | |
|---------------------------------|--------------------------------|
| Cable Impedance | 50 ohm ±1 ohm |
| Capacitance | 23.1 pF/ft 75.8 pF/m |
| dc Resistance, Inner Conductor | 0.450 ohms/kft 1.480 ohms/km |
| dc Resistance, Outer Conductor | 0.820 ohms/kft 2.690 ohms/km |
| dc Test Voltage | 4000 V |
| Inductance | 0.190 µH/m 0.058 µH/ft |
| Insulation Resistance | 100000 Mohms•km |
| Jacket Spark Test Voltage (rms) | 8000 V |
| Operating Frequency Band | 1 – 8800 MHz |
| Peak Power | 40.0 kW |
| Velocity | 88% |

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) |

General Specifications

| | |
|---------------|--------------------------------------|
| Brand | HELIAX® |
| Ordering Note | CommScope® standard product (Global) |

IDF4-50A

Mechanical Specifications

| | |
|-------------------------------------|-------------------------|
| Bending Moment | 3.8 N-m 2.8 ft lb |
| Flat Plate Crush Strength | 110.0 lb/in 2.0 kg/mm |
| Minimum Bend Radius, Multiple Bends | 127.00 mm 5.00 in |
| Minimum Bend Radius, Single Bend | 50.80 mm 2.00 in |
| Number of Bends, minimum | 15 |
| Number of Bends, typical | 50 |
| Tensile Strength | 113 kg 250 lb |

Note

| | |
|------------------|---|
| Performance Note | Values typical, unless otherwise stated |
|------------------|---|

Standard Conditions

| | |
|--|-----------------|
| Attenuation, Ambient Temperature | 20 °C 68 °F |
| Average Power, Ambient Temperature | 40 °C 104 °F |
| Average Power, Inner Conductor Temperature | 100 °C 212 °F |

Return Loss/VSWR

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|------|------------------|
| 680–800 MHz | 1.13 | 24.30 |
| 800–960 MHz | 1.13 | 24.30 |
| 1700–2200 MHz | 1.13 | 24.30 |
| 2300–2700 MHz | 1.13 | 24.30 |

IDF4-50A

Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 0.5 | 0.149 | 0.045 | 40.00 |
| 1 | 0.211 | 0.064 | 36.11 |
| 1.5 | 0.259 | 0.079 | 29.46 |
| 2 | 0.299 | 0.091 | 25.50 |
| 10 | 0.672 | 0.205 | 11.35 |
| 20 | 0.954 | 0.291 | 7.99 |
| 30 | 1.172 | 0.357 | 6.51 |
| 50 | 1.521 | 0.463 | 5.02 |
| 85 | 1.995 | 0.608 | 3.82 |
| 88 | 2.031 | 0.619 | 3.76 |
| 100 | 2.169 | 0.661 | 3.52 |
| 108 | 2.256 | 0.688 | 3.38 |
| 150 | 2.673 | 0.815 | 2.85 |
| 174 | 2.887 | 0.88 | 2.64 |
| 200 | 3.103 | 0.946 | 2.46 |
| 204 | 3.135 | 0.956 | 2.43 |
| 300 | 3.835 | 1.169 | 1.99 |
| 400 | 4.462 | 1.36 | 1.71 |
| 450 | 4.749 | 1.447 | 1.61 |
| 500 | 5.021 | 1.53 | 1.52 |
| 512 | 5.085 | 1.55 | 1.50 |
| 600 | 5.533 | 1.686 | 1.38 |
| 700 | 6.009 | 1.831 | 1.27 |
| 800 | 6.456 | 1.968 | 1.18 |
| 824 | 6.56 | 1.999 | 1.16 |
| 894 | 6.855 | 2.089 | 1.11 |
| 960 | 7.124 | 2.171 | 1.07 |
| 1000 | 7.284 | 2.22 | 1.05 |
| 1218 | 8.11 | 2.472 | 0.94 |
| 1250 | 8.226 | 2.507 | 0.93 |
| 1500 | 9.093 | 2.771 | 0.84 |
| 1700 | 9.744 | 2.97 | 0.78 |
| 1794 | 10.039 | 3.06 | 0.76 |
| 1800 | 10.058 | 3.066 | 0.76 |
| 2000 | 10.666 | 3.251 | 0.72 |
| 2100 | 10.961 | 3.341 | 0.70 |
| 2200 | 11.251 | 3.429 | 0.68 |
| 2300 | 11.535 | 3.516 | 0.66 |
| 2500 | 12.09 | 3.685 | 0.63 |
| 2700 | 12.627 | 3.849 | 0.60 |
| 3000 | 13.407 | 4.086 | 0.57 |
| 3400 | 14.401 | 4.389 | 0.53 |
| 3700 | 15.118 | 4.608 | 0.50 |
| 4000 | 15.815 | 4.82 | 0.48 |
| 5000 | 18.01 | 5.489 | 0.42 |
| 6000 | 20.055 | 6.113 | 0.38 |
| 8000 | 23.826 | 7.262 | 0.32 |
| 8800 | 25.244 | 7.694 | 0.30 |

* Values typical, guaranteed within 5%

Regulatory Compliance/Certifications

Product Specifications

IDF4-50A

Agency

RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008
CENELEC

Classification

Compliant
Below Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system
EN 50575 compliant, Declaration of Performance (DoP) available

