



**HB114-U6S12-110-LI**

HYBRIFLEX® RRH Hybrid Cable Solution 6x12, 6AWG

Low-Inductance, 1-1/4", Single-Mode Fiber With DLC Connectors

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

This low-inductance version of HYBRIFLEX allows mobile operators deploying an RRH architecture to deploy >400ft sites without the danger of power-cycling their RRHs due to voltage swings, which could occur in some specific instances. It combines bend-insensitive single-mode fiber (12 pairs of DLC connectors), 6 pairs of low-inductance DC wires and 9 pairs of 18AWG wires used to carry alarm signals. The package also includes a special RFS-designed DC insulating boot, used to properly protect and insulate the DC wires after stripping the jacket, avoiding possible short-circuits while wiring it to the distribution boxes. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable.

**FEATURES / BENEFITS**

- DC Wire Insulator (Patent pending) – Used at the DC wire connection in distribution boxes, prevents potential short circuits
- Aluminum corrugated armor with outstanding bending characteristics – Minimizes installation time and enables mechanical protection and shielding
- Same accessories as 1-1/4" coaxial cable – Saves installation costs and time
- Outer conductor grounding – Eliminates typical grounding requirements and saves on installation costs
- Lightweight solution and compact design – Decreases tower loading
- Robust cabling – Eliminates need for expensive cable trays and ducts
- Optical fiber and power cables housed in single corrugated cable – Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor, flame-retardant jacket – Ensures long-lasting cable protection



HYBRIFLEX Series

**Technical features**

**STRUCTURE**

|                         |        |                           |
|-------------------------|--------|---------------------------|
| <b>Cable Type</b>       |        | HYBRIFLEX® Low Inductance |
| <b>Size</b>             |        | 1-1/4                     |
| <b>Fire Performance</b> |        | Flame Retardant           |
| <b>Length</b>           | m (ft) | 33.53 (110)               |

**MECHANICAL SPECIFICATIONS**

|  |              |                    |
|--|--------------|--------------------|
| <b>Outer Diameter Nominal</b>              | mm (in)      | 39 (1.54)          |
| <b>Cable Weight</b>                        | kg/m (lb/ft) | 2.52 (1.7)         |
| <b>Minimum Bending Radius, Single Bend</b> | mm (in)      | 152 (6)            |
| <b>Minimum Bending Radius, Multi Bends</b> | mm (in)      | 254 (10)           |
| <b>Recommended / Maximum Clamp Spacing</b> | m (ft)       | 1 / 1.2 (3.25 / 4) |



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**DC POWER CABLE SPECIFICATIONS**

|                                   |                       |  |
|-----------------------------------|-----------------------|--|
| Number of DC Pairs                |                       | 6  |
| Maximum DC-Resistance Power Cable | Ω/km (Ω/kft)          | 1.4 (0.42)   |
| Cross Section of Power Cable      | mm <sup>2</sup> (AWG) | 13.3 (6)   |
| DC Wire Jacket Material           |                       | PVC/Nylon  |
| DC Cable Single Bending Radius    | mm (in)               | 137 (5.4)  |
| DC Cable Diameter                 | mm (in)               | 9.3 (0.365)  |
| DC Cable Jacket                   |                       | PVC/Nylon  |
| DC Standards (Meets or Exceeds)   |                       | For use in Type RHC per UL 2882,PVC/Nylon,RoHS/REACH Compliant |
| Break-out length                  | mm(in)                | 812.8 +/-0 (32 +/-0)   |
| DC Cable sealing method           |                       | Semi-rigid flame-retarded polyolefin, with hot melt adhesive   |
| Alarm Wire                        |                       | 18 (9 twisted pairs), 0.8mm2 (18AWG)                           |

**CABLE JACKET**

|  |  |     |
|--|--|-----|
| UV-Protection Individual and External Jacket |  | Yes |
|--|--|-----|

**ARMOR SPECIFICATIONS**

|                                |              |                     |
|--------------------------------|--------------|---------------------|
| Armor Type                     |              | Corrugated Aluminum |
| Maximum DC-Resistance of Armor | Ω/km (Ω/kft) | 0.9 (0.27)          |
| Diameter Corrugated Armor      | mm (in)      | 36 (1.42)           |

**F/O CABLE SPECIFICATIONS**

|                                  |         |  |
|----------------------------------|---------|--|
| F/O Cable Type                   |         | Single-Mode, Bend Tolerant                                   |
| Number of F/O Pairs              |         | 12   |
| Core/Clad                        | μm      | 9 /125   |
| Secondary Protection Nominal     | μm (in) | 900 (0.035)  |
| Single Bending Radius            | mm (in) | 137 (5.4)  |
| F/O Standards (Meets or Exceeds) |         | UL Listed Type OFNR (UL1666), RoHS Compliant                 |
| Optical Loss                     | dB/Km   | 0.5 @ 1310 nm<br>0.5 @ 1550 nm                               |
| Fiber Termination End 1          |         | DLC Connectors   |
| Fiber Termination End 2          |         | DLC Connectors   |
| FO Break-out length              | mm(in)  | 939.8 +/-50.8 (37 +/-2)                                      |
| Cable sealing method             |         | Semi-rigid flame-retarded polyolefin, with hot melt adhesive |

**TESTING AND ENVIRONMENTAL**

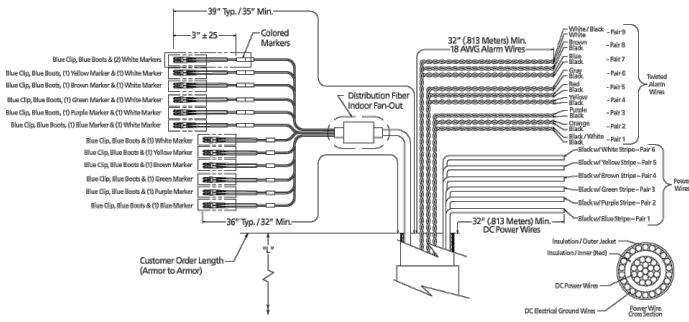
|   |         |   |
|---|---------|---|
| Storage Temperature                     | °C (°F) | -40 to 70 (-40 to 158 )   |
| Operation Temperature                   | °C (°F) | -40 to 65 (-40 to 158 )   |
| Installation Temperature                | °C (°F) | -20 to 65 (-4 to 149 )  |
| Jacket Specifications                   |         | UL2882 Type RHC, UL listed  |
| Alarm Wire Standards (Meets or Exceeds) |         | UL Standard 1063, 1581 VW-1, MTW Oil and Gasoline RES1 SUNRES (Cable meets UL requirements), RoHS/REACH Compliant |



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Drawing



DC Wire Insulator

[External Document Links](#)

[Installation Guidelines](#)

[Quick Ship 2.0 Program Information](#)

[View factory test results on-line simply by entering the product serial number](#)

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[See how RFS' HYBRIFLEX installation tools can simplify and improve field work for you today](#)

[Notes](#)