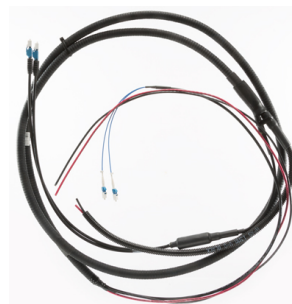




**PRODUCT DESCRIPTION**

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. It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It may eliminate the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable.



**FEATURES / BENEFITS**

- Aluminum corrugated armor with outstanding bending characteristics - Minimizes installation time and enables mechanical protection and shielding
- Outer conductor grounding - Saves on installation costs
- Lightweight solution and compact design - Decreases tower loading
- Robust cabling - Eliminates need for expensive cable trays and ducts
- Installation of tight bundled fiber optic cable pairs directly to the RRH - Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable - Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- UL-Listed, flame-retardant jacket, UV protected assemblies - Allows both indoor and outdoor applications
- **100% Factory tested - Online test results available**

**TECHNICAL FEATURES**

**STRUCTURE**

|                  |        |                 |
|------------------|--------|-----------------|
| Cable Type       |        | HYBRIFLEX®      |
| Fire Performance |        | Flame Retardant |
| Size             |        | 1/2             |
| Length           | m (ft) | 18.3 (60)       |

**MECHANICAL SPECIFICATIONS**

|  |              |                    |
|--|--------------|--------------------|
| Outer Diameter Nominal                 | mm (in)      | 15.8 (0.62)        |
| Cable Weight                           | kg/m (lb/ft) | 0.36 (0.24)        |
| Minimum Bending Radius, Single Bend    | mm (in)      | 76.2 (3)           |
| Minimum Bending Radius, Multiple Bends | mm (in)      | 127 (5)            |
| Recommended / Maximum Clamp Spacing    | m (ft)       | 1 / 1.2 (3.25 / 4) |

**CABLE JACKET**

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

**ARMOR SPECIFICATIONS**

|                                |  |                     |
|--------------------------------|--|---------------------|
| Armor Type                     |  | Corrugated Aluminum |
| Maximum DC-resistance of Armor |  | 2.4 (0.73)          |
| Diameter Corrugated Armor      |  | 13.8 (0.55)         |



**DC POWER CABLE SPECIFICATIONS**

|                                   |                       |   |
|-----------------------------------|-----------------------|---|
| Number of DC Pairs                |                       | 1   |
| Maximum DC-Resistance Power Cable | Ω/km (Ω/kft)          | 3.41 (1.04)   |
| Cross Section of Power Cable      | mm <sup>2</sup> (AWG) | 5.3 (10)  |
| DC Wire Jacket Material           |                       | PVC/Nylon   |
| DC Cable Single Bending Radius    | mm (in)               | 83 (3.3)  |
| DC Cable Diameter                 | mm (in)               | 4.2 (0.165)   |
| DC Standards (Meets or Exceeds)   |                       | For use in Type MC per UL 1569, PVC Nylon, RoHS/REACH Compliant |
| Break-out length (Top)            | mm (in)               | 559 (22)  |
| Break-out length (Bottom)         | mm (in)               | 914 (36)  |
| DC cable sealing method           |                       | Semi-rigid, flame-retardant polyolefin, with hot melt adhesive  |

**F/O CABLE SPECIFICATIONS**

|                                  |         |   |
|----------------------------------|---------|---|
| Number of F/O Strands            |         | 2   |
| F/O Cable Type                   |         | G657-A2 Single Mode, Bend Tolerant                            |
| Core/Clad                        | μm      | 9/125   |
| Single Bending Radius            | mm (in) | 83 (3.3)  |
| 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                                |
| FO Break-out Length (Top)        | mm (in) | 584 (23)  |
| FO Break-out Length (Bottom)     | mm (in) | 965 (38)  |
| Cable Sealing Method             |         | Semi-rigid flame-retardant polyolefin, with hot melt adhesive |
| Fiber Termination End 1          |         | LC Connector  |
| Fiber Termination End 2          |         | LC Connector  |

**TESTING AND ENVIRONMENTAL**

|                          |         |                           |
|--------------------------|---------|---------------------------|
| Storage Temperature      | °C (°F) | -40 to 70 (-40 to 158)    |
| Operation Temperature    | °C (°F) | -40 to 65 (-40 to 149)    |
| Installation Temperature | °C (°F) | -20 to 65 (-4 to 149)     |
| Jacket Specifications    |         | UL1569 Type MC, UL Listed |

**EXTERNAL DOCUMENT LINKS**

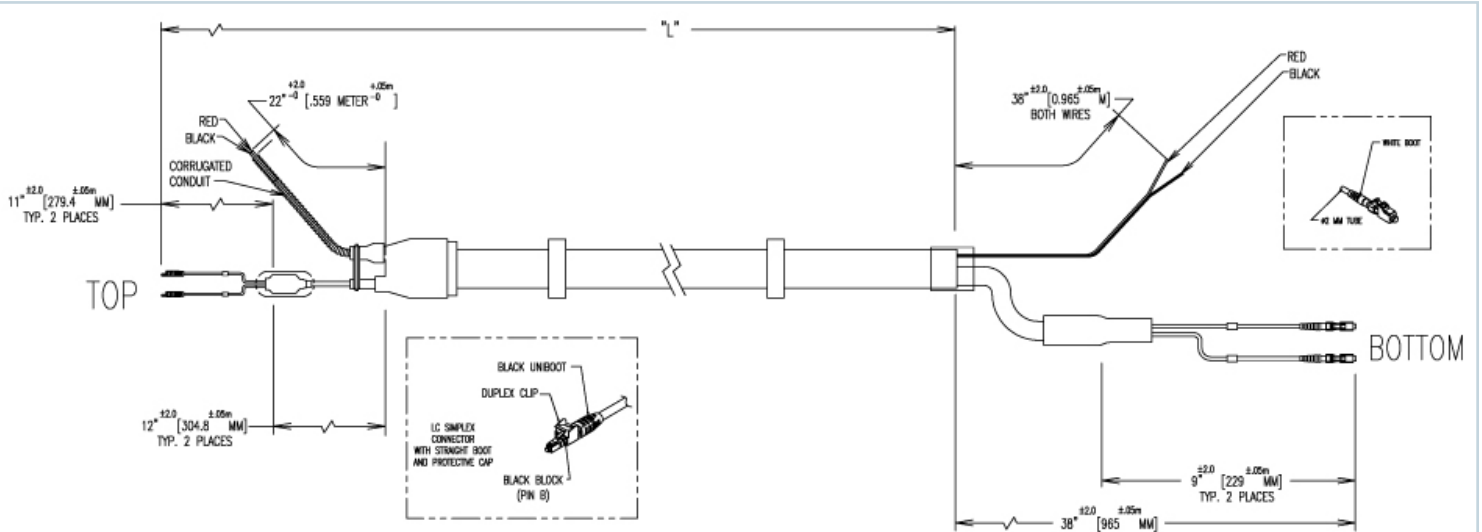
Installation Guidelines: [Download](#)  
 QuickShip 2.0 Program Information: [Download](#)  
 On-line Factory Test Results: [View](#)

**NOTES**



**HBF012-05U1SS2-60F**

HYBRIFLEX® RRH Hybrid Jumper, 1/2", 1 pair 10AWG, 2 Single Strand, Single-Mode Fiber with LC Connectors, 60 ft



**ADDITIONAL ASSEMBLIES - 1 PAIR SM FIBER**

| Length, ft | Model Number       |
|------------|--------------------|
| 10         | HBF012-05U1S1-10F  |
| 20         | HBF012-05U1S1-20F  |
| 30         | HBF012-05U1S1-30F  |
| 40         | HBF012-05U1S1-40F  |
| 50         | HBF012-05U1S1-50F  |
| 60         | HBF012-05U1S1-60F  |
| 79         | HBF012-05U1S1-70F  |
| 80         | HBF012-05U1S1-80F  |
| 90         | HBF012-05U1S1-90F  |
| 100        | HBF012-05U1S1-100F |

**ADDITIONAL ASSEMBLIES - 2 PAIR SM FIBER**

| Length, ft | Model Number       |
|------------|--------------------|
| 10         | HBF012-05U1S2-10F  |
| 20         | HBF012-05U1S2-20F  |
| 30         | HBF012-05U1S2-30F  |
| 40         | HBF012-05U1S2-40F  |
| 50         | HBF012-05U1S2-50F  |
| 60         | HBF012-05U1S2-60F  |
| 70         | HBF012-05U1S2-70F  |
| 80         | HBF012-05U1S2-80F  |
| 90         | HBF012-05U1S2-90F  |
| 100        | HBF012-05U1S2-100F |

**ADDITIONAL ASSEMBLIES - 2 STRAND SM FIBER**

| Length, ft | Model Number        |
|------------|---------------------|
| 10         | HBF012-05U1SS2-10F  |
| 20         | HBF012-05U1SS2-20F  |
| 30         | HBF012-05U1SS2-30F  |
| 40         | HBF012-05U1SS2-40F  |
| 50         | HBF012-05U1SS2-50F  |
| 60         | HBF012-05U1SS2-60F  |
| 70         | HBF012-05U1SS2-70F  |
| 80         | HBF012-05U1SS2-80F  |
| 90         | HBF012-05U1SS2-90F  |
| 100        | HBF012-05U1SS2-100F |