PRODUCT DATASHEET

HBF012-05U1S2-30F

HYBRIFLEX® RRH Hybrid Jumper, 1/2”, 1 pair 10AWG, 2 pair Single-Mode Fiber with DLC Connectors, 30 ft

PRODUCT DESCRIPTION

RFS Technologies’ 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 Technologies 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 assembles - 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)	9 (30)

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

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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^2 (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 Pairs		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 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		DLC Connector
Fiber Termination End 2		DLC 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

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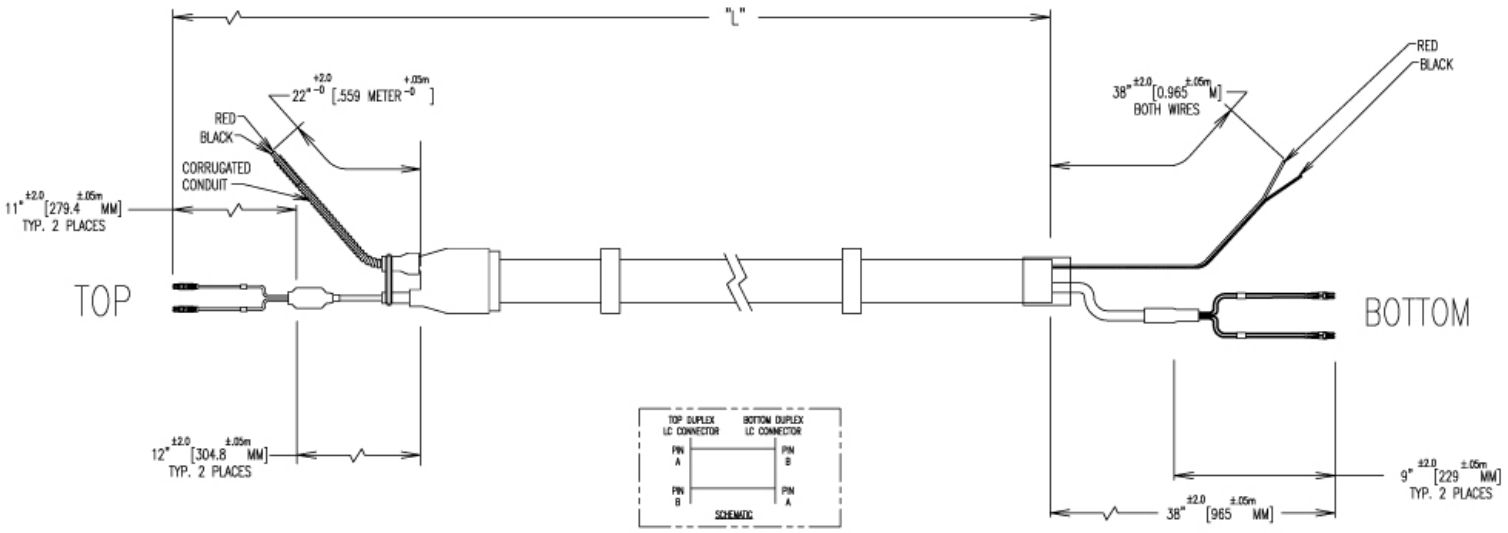

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ADDITIONAL ASSEMBLIES - 1 PAIR SM FIBER

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
70	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

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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	HBF012-05U1SS2100F

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PRE-PACKED HYBRIFLEX KITS FOR EASY INTEGRATION INTO RAYCAP JUNCTION BOXES

RFS Technologies now offers Kitting options for most hybrid risers and jumpers that include both the cable assembly and the Raycap inserts. For reference, kits have a “K” as the third digit in the model number. HB158 does not require an additional gland/insert for proper installation and sealing into the Distribution Boxes.

Kit Model Prefix	Assembly Prefix	Assembly Qty	Raycap Insert Kit	Insert Kit Contents	Raycap Insert Kit Qty
HBK114	HB114	1	RFS Technologies-TRUNK-KIT	(2) 190 0620, Insert, M75, 1H, 40mm	1
HBK058	HBF058		RFS Technologies-JUMP-KIT	(1) 190 0621, Insert, M75, 3H, 22mm, Split w/ plugs	
HBK012	HBF012		RFS Technologies-JUMP-KIT-2	(1) 190 0903, Insert, M75, 2H, 15mm, Split w/ plugs	
FRK-N	FR-N		RFS Technologies-FIBER-KIT	(1) 190 0657, Insert, M75, 6H, 6.1mm, Split w/ plugs	

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