



**RFS Technologies**  
an Amphenol Company

# HYBRIFLEX<sup>®</sup> FIBER & POWER

## ORDERING GUIDE

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RFS TECHNOLOGIES, INC. FIBER AND POWER SOLUTIONS

# RFS TECHNOLOGIES, INC.

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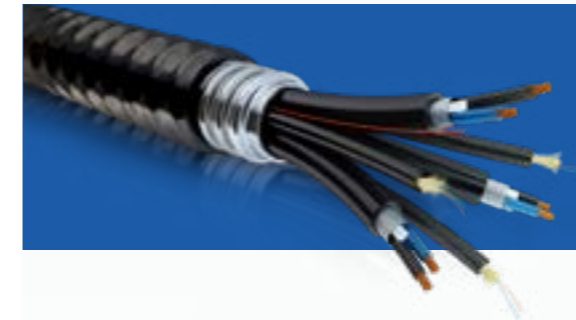
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## TRUST HYBRIFLEX® POWER AND FIBER SOLUTIONS FOR FASTER, EASIER DEPLOYMENTS



More than a decade after we invented the world's first hybrid cabling solution for Remote Radio Heads (RRHs), HYBRIFLEX is helping operators around the world efficiently evolve to 5G and the next generations of wireless technologies.

### RELY ON FIELD-PROVEN QUALITY AND RELIABILITY

HYBRIFLEX riser and jumper cables include any combination of power wires, optical fiber and other cable types in a single lightweight and crush-resistant cable. These extensively field-proven cable solutions reduce installation time, complexity and cost.

More than 65 million feet of HYBRIFLEX cables have been deployed worldwide. Using HYBRIFLEX can significantly reduce installation time compared to installing individual power, fiber optic and other cable types.

To ensure easy installation and long life in the field, HYBRIFLEX cables feature:

- Best-in-class bending radius
- Robust, corrugated aluminum or copper-wrapped armor
- Strong core retention force
- Proven corrosion resistance

### ACCELERATE ANY TECHNOLOGY ROLLOUT

HYBRIFLEX cables support any frequency and any technology to simplify network evolution and protect your investment. Our extremely versatile family of power and fiber cables and jumpers are used in a wide range of applications globally, including:

- High-power 5G radio deployments
- Small cell 5G mmWave radio deployments
- Cloud-RAN (C-RAN) deployments where RRHs are located significant distances from Baseband Units (BBUs)
- In-building Distributed Antenna System (DAS) solutions
- In-tunnel connectivity solutions

### CUSTOMIZE WITH COMPLETE CONFIDENCE

Our broad portfolio of HYBRIFLEX cabling solutions meets many application requirements. When specific configurations are required, we have the expertise and agility to efficiently adapt our designs to deliver any combination of:

- Riser cables and jumpers: Fiber and power combined or fiber-only, in any lengths
- Power wires: Single or multi-conductor, armored or unarmored, 4 AWG to 20 AWG
- Optical fiber: Single or multi-pair, riser or jumper, single-mode or multi-mode
- Other cable types: Ethernet, twisted pair and small-form coax, to name just a few
- Accessories: Enclosures, clamps, hangers, hoist grips, grounding mechanisms

HYBRIFLEX cables are available with factory-terminated assemblies or as bulk cable.

### GET THE POWER AND FIBER SOLUTIONS YOU NEED, WHEN YOU NEED THEM

HYBRIFLEX power and fiber solutions are manufactured around the world, and are supported by our global network of distributors, systems integrators and value-added resellers to ensure we can meet any delivery requirements.



## FIBER AND POWER TRUNK SOLUTIONS

### OUTDOOR, MACRO & SMALL CELL APPLICATIONS

Delivering the fiber and power cables you need for network evolution

Our HYBRIFLEX products and solutions have been in the field and proven as a robust and reliable solution for over 10 years.


We have the expertise and agility to deliver hybrid cable configurations for any application. You can customize with complete confidence.

All of our hybrid cable solutions support any network technology

and any frequency. We are ready to support your 5G evolution.

As networks, technologies and requirements evolve, we will continue to adapt our hybrid cable designs and production capabilities to help our customers address their toughest challenges.

#### Power Cables

| CONFIGURATION   | MODEL NUMBER | ALUMINUM ARMOR | PAIRS | MM2 |
|---|--------------|----------------|-------|-----|
|    | PW-S-06S3-J  | Yes            | 3     | 6   |
|    | PW-S-10S3-J  | Yes            | 3     | 10  |
|    | PW-S-16S3-J  | Yes            | 3     | 16  |
|    | PW-S-06S6-J  | Yes            | 6     | 6   |
|   | PW-S-10S6-J  | Yes            | 6     | 10  |
|  | PW-S-06U3-J  | No             | 3     | 6   |
|  | PW-S-10U3-J  | No             | 3     | 10  |
|  | PW-S-16U3-J  | No             | 3     | 16  |

3 F/O Pairs, Single Mode, DLC to ODVA Connectors, includes ODVA inline adapter preinstalled

#### FIBER CONNECT FIBER TRUNK FIXED LENGTH ASSEMBLIES FOR UP TO 3RRU, OX3

| MODEL NUMBER           | LENGTH m (ft) | MODEL NUMBER           | LENGTH m (ft) |
|------------------------|---------------|------------------------|---------------|
| HA-FOTF-VL-03SM-010-01 | 10 (32.8)     | HA-FOTF-VL-03SM-110-01 | 110 (360.9)   |
| HA-FOTF-VL-03SM-020-01 | 20 (65.6)     | HA-FOTF-VL-03SM-120-01 | 120 (393.7)   |
| HA-FOTF-VL-03SM-030-01 | 30 (98.4)     | HA-FOTF-VL-03SM-130-01 | 130 (426.5)   |
| HA-FOTF-VL-03SM-040-01 | 40 (131.2)    | HA-FOTF-VL-03SM-140-01 | 140 (459.3)   |
| HA-FOTF-VL-03SM-050-01 | 50 (164.0)    | HA-FOTF-VL-03SM-150-01 | 150 (492.1)   |
| HA-FOTF-VL-03SM-060-01 | 60 (196.8)    | HA-FOTF-VL-03SM-160-01 | 160 (524.9)   |
| HA-FOTF-VL-03SM-070-01 | 70 (229.7)    | HA-FOTF-VL-03SM-170-01 | 170 (557.7)   |
| HA-FOTF-VL-03SM-080-01 | 80 (262.5)    | HA-FOTF-VL-03SM-180-01 | 180 (590.5)   |
| HA-FOTF-VL-03SM-090-01 | 90 (295.3)    | HA-FOTF-VL-03SM-190-01 | 190 (623.4)   |
| HA-FOTF-VL-03SM-100-01 | 100 (328.1)   | HA-FOTF-VL-03SM-200-01 | 200 (656.2)   |

## FIBER AND POWER TRUNK SOLUTIONS

6 F/O Pairs, Single Mode, DLC to ODVA Connectors, includes ODVA inline adapter preinstalled

### FIBER CONNECT FIBER TRUNK FIXED LENGTH ASSEMBLIES FOR 3RRU, OX6

| MODEL NUMBER           | LENGTH m (ft) | MODEL NUMBER           | LENGTH m (ft) |
|------------------------|---------------|------------------------|---------------|
| HA-FOTF-VL-06SM-010-01 | 10 (32.8)     | HA-FOTF-VL-06SM-110-01 | 110 (360.9)   |
| HA-FOTF-VL-06SM-020-01 | 20 (65.6)     | HA-FOTF-VL-06SM-120-01 | 120 (393.7)   |
| HA-FOTF-VL-06SM-030-01 | 30 (98.4)     | HA-FOTF-VL-06SM-130-01 | 130 (426.5)   |
| HA-FOTF-VL-06SM-040-01 | 40 (131.2)    | HA-FOTF-VL-06SM-140-01 | 140 (459.3)   |
| HA-FOTF-VL-06SM-050-01 | 50 (164.0)    | HA-FOTF-VL-06SM-150-01 | 150 (492.1)   |
| HA-FOTF-VL-06SM-060-01 | 60 (196.8)    | HA-FOTF-VL-06SM-160-01 | 160 (524.9)   |
| HA-FOTF-VL-06SM-070-01 | 70 (229.7)    | HA-FOTF-VL-06SM-170-01 | 170 (557.7)   |
| HA-FOTF-VL-06SM-080-01 | 80 (262.5)    | HA-FOTF-VL-06SM-180-01 | 180 (590.5)   |
| HA-FOTF-VL-06SM-090-01 | 90 (295.3)    | HA-FOTF-VL-06SM-190-01 | 190 (623.4)   |
| HA-FOTF-VL-06SM-100-01 | 100 (328.1)   | HA-FOTF-VL-06SM-200-01 | 200 (656.2)   |

12 F/O Pairs, Single Mode, DLC to ODVA Connectors, includes ODVA inline adapter preinstalled

### FIBER CONNECT FIBER TRUNK FIXED LENGTH ASSEMBLIES FOR 6RRU, OX12

| MODEL NUMBER           | LENGTH m (ft) | MODEL NUMBER           | LENGTH m (ft) |
|------------------------|---------------|------------------------|---------------|
| HA-FOTF-VL-12SM-010-01 | 10 (32.8)     | HA-FOTF-VL-12SM-110-01 | 110 (360.9)   |
| HA-FOTF-VL-12SM-020-01 | 20 (65.6)     | HA-FOTF-VL-12SM-120-01 | 120 (393.7)   |
| HA-FOTF-VL-12SM-030-01 | 30 (98.4)     | HA-FOTF-VL-12SM-130-01 | 130 (426.5)   |
| HA-FOTF-VL-12SM-040-01 | 40 (131.2)    | HA-FOTF-VL-12SM-140-01 | 140 (459.3)   |
| HA-FOTF-VL-12SM-050-01 | 50 (164.0)    | HA-FOTF-VL-12SM-150-01 | 150 (492.1)   |
| HA-FOTF-VL-12SM-060-01 | 60 (196.8)    | HA-FOTF-VL-12SM-160-01 | 160 (524.9)   |
| HA-FOTF-VL-12SM-070-01 | 70 (229.7)    | HA-FOTF-VL-12SM-170-01 | 170 (557.7)   |
| HA-FOTF-VL-12SM-080-01 | 80 (262.5)    | HA-FOTF-VL-12SM-180-01 | 180 (590.5)   |
| HA-FOTF-VL-12SM-090-01 | 90 (295.3)    | HA-FOTF-VL-12SM-190-01 | 190 (623.4)   |
| HA-FOTF-VL-12SM-100-01 | 100 (328.1)   | HA-FOTF-VL-12SM-200-01 | 200 (656.2)   |

24 F/O Pairs, Single Mode, DLC to ODVA Connectors, includes ODVA inline adapter preinstalled

### FIBER CONNECT FIBER TRUNK FIXED LENGTH ASSEMBLIES FOR 12RRU, OX24

| MODEL NUMBER           | LENGTH m (ft) | MODEL NUMBER           | LENGTH m (ft) |
|------------------------|---------------|------------------------|---------------|
| HA-FOTF-VL-24SM-010-01 | 10 (32.8)     | HA-FOTF-VL-24SM-110-01 | 110 (360.9)   |
| HA-FOTF-VL-24SM-020-01 | 20 (65.6)     | HA-FOTF-VL-24SM-120-01 | 120 (393.7)   |
| HA-FOTF-VL-24SM-030-01 | 30 (98.4)     | HA-FOTF-VL-24SM-130-01 | 130 (426.5)   |
| HA-FOTF-VL-24SM-040-01 | 40 (131.2)    | HA-FOTF-VL-24SM-140-01 | 140 (459.3)   |
| HA-FOTF-VL-24SM-050-01 | 50 (164.0)    | HA-FOTF-VL-24SM-150-01 | 150 (492.1)   |
| HA-FOTF-VL-24SM-060-01 | 60 (196.8)    | HA-FOTF-VL-24SM-160-01 | 160 (524.9)   |
| HA-FOTF-VL-24SM-070-01 | 70 (229.7)    | HA-FOTF-VL-24SM-170-01 | 170 (557.7)   |
| HA-FOTF-VL-24SM-080-01 | 80 (262.5)    | HA-FOTF-VL-24SM-180-01 | 180 (590.5)   |
| HA-FOTF-VL-24SM-090-01 | 90 (295.3)    | HA-FOTF-VL-24SM-190-01 | 190 (623.4)   |
| HA-FOTF-VL-24SM-100-01 | 100 (328.1)   | HA-FOTF-VL-24SM-200-01 | 200 (656.2)   |

## FIBER AND POWER TRUNK SOLUTIONS

Jumper Cables



| MODEL NUMBER      | LENGTH m (ft) | MODEL NUMBER      | LENGTH m (ft) | MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|-------------------|---------------|-------------------|---------------|
| HA-FOJMP-VL-SM-01 | 1 (3.3)       | HA-FOJMP-VN-SM-01 | 1 (3.3)       | HA-FOJMP-VB-SM-01 | 1 (3.3)       |
| HA-FOJMP-VL-SM-02 | 2 (6.6)       | HA-FOJMP-VN-SM-02 | 2 (6.6)       | HA-FOJMP-VB-SM-02 | 2 (6.6)       |
| HA-FOJMP-VL-SM-03 | 3 (9.8)       | HA-FOJMP-VN-SM-03 | 3 (9.8)       | HA-FOJMP-VB-SM-03 | 3 (9.8)       |
| HA-FOJMP-VL-SM-04 | 4 (13.1)      | HA-FOJMP-VN-SM-04 | 4 (13.1)      | HA-FOJMP-VB-SM-04 | 4 (13.1)      |
| HA-FOJMP-VL-SM-05 | 5 (16.4)      | HA-FOJMP-VN-SM-05 | 5 (16.4)      | HA-FOJMP-VB-SM-05 | 5 (16.4)      |



| MODEL NUMBER      | LENGTH m (ft) | MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|-------------------|---------------|
| HA-FOJMP-VA-SM-01 | 1 (3.3)       | HA-FOJMP-LA-SM-01 | 1 (3.3)       |
| HA-FOJMP-VA-SM-02 | 2 (6.6)       | HA-FOJMP-LA-SM-02 | 2 (6.6)       |
| HA-FOJMP-VA-SM-03 | 3 (9.8)       | HA-FOJMP-LA-SM-03 | 3 (9.8)       |
| HA-FOJMP-VA-SM-04 | 4 (13.1)      | HA-FOJMP-LA-SM-04 | 4 (13.1)      |
| HA-FOJMP-VA-SM-05 | 5 (16.4)      | HA-FOJMP-LA-SM-05 | 5 (16.4)      |

Common accessories for this solution

| IMAGE | PRODUCT TYPE               | DESCRIPTION  | MODEL NUMBER      |
|-------|----------------------------|--|-------------------|
|       | Clamp Linings              | Universal Clamp Lining for 7/8" Clamps, covers cables with diameters from 4 - 14 mm                      | CLINE-78-4/14     |
|       | Multiblock Hanger          | Single Multi Block Hanger for 3x LCF78, including cleat, kit of 10                                       | MBHS78-3-F        |
|       | Fiber Overlength Box 40x40 | Fiber Storage Box, Outdoor useable, 400 x 400 mm   | HA-FSB-40         |
|       | Fiber Overlength Box 60x60 | Fiber Storage Box, Outdoor useable, 600 x 600 mm   | HA-FSB-60         |
|       | Kits                       | Retrofit Kit ALU to Nokia Radio, consists of 1 FO Jumper, 1 R2CT Adapter and an Installation Instruction | HA-FOPLUG-R2-01   |
|       | Patch Panel                | Patch panel 19", 24 LC duplex  | HA-PP19-LL-24-02  |
|       | Patch Cord                 | Patch cord LC duplex / LC duplex   | HA-FOPC-LL-S10-01 |

## FIBER/POWER CONNECT ASSEMBLIES WITH COMPACT DISTRIBUTOR



3 DC pairs 10mm<sup>2</sup> unshielded, includes Compact distributor preassembled

### POWER CONNECT POWER TRUNK FIXED LENGTH ASSEMBLIES FOR 3RRU, 3XO

| MODEL NUMBER        | LENGTH m (ft) |
|---------------------|---------------|
| HA-DCTC-DB-10U3-010 | 10 (32.8)     |
| HA-DCTC-DB-10U3-015 | 15 (49.2)     |
| HA-DCTC-DB-10U3-020 | 20 (65.6)     |
| HA-DCTC-DB-10U3-025 | 25 (82.0)     |
| HA-DCTC-DB-10U3-030 | 30 (98.4)     |
| HA-DCTC-DB-10U3-035 | 35 (114.8)    |
| HA-DCTC-DB-10U3-040 | 40 (131.2)    |
| HA-DCTC-DB-10U3-050 | 50 (164.0)    |
| HA-DCTC-DB-10U3-060 | 60 (196.8)    |
| HA-DCTC-DB-10U3-070 | 70 (229.7)    |

**CPR Rated** 🔥 PowerConnect Rating: B2ca s1 d0



6 F/O Pairs, Single Mode, ODVA Connectors, Compact distributor preassembled

### FIBER CONNECT FIBER TRUNK FIXED LENGTH ASSEMBLIES FOR 3RRU, OX6

| MODEL NUMBER        | LENGTH m (ft) | MODEL NUMBER        | LENGTH m (ft) |
|---------------------|---------------|---------------------|---------------|
| HA-FOTC-DL-06SM-010 | 10 (32.8)     | HA-FOTC-DL-06SM-050 | 50 (164.0)    |
| HA-FOTC-DL-06SM-015 | 15 (49.2)     | HA-FOTC-DL-06SM-060 | 60 (196.8)    |
| HA-FOTC-DL-06SM-020 | 20 (65.6)     | HA-FOTC-DL-06SM-070 | 70 (229.7)    |
| HA-FOTC-DL-06SM-025 | 25 (82.0)     | HA-FOTC-DL-06SM-080 | 80 (262.5)    |
| HA-FOTC-DL-06SM-030 | 30 (98.4)     | HA-FOTC-DL-06SM-090 | 90 (295.3)    |
| HA-FOTC-DL-06SM-035 | 35 (114.8)    | HA-FOTC-DL-06SM-100 | 100 (328.1)   |
| HA-FOTC-DL-06SM-040 | 40 (131.2)    |                     |               |

**CPR Rated** 🔥 FiberConnect Rating: Cca s1 d1 a1

## FIBER/POWER CONNECT ASSEMBLIES WITH COMPACT DISTRIBUTOR

1 DC pair 10mm<sup>2</sup> unshielded

### POWER CONNECT POWER JUMPER FIXED LENGTH ASSEMBLIES, 1X0

| MODEL NUMBER      | LENGTH m (ft) | MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|-------------------|---------------|
| HA-DCJMP-BM-10-01 | 1 (3.3)       | HA-DCJMP-BM-10-03 | 3 (9.8)       |
| HA-DCJMP-BM-10-02 | 2 (6.6)       | HA-DCJMP-BM-10-05 | 5 (16.4)      |



1 F/O Pair, Single Mode, ODVA to Duplex LC Connectors, ZTE Version

### FIBER CONNECT FIBER JUMPER FIXED LENGTH ASSEMBLIES, OX1

| MODEL NUMBER          | LENGTH m (ft) | MODEL NUMBER          | LENGTH m (ft) |
|-----------------------|---------------|-----------------------|---------------|
| HA-FOJMP-VL-SM-01-Z01 | 1 (3.3)       | HA-FOJMP-VL-SM-03-Z01 | 3 (9.8)       |
| HA-FOJMP-VL-SM-02-Z01 | 2 (6.6)       | HA-FOJMP-VL-SM-05-Z01 | 5 (16.4)      |



Common Accessories for this Solution

| IMAGE | PRODUCT TYPE               | DESCRIPTION   | MODEL NUMBER      |
|-------|----------------------------|---|-------------------|
|       | Protection Cover           | Compact Distributor Protection Cover Kit              | HA-CDPC-01        |
|       | Fiber Overlength Box 40x40 | Fiber Storage Box, Outdoor useable, 400 x 400 mm      | HA-FSB-40         |
|       | Fiber Overlength Box 60x60 | Fiber Storage Box, Outdoor useable, 600 x 600 mm      | HA-FSB-60         |
|       | Patch Panel                | Patch panel 19", 24 LC duplex                         | HA-PP19-LL-24-02  |
|       | Patch Cord                 | Patch cord Duplex LC to Duplex LC Connectors, 1 meter | HA-FOPC-LL-S10-01 |



## COAXIAL POWER WIRE HYBRID FOR JUNCTION BOX INSTALLATIONS

6 DC Pairs, 12 F/O Pairs, 6 AWG, 1-1/4" Single-Mode, Duplex LC Connectors, Low Inductance

### HYBRIFLEX® HYBRID RISER FIXED LENGTH ASSEMBLIES, 6X12



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HB114-U6S12-10-LI  | 3.05 (10)     |
| HB114-U6S12-20-LI  | 6.10 (20)     |
| HB114-U6S12-30-LI  | 9.14 (30)     |
| HB114-U6S12-40-LI  | 12.19 (40)    |
| HB114-U6S12-50-LI  | 15.24 (50)    |
| HB114-U6S12-60-LI  | 18.29 (60)    |
| HB114-U6S12-70-LI  | 21.34 (70)    |
| HB114-U6S12-80-LI  | 24.38 (80)    |
| HB114-U6S12-90-LI  | 27.43 (90)    |
| HB114-U6S12-100-LI | 30.48 (100)   |
| HB114-U6S12-110-LI | 33.53 (110)   |
| HB114-U6S12-120-LI | 36.58 (120)   |
| HB114-U6S12-130-LI | 39.62 (130)   |
| HB114-U6S12-140-LI | 42.67 (140)   |
| HB114-U6S12-150-LI | 45.72 (150)   |
| HB114-U6S12-160-LI | 48.77 (160)   |
| HB114-U6S12-170-LI | 51.82 (170)   |
| HB114-U6S12-180-LI | 54.86 (180)   |
| HB114-U6S12-190-LI | 57.91 (190)   |
| HB114-U6S12-200-LI | 60.96 (200)   |
| HB114-U6S12-210-LI | 64.01 (210)   |
| HB114-U6S12-220-LI | 67.06 (220)   |
| HB114-U6S12-230-LI | 70.10 (230)   |
| HB114-U6S12-240-LI | 73.15 (240)   |
| HB114-U6S12-250-LI | 76.20 (250)   |
| HB114-U6S12-260-LI | 79.25 (260)   |
| HB114-U6S12-270-LI | 82.30 (270)   |
| HB114-U6S12-280-LI | 85.34 (280)   |
| HB114-U6S12-290-LI | 88.39 (290)   |
| HB114-U6S12-300-LI | 91.44 (300)   |
| HB114-U6S12-310-LI | 94.49 (310)   |
| HB114-U6S12-320-LI | 97.54 (320)   |
| HB114-U6S12-330-LI | 100.58 (330)  |
| HB114-U6S12-340-LI | 103.63 (340)  |

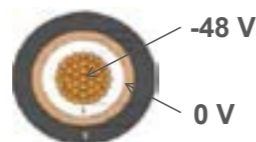
| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HB114-U6S12-350-LI | 106.68 (350)  |
| HB114-U6S12-360-LI | 109.73 (360)  |
| HB114-U6S12-370-LI | 112.78 (370)  |
| HB114-U6S12-380-LI | 115.82 (380)  |
| HB114-U6S12-390-LI | 118.87 (390)  |
| HB114-U6S12-400-LI | 121.92 (400)  |
| HB114-U6S12-410-LI | 124.97 (410)  |
| HB114-U6S12-420-LI | 128.02 (420)  |
| HB114-U6S12-430-LI | 131.06 (430)  |
| HB114-U6S12-440-LI | 134.11 (440)  |
| HB114-U6S12-450-LI | 137.16 (450)  |
| HB114-U6S12-460-LI | 140.21 (460)  |
| HB114-U6S12-470-LI | 143.26 (470)  |
| HB114-U6S12-480-LI | 146.30 (480)  |
| HB114-U6S12-490-LI | 149.35 (490)  |
| HB114-U6S12-500-LI | 152.40 (500)  |
| HB114-U6S12-510-LI | 155.45 (510)  |
| HB114-U6S12-520-LI | 158.50 (520)  |
| HB114-U6S12-530-LI | 161.54 (530)  |
| HB114-U6S12-540-LI | 164.59 (540)  |
| HB114-U6S12-550-LI | 167.64 (550)  |
| HB114-U6S12-560-LI | 170.69 (560)  |
| HB114-U6S12-570-LI | 173.74 (570)  |
| HB114-U6S12-580-LI | 176.78 (580)  |
| HB114-U6S12-590-LI | 179.83 (590)  |
| HB114-U6S12-600-LI | 182.88 (600)  |
| HB114-U6S12-610-LI | 185.93 (610)  |
| HB114-U6S12-620-LI | 188.98 (620)  |
| HB114-U6S12-700-LI | 213.36 (700)  |
| HB114-U6S12-750-LI | 228.60 (750)  |
| HB114-U6S12-800-LI | 243.84 (800)  |
| HB114-U6S12-850-LI | 259.08 (850)  |
| HB114-U6S12-900-LI | 274.32 (900)  |
| HB114-U6S12-1000LI | 304.80 (1000) |

### COAXIAL POWER WIRE

Coaxial cable wire is also known as concentric or low inductance wire. Each wire has two conductors that act as a traditional pair. Coaxial power wire due to its low inductance benefits, may allow for extending the overall cable assembly length utilizing the same wire gauge, compared to traditional power wire, before voltage drop demands larger wire gauge.

In a 6AWG wire example, the limiting factor is inductance which should be < 0.2uH/m:

- Conventional 6AWG wire inductance ~ 0.5uH/m
- Coaxial ~ 0.1uH/m inductance design



| MODEL NUMBER    | DESCRIPTION                       |
|-----------------|-----------------------------------|
| HA-DCPLUG-LI-14 | Connector Splitter Kit, LIW, 6x12 |
| HA-DCPLUG-LI-06 | Connector Splitter Kit, LIW, 2x4  |

## COAXIAL POWER WIRE HYBRID FOR JUNCTION BOX INSTALLATIONS

12 DC Pairs, 24 F/O Pairs, 6 AWG, 1-5/8" Single Mode, Duplex LC Connectors, Low Inductance

### HYBRIFLEX® HYBRID RISER FIXED LENGTH ASSEMBLIES, 12X24



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HB158-U12S24-10-LI | 3.05 (10)     |
| HB158-U12S24-20-LI | 6.10 (20)     |
| HB158-U12S24-30-LI | 9.14 (30)     |
| HB158-U12S24-40-LI | 12.19 (40)    |
| HB158-U12S24-50-LI | 15.24 (50)    |
| HB158-U12S24-60-LI | 18.29 (60)    |
| HB158-U12S24-70-LI | 21.34 (70)    |
| HB158-U12S24-80-LI | 24.38 (80)    |
| HB158-U12S24-90-LI | 27.43 (90)    |
| HB158-U12S24-100LI | 30.48 (100)   |
| HB158-U12S24-110LI | 33.53 (110)   |
| HB158-U12S24-120LI | 36.58 (120)   |
| HB158-U12S24-130LI | 39.62 (130)   |
| HB158-U12S24-140LI | 42.67 (140)   |
| HB158-U12S24-150LI | 45.72 (150)   |
| HB158-U12S24-160LI | 48.77 (160)   |
| HB158-U12S24-170LI | 51.82 (170)   |
| HB158-U12S24-180LI | 54.86 (180)   |
| HB158-U12S24-190LI | 57.91 (190)   |
| HB158-U12S24-200LI | 60.96 (200)   |
| HB158-U12S24-210LI | 64.01 (210)   |
| HB158-U12S24-220LI | 67.06 (220)   |
| HB158-U12S24-230LI | 70.10 (230)   |
| HB158-U12S24-240LI | 73.15 (240)   |
| HB158-U12S24-250LI | 76.20 (250)   |
| HB158-U12S24-260LI | 79.25 (260)   |
| HB158-U12S24-270LI | 82.30 (270)   |
| HB158-U12S24-280LI | 85.34 (280)   |
| HB158-U12S24-290LI | 88.39 (290)   |
| HB158-U12S24-300LI | 91.44 (300)   |
| HB158-U12S24-310LI | 94.49 (310)   |
| HB158-U12S24-320LI | 97.54 (320)   |

| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HB158-U12S24-330LI | 100.58 (330)  |
| HB158-U12S24-340LI | 103.63 (340)  |
| HB158-U12S24-350LI | 106.68 (350)  |
| HB158-U12S24-360LI | 109.73 (360)  |
| HB158-U12S24-370LI | 112.78 (370)  |
| HB158-U12S24-380LI | 115.82 (380)  |
| HB158-U12S24-390LI | 118.87 (390)  |
| HB158-U12S24-400LI | 121.92 (400)  |
| HB158-U12S24-410LI | 124.97 (410)  |
| HB158-U12S24-420LI | 128.02 (420)  |
| HB158-U12S24-430LI | 131.06 (430)  |
| HB158-U12S24-440LI | 134.11 (440)  |
| HB158-U12S24-450LI | 137.16 (450)  |
| HB158-U12S24-460LI | 140.21 (460)  |
| HB158-U12S24-470LI | 143.26 (470)  |
| HB158-U12S24-480LI | 146.30 (480)  |
| HB158-U12S24-490LI | 149.35 (490)  |
| HB158-U12S24-500LI | 152.40 (500)  |
| HB158-U12S24-510LI | 155.45 (510)  |
| HB158-U12S24-520LI | 158.50 (520)  |
| HB158-U12S24-530LI | 161.54 (530)  |
| HB158-U12S24-540LI | 164.59 (540)  |
| HB158-U12S24-550LI | 167.64 (550)  |
| HB158-U12S24-560LI | 170.69 (560)  |
| HB158-U12S24-570LI | 173.74 (570)  |
| HB158-U12S24-580LI | 176.78 (580)  |
| HB158-U12S24-590LI | 179.83 (590)  |
| HB158-U12S24-600LI | 182.88 (600)  |
| HB158-U12S24-610LI | 185.93 (610)  |
| HB158-U12S24-620LI | 188.98 (620)  |
| HB158-U12S24-700LI | 213.36 (700)  |

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

We now offer 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 KIT QTY |
|------------------|-----------------|--------------|-------------------|--|----------------|
| HBK114           | HB114           |              | RFS-TRUNK-KIT     | (2) 190-0620, Insert, M75, 1H, 40mm                  |                |
| HBK058           | HBF058          |              | RFS-JUMP-KIT      | (1) 190-0621, Insert, M75, 3H, 22mm, Split w/ plugs  |                |
| HBK012           | HBF012          | 1            | RFS-JUMP-KIT-2    | (1) 190-0903, Insert, M75, 2H, 15mm, Split w/ plugs  |                |
| FRK-N            | FR-N            |              | RFS-FIBER-KIT     | (1) 190-0657, Insert, M75, 6H, 6.1mm, Split w/ plugs |                |

## HYBRID AND FIBER ONLY JUMPERS FOR JUNCTION BOX SOLUTIONS

## HYBRID AND FIBER ONLY JUMPERS FOR JUNCTION BOX SOLUTIONS

### Fiber Only Jumper Assemblies, LC/FULLAXS Connectors Top, LC Connectors Bottom

**SINGLE-MODE FIBER, 1 PAIR**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-1SM-01-10F1  | 3.05 (10)     |
| FR-N-1SM-01-20F1  | 6.10 (20)     |
| FR-N-1SM-01-30F1  | 9.14 (30)     |
| FR-N-1SM-01-40F1  | 12.19 (40)    |
| FR-N-1SM-01-50F1  | 15.24 (50)    |
| FR-N-1SM-01-60F1  | 18.29 (60)    |
| FR-N-1SM-01-70F1  | 21.34 (70)    |
| FR-N-1SM-01-80F1  | 24.38 (80)    |
| FR-N-1SM-01-90F1  | 27.43 (90)    |
| FR-N-1SM-01-100F1 | 30.48 (100)   |

**SINGLE-MODE FIBER, 1 STRAND**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| FR-N-1SSM-01-10F1  | 3.05 (10)     |
| FR-N-1SSM-01-20F1  | 6.10 (20)     |
| FR-N-1SSM-01-30F1  | 9.14 (30)     |
| FR-N-1SSM-01-40F1  | 12.19 (40)    |
| FR-N-1SSM-01-50F1  | 15.24 (50)    |
| FR-N-1SSM-01-60F1  | 18.29 (60)    |
| FR-N-1SSM-01-70F1  | 21.34 (70)    |
| FR-N-1SSM-01-80F1  | 24.38 (80)    |
| FR-N-1SSM-01-90F1  | 27.43 (90)    |
| FR-N-1SSM-01-100F1 | 30.48 (100)   |

**SINGLE-MODE FIBER, 2 PAIR**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-2SM-01-10F1  | 3.05 (10)     |
| FR-N-2SM-01-20F1  | 6.10 (20)     |
| FR-N-2SM-01-30F1  | 9.14 (30)     |
| FR-N-2SM-01-40F1  | 12.19 (40)    |
| FR-N-2SM-01-50F1  | 15.24 (50)    |
| FR-N-2SM-01-60F1  | 18.29 (60)    |
| FR-N-2SM-01-70F1  | 21.34 (70)    |
| FR-N-2SM-01-80F1  | 24.38 (80)    |
| FR-N-2SM-01-90F1  | 27.43 (90)    |
| FR-N-2SM-01-100F1 | 30.48 (100)   |

**SINGLE-MODE FIBER, 2 STRAND**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| FR-N-2SSM-01-10F1  | 3.05 (10)     |
| FR-N-2SSM-01-20F1  | 6.10 (20)     |
| FR-N-2SSM-01-30F1  | 9.14 (30)     |
| FR-N-2SSM-01-40F1  | 12.19 (40)    |
| FR-N-2SSM-01-50F1  | 15.24 (50)    |
| FR-N-2SSM-01-60F1  | 18.29 (60)    |
| FR-N-2SSM-01-70F1  | 21.34 (70)    |
| FR-N-2SSM-01-80F1  | 24.38 (80)    |
| FR-N-2SSM-01-90F1  | 27.43 (90)    |
| FR-N-2SSM-01-100F1 | 30.48 (100)   |

**SINGLE-MODE FIBER, 3 PAIR**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-3SM-01-10F1  | 3.05 (10)     |
| FR-N-3SM-01-20F1  | 6.10 (20)     |
| FR-N-3SM-01-30F1  | 9.14 (30)     |
| FR-N-3SM-01-40F1  | 12.19 (40)    |
| FR-N-3SM-01-50F1  | 15.24 (50)    |
| FR-N-3SM-01-60F1  | 18.29 (60)    |
| FR-N-3SM-01-70F1  | 21.34 (70)    |
| FR-N-3SM-01-80F1  | 24.38 (80)    |
| FR-N-3SM-01-90F1  | 27.43 (90)    |
| FR-N-3SM-01-100F1 | 30.48 (100)   |

**SINGLE-MODE FIBER, 3 STRAND**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| FR-N-3SSM-01-10F1  | 3.05 (10)     |
| FR-N-3SSM-01-20F1  | 6.10 (20)     |
| FR-N-3SSM-01-30F1  | 9.14 (30)     |
| FR-N-3SSM-01-40F1  | 12.19 (40)    |
| FR-N-3SSM-01-50F1  | 15.24 (50)    |
| FR-N-3SSM-01-60F1  | 18.29 (60)    |
| FR-N-3SSM-01-70F1  | 21.34 (70)    |
| FR-N-3SSM-01-80F1  | 24.38 (80)    |
| FR-N-3SSM-01-90F1  | 27.43 (90)    |
| FR-N-3SSM-01-100F1 | 30.48 (100)   |

**SINGLE-MODE FIBER, 4 PAIR**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-4SM-01-10F1  | 3.05 (10)     |
| FR-N-4SM-01-20F1  | 6.10 (20)     |
| FR-N-4SM-01-30F1  | 9.14 (30)     |
| FR-N-4SM-01-40F1  | 12.19 (40)    |
| FR-N-4SM-01-50F1  | 15.24 (50)    |
| FR-N-4SM-01-60F1  | 18.29 (60)    |
| FR-N-4SM-01-70F1  | 21.34 (70)    |
| FR-N-4SM-01-80F1  | 24.38 (80)    |
| FR-N-4SM-01-90F1  | 27.43 (90)    |
| FR-N-4SM-01-100F1 | 30.48 (100)   |

**SINGLE-MODE FIBER, 4 STRAND**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| FR-N-4SSM-01-10F1  | 3.05 (10)     |
| FR-N-4SSM-01-20F1  | 6.10 (20)     |
| FR-N-4SSM-01-30F1  | 9.14 (30)     |
| FR-N-4SSM-01-40F1  | 12.19 (40)    |
| FR-N-4SSM-01-50F1  | 15.24 (50)    |
| FR-N-4SSM-01-60F1  | 18.29 (60)    |
| FR-N-4SSM-01-70F1  | 21.34 (70)    |
| FR-N-4SSM-01-80F1  | 24.38 (80)    |
| FR-N-4SSM-01-90F1  | 27.43 (90)    |
| FR-N-4SSM-01-100F1 | 30.48 (100)   |

### Hybrid Jumper Assemblies, LC/FULLAXS Connectors Top, LC Connectors Bottom

**5/8" OD, UL 1 PAIR 8AWG DC 1 PAIR SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1S1-10F1 | 3.05 (10)     |
| HBFO58-08U1S1-15F1 | 4.57 (15)     |
| HBFO58-08U1S1-20F1 | 6.10 (20)     |
| HBFO58-08U1S1-30F1 | 9.14 (30)     |
| HBFO58-08U1S1-40F1 | 12.19 (40)    |
| HBFO58-08U1S1-50F1 | 15.24 (50)    |
| HBFO58-08U1S1-60F1 | 18.29 (60)    |
| HBFO58-08U1S1-70F1 | 21.34 (70)    |
| HBFO58-08U1S1-80F1 | 24.38 (80)    |
| HBFO58-08U1S1-90F1 | 27.43 (90)    |
| HBFO58-08U1S1100F1 | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 2 PAIR SM FIBER**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| HBFO58-08U1S2-8F  | 2.44 (8)      |
| HBFO58-08U1S2-10F | 3.05 (10)     |
| HBFO58-08U1S2-12F | 3.66 (12)     |
| HBFO58-08U1S2-15F | 4.57 (15)     |
| HBFO58-08U1S2-20F | 6.10 (20)     |
| HBFO58-08U1S2-25F | 7.62 (25)     |
| HBFO58-08U1S2-30F | 9.14 (30)     |
| HBFO58-08U1S2-40F | 12.19 (40)    |
| HBFO58-08U1S2-50F | 15.24 (50)    |
| HBFO58-08U1S2-60F | 18.29 (60)    |
| HBFO58-08U1S2-70F | 21.34 (70)    |
| HBFO58-08U1S2-80F | 24.38 (80)    |
| HBFO58-08U1S2-90F | 27.43 (90)    |
| HBFO58-08U1S2100F | 30.48 (100)   |

### Hybrid Jumper Assemblies, LC/FULLAXS Connectors Top, LC Connectors Bottom

**5/8" OD, UL 1 PAIR 8AWG DC 3 PAIR SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1S3-10F  | 3.05 (10)     |
| HBFO58-08U1S3-20F  | 6.10 (20)     |
| HBFO58-08U1S3-30F  | 9.14 (30)     |
| HBFO58-08U1S3-40F  | 12.19 (40)    |
| HBFO58-08U1S3-50F  | 15.24 (50)    |
| HBFO58-08U1S3-60F  | 18.29 (60)    |
| HBFO58-08U1S3-70F  | 21.34 (70)    |
| HBFO58-08U1S3-80F  | 24.38 (80)    |
| HBFO58-08U1S3-90F  | 27.43 (90)    |
| HBFO58-08U1S3-100F | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 4 PAIR SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1S4-10F  | 3.05 (10)     |
| HBFO58-08U1S4-20F  | 6.10 (20)     |
| HBFO58-08U1S4-30F  | 9.14 (30)     |
| HBFO58-08U1S4-40F  | 12.19 (40)    |
| HBFO58-08U1S4-50F  | 15.24 (50)    |
| HBFO58-08U1S4-60F  | 18.29 (60)    |
| HBFO58-08U1S4-70F  | 21.34 (70)    |
| HBFO58-08U1S4-80F  | 24.38 (80)    |
| HBFO58-08U1S4-90F  | 27.43 (90)    |
| HBFO58-08U1S4-100F | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 1 STRAND SM FIBER**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| HBFO58-08U1SS-08F | 2.44 (8)      |
| HBFO58-08U1SS-12F | 3.66 (12)     |
| HBFO58-08U1SS-15F | 4.57 (15)     |
| HBFO58-08U1SS-20F | 6.10 (20)     |
| HBFO58-08U1SS-30F | 9.14 (30)     |

**5/8" OD, UL 1 PAIR 8AWG DC 2 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1SS2-10F | 3.05 (10)     |
| HBFO58-08U1SS2-20F | 6.10 (20)     |
| HBFO58-08U1SS2-30F | 9.14 (30)     |
| HBFO58-08U1SS2-40F | 12.19 (40)    |
| HBFO58-08U1SS2-50F | 15.24 (50)    |
| HBFO58-08U1SS2-60F | 18.29 (60)    |
| HBFO58-08U1SS2-70F | 21.34 (70)    |
| HBFO58-08U1SS2-80F | 24.38 (80)    |
| HBFO58-08U1SS2-90F | 27.43 (90)    |
| HBFO58-08U1SS2100F | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 3 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1SS3-10F | 3.05 (10)     |
| HBFO58-08U1SS3-20F | 6.10 (20)     |
| HBFO58-08U1SS3-30F | 9.14 (30)     |
| HBFO58-08U1SS3-40F | 12.19 (40)    |
| HBFO58-08U1SS3-50F | 15.24 (50)    |
| HBFO58-08U1SS3-60F | 18.29 (60)    |
| HBFO58-08U1SS3-70F | 21.34 (70)    |
| HBFO58-08U1SS3-80F | 24.38 (80)    |
| HBFO58-08U1SS3-90F | 27.43 (90)    |
| HBFO58-08U1SS3100F | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 4 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1SS4-10F | 3.05 (10)     |
| HBFO58-08U1SS4-20F | 6.10 (20)     |
| HBFO58-08U1SS4-30F | 9.14 (30)     |
| HBFO58-08U1SS4-40F | 12.19 (40)    |
| HBFO58-08U1SS4-50F | 15.24 (50)    |
| HBFO58-08U1SS4-60F | 18.29 (60)    |
| HBFO58-08U1SS4-70F | 21.34 (70)    |
| HBFO58-08U1SS4-80F | 24.38 (80)    |
| HBFO58-08U1SS4-90F | 27.43 (90)    |
| HBFO58-08U1SS4100F | 30.48 (100)   |

**5/8" OD, UL 2 PAIR 8AWG DC 1 PAIR SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U2S1-08FY | 2.44 (8)      |
| HBFO58-08U2S1-12FY | 3.66 (12)     |
| HBFO58-08U2S1-15FY | 4.57 (15)     |
| HBFO58-08U2S1-20FY | 6.10 (20)     |
| HBFO58-08U2S1-30FY | 9.14 (30)     |
| HBFO58-08U2S1-50FY | 15.24 (50)    |

**5/8" OD, UL 2 PAIR 8AWG DC 2 PAIR SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U2S2-08FY | 2.44 (8)      |
| HBFO58-08U2S2-12FY | 3.66 (12)     |
| HBFO58-08U2S2-15FY | 4.57 (15)     |
| HBFO58-08U2S2-20FY | 6.10 (20)     |
| HBFO58-08U2S2-30FY | 9.14 (30)     |
| HBFO58-08U2S2-50FY | 15.24 (50)    |

**5/8" OD, UL 2 PAIR 8AWG DC 1 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U2SS-08FY | 2.44 (8)      |
| HBFO58-08U2SS-12FY | 3.66 (12)     |
| HBFO58-08U2SS-15FY | 4.57 (15)     |
| HBFO58-08U2SS-20FY | 6.10 (20)     |
| HBFO58-08U2SS-30FY | 9.14 (30)     |

**5/8" OD, UL 2 PAIR 8AWG DC 2 STRAND SM FIBER**



| MODEL NUMBER        | LENGTH m (ft) |
|---------------------|---------------|
| HBFO58-08U2SS210FY  | 3.05 (10)     |
| HBFO58-08U2SS220FY  | 6.10 (20)     |
| HBFO58-08U2SS230FY  | 9.14 (30)     |
| HBFO58-08U2SS240FY  | 12.19 (40)    |
| HBFO58-08U2SS250FY  | 15.24 (50)    |
| HBFO58-08U2SS260FY  | 18.29 (60)    |
| HBFO58-08U2SS270FY  | 21.34 (70)    |
| HBFO58-08U2SS280FY  | 24.38 (80)    |
| HBFO58-08U2SS290FY  | 27.43 (90)    |
| HBFO58-08U2SS2100FY | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 6AWG DC 2 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-13U1SS2-15F | 4.57 (15)     |
| HBFO58-13U1SS2-30F | 9.14 (30)     |
| HBFO58-13U1SS2-40F | 12.19 (40)    |

**5/8" OD, UL 1 PAIR 6AWG DC 3 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-13U1SS3-15F | 15            |
| HBFO58-13U1SS3-30F | 30            |
| HBFO58-13U1SS3-40F | 40            |



## HYBRID AND FIBER ONLY JUMPERS FOR JUNCTION BOX SOLUTIONS

## HYBRID AND FIBER ONLY JUMPERS FOR JUNCTION BOX SOLUTIONS

### Fiber Only Jumper Assemblies, Elongated LC Connectors Top, LC Connectors Bottom

**SINGLE-MODE FIBER, 1 PAIR**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-1SM-01-10FS  | 3.05 (10)     |
| FR-N-1SM-01-20FS  | 6.10 (20)     |
| FR-N-1SM-01-30FS  | 9.14 (30)     |
| FR-N-1SM-01-40FS  | 12.19 (40)    |
| FR-N-1SM-01-50FS  | 15.24 (50)    |
| FR-N-1SM-01-60FS  | 18.29 (60)    |
| FR-N-1SM-01-70FS  | 21.34 (70)    |
| FR-N-1SM-01-80FS  | 24.38 (80)    |
| FR-N-1SM-01-90FS  | 27.43 (90)    |
| FR-N-1SM-01-100FS | 30.48 (100)   |

**SINGLE-MODE FIBER, 2 PAIR**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-2SM-01-10FS  | 3.05 (10)     |
| FR-N-2SM-01-20FS  | 6.10 (20)     |
| FR-N-2SM-01-30FS  | 9.14 (30)     |
| FR-N-2SM-01-40FS  | 12.19 (40)    |
| FR-N-2SM-01-50FS  | 15.24 (50)    |
| FR-N-2SM-01-60FS  | 18.29 (60)    |
| FR-N-2SM-01-70FS  | 21.34 (70)    |
| FR-N-2SM-01-80FS  | 24.38 (80)    |
| FR-N-2SM-01-90FS  | 27.43 (90)    |
| FR-N-2SM-01-100FS | 30.48 (100)   |

**SINGLE-MODE FIBER, 1 STRAND**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| FR-N-1SSM-01-10FS  | 3.05 (10)     |
| FR-N-1SSM-01-20FS  | 6.10 (20)     |
| FR-N-1SSM-01-30FS  | 9.14 (30)     |
| FR-N-1SSM-01-40F1  | 12.19 (40)    |
| FR-N-1SSM-01-50FS  | 15.24 (50)    |
| FR-N-1SSM-01-60FS  | 18.29 (60)    |
| FR-N-1SSM-01-70FS  | 21.34 (70)    |
| FR-N-1SSM-01-80FS  | 24.38 (80)    |
| FR-N-1SSM-01-90FS  | 27.43 (90)    |
| FR-N-1SSM-01-100FS | 30.48 (100)   |

**SINGLE-MODE FIBER, 2 STRAND**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| FR-N-2SSM-01-10FS  | 3.05 (10)     |
| FR-N-2SSM-01-20FS  | 6.10 (20)     |
| FR-N-2SSM-01-30FS  | 9.14 (30)     |
| FR-N-2SSM-01-40FS  | 12.19 (40)    |
| FR-N-2SSM-01-50FS  | 15.24 (50)    |
| FR-N-2SSM-01-60FS  | 18.29 (60)    |
| FR-N-2SSM-01-70FS  | 21.34 (70)    |
| FR-N-2SSM-01-80FS  | 24.38 (80)    |
| FR-N-2SSM-01-90FS  | 27.43 (90)    |
| FR-N-2SSM-01-100FS | 30.48 (100)   |

### Hybrid Jumper Assemblies, Elongated LC Connectors Top, LC Connectors Bottom

**5/8" OD, UL 1 PAIR 8AWG DC 1 PAIR SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBF058-08U1S1-10FS | 3.05 (10)     |
| HBF058-08U1S1-20FS | 6.10 (20)     |
| HBF058-08U1S1-30FS | 9.14 (30)     |
| HBF058-08U1S1-40FS | 12.19 (40)    |
| HBF058-08U1S1-50FS | 15.24 (50)    |
| HBF058-08U1S1-60FS | 18.29 (60)    |
| HBF058-08U1S1-70FS | 21.34 (70)    |
| HBF058-08U1S1-80FS | 24.38 (80)    |
| HBF058-08U1S1-90FS | 27.43 (90)    |
| HBF058-08U1S1100FS | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 2 PAIR SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBF058-08U1S2-10FS | 3.05 (10)     |
| HBF058-08U1S2-20FS | 6.10 (20)     |
| HBF058-08U1S2-30FS | 9.14 (30)     |
| HBF058-08U1S2-40FS | 12.19 (40)    |
| HBF058-08U1S2-50FS | 15.24 (50)    |
| HBF058-08U1S2-60FS | 18.29 (60)    |
| HBF058-08U1S2-70FS | 21.34 (70)    |
| HBF058-08U1S2-80FS | 24.38 (80)    |
| HBF058-08U1S2-90FS | 27.43 (90)    |
| HBF058-08U1S2100FS | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 1 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBF058-08U1SS-10FS | 3.05 (10)     |
| HBF058-08U1SS-20FS | 6.10 (20)     |
| HBF058-08U1SS-30FS | 9.14 (30)     |
| HBF058-08U1SS-40FS | 12.19 (40)    |
| HBF058-08U1SS-50FS | 15.24 (50)    |
| HBF058-08U1SS-60FS | 18.29 (60)    |
| HBF058-08U1SS-70FS | 21.34 (70)    |
| HBF058-08U1SS-80FS | 24.38 (80)    |
| HBF058-08U1SS-90FS | 27.43 (90)    |
| HBF058-08U1SS100FS | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 8AWG DC 2 STRAND SM FIBER**



| MODEL NUMBER        | LENGTH m (ft) |
|---------------------|---------------|
| HBF058-08U1SS210FS  | 3.05 (10)     |
| HBF058-08U1SS220FS  | 6.10 (20)     |
| HBF058-08U1SS230FS  | 9.14 (30)     |
| HBF058-08U1SS240FS  | 12.19 (40)    |
| HBF058-08U1SS250FS  | 15.24 (50)    |
| HBF058-08U1SS260FS  | 18.29 (60)    |
| HBF058-08U1SS270FS  | 21.34 (70)    |
| HBF058-08U1SS280FS  | 24.38 (80)    |
| HBF058-08U1SS290FS  | 27.43 (90)    |
| HBF058-08U1SS2100FS | 30.48 (100)   |

### Hybrid Jumper Assemblies, Elongated LC Connectors Top, LC Connectors Bottom

**5/8" OD, UL 1 PAIR 6AWG DC 1 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBF058-13U1SS-15FS | 4.57 (15)     |
| HBF058-13U1SS-30FS | 9.14 (30)     |
| HBF058-13U1SS-40FS | 12.19 (40)    |
| HBF058-13U1SS100FS | 30.48 (100)   |

**5/8" OD, UL 1 PAIR 6AWG DC 3 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBF058-13U1SS315FS | 4.57 (15)     |
| HBF058-13U1SS330FS | 9.14 (30)     |
| HBF058-13U1SS340FS | 12.19 (40)    |
| HBF058-13U1SS360FS | 18.29 (60)    |

**5/8" OD, UL 1 PAIR 6AWG DC 2 STRAND SM FIBER**



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBF058-13U1SS215FS | 4.57 (15)     |
| HBF058-13U1SS230FS | 9.14 (30)     |
| HBF058-13U1SS240FS | 12.19 (40)    |

### Fiber Only Jumper Assemblies, LC Connectors Top, LC Connectors Bottom

**SINGLE-MODE FIBER, 1 PAIR**



| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FR-N-1SM-01-1F   | 0.3 (1)       |
| FR-N-1SM-01-2F   | 0.61 (2)      |
| FR-N-1SM-01-3F   | 0.91 (3)      |
| FR-N-1SM-01-4F   | 1.22 (4)      |
| FR-N-1SM-01-6F   | 1.83 (6)      |
| FR-N-1SM-01-8F   | 2.44 (8)      |
| FR-N-1SM-01-10F  | 3.05 (10)     |
| FR-N-1SM-01-15F  | 4.57 (15)     |
| FR-N-1SM-01-20F  | 6.10 (20)     |
| FR-N-1SM-01-30F  | 9.14 (30)     |
| FR-N-1SM-01-40F  | 12.19 (40)    |
| FR-N-1SM-01-50F  | 15.24 (50)    |
| FR-N-1SM-01-60F  | 18.29 (60)    |
| FR-N-1SM-01-70F  | 21.34 (70)    |
| FR-N-1SM-01-80F  | 24.38 (80)    |
| FR-N-1SM-01-90F  | 27.43 (90)    |
| FR-N-1SM-01-100F | 30.48 (100)   |

**SINGLE-MODE FIBER, 1 STRAND**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-1SSM-01-10F  | 3.05 (10)     |
| FR-N-1SSM-01-20F  | 6.10 (20)     |
| FR-N-1SSM-01-30F  | 9.14 (30)     |
| FR-N-1SSM-01-40F  | 12.19 (40)    |
| FR-N-1SSM-01-50F  | 15.24 (50)    |
| FR-N-1SSM-01-60F  | 18.29 (60)    |
| FR-N-1SSM-01-70F  | 21.34 (70)    |
| FR-N-1SSM-01-80F  | 24.38 (80)    |
| FR-N-1SSM-01-90F  | 27.43 (90)    |
| FR-N-1SSM-01-100F | 30.48 (100)   |

**SINGLE-MODE FIBER, 2 PAIR**



| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FR-N-2SM-01-10F  | 3.05 (10)     |
| FR-N-2SM-01-20F  | 6.10 (20)     |
| FR-N-2SM-01-30F  | 9.14 (30)     |
| FR-N-2SM-01-40F  | 12.19 (40)    |
| FR-N-2SM-01-50F  | 15.24 (50)    |
| FR-N-2SM-01-60F  | 18.29 (60)    |
| FR-N-2SM-01-70F  | 21.34 (70)    |
| FR-N-2SM-01-80F  | 24.38 (80)    |
| FR-N-2SM-01-90F  | 27.43 (90)    |
| FR-N-2SM-01-100F | 30.48 (100)   |

**SINGLE-MODE FIBER, 2 STRAND**



| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FR-N-2SSM-01-10F  | 3.05 (10)     |
| FR-N-2SSM-01-20F  | 6.10 (20)     |
| FR-N-2SSM-01-30F  | 9.14 (30)     |
| FR-N-2SSM-01-40F  | 12.19 (40)    |
| FR-N-2SSM-01-50F  | 15.24 (50)    |
| FR-N-2SSM-01-60F  | 18.29 (60)    |
| FR-N-2SSM-01-70F  | 21.34 (70)    |
| FR-N-2SSM-01-80F  | 24.38 (80)    |
| FR-N-2SSM-01-90F  | 27.43 (90)    |
| FR-N-2SSM-01-100F | 30.48 (100)   |

**SINGLE-MODE FIBER, 3 PAIR**



| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FR-N-3SM-01-3F   | 0.91 (3)      |
| FR-N-3SM-01-4F   | 1.22 (4)      |
| FR-N-3SM-01-6F   | 1.83 (6)      |
| FR-N-3SM-01-8F   | 2.44 (8)      |
| FR-N-3SM-01-10F  | 3.05 (10)     |
| FR-N-3SM-01-15F  | 4.57 (15)     |
| FR-N-3SM-01-20F  | 6.10 (20)     |
| FR-N-3SM-01-30F  | 9.14 (30)     |
| FR-N-3SM-01-50F  | 15.24 (50)    |
| FR-N-2SM-01-100F | 30.48 (100)   |

**SINGLE-MODE FIBER, 6 PAIR**



| MODEL NUMBER    | LENGTH m (ft) |
|-----------------|---------------|
| FR-N-6SM-01-3F  | 0.91 (3)      |
| FR-N-6SM-01-4F  | 1.22 (4)      |
| FR-N-6SM-01-6F  | 1.83 (6)      |
| FR-N-6SM-01-8F  | 2.44 (8)      |
| FR-N-6SM-01-10F | 3.05 (10)     |
| FR-N-6SM-01-15F | 4.57 (15)     |
| FR-N-6SM-01-20F | 6.10 (20)     |
| FR-N-6SM-01-30F | 9.14 (30)     |
| FR-N-6SM-01-40F | 12.19 (40)    |

**SINGLE-MODE FIBER, 6 PAIR**



| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FR-N-12SM-01-3F  | 0.91 (3)      |
| FR-N-12SM-01-4F  | 1.22 (4)      |
| FR-N-12SM-01-6F  | 1.83 (6)      |
| FR-N-12SM-01-8F  | 2.44 (8)      |
| FR-N-12SM-01-10F | 3.05 (10)     |
| FR-N-12SM-01-15F | 4.57 (15)     |
| FR-N-12SM-01-20F | 6.10 (20)     |
| FR-N-12SM-01-30F | 9.14 (30)     |



## HYBRID AND FIBER ONLY JUMPERS FOR JUNCTION BOX SOLUTIONS

### Hybrid Jumper Assemblies, LC Connectors Top, LC Connectors Bottom

1/2" OD, UL  
1 PAIR 10AWG DC  
1 PAIR SM FIBER



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO12-05U1S1-10F  | 3.05 (10)     |
| HBFO12-05U1S1-20F  | 6.10 (20)     |
| HBFO12-05U1S1-30F  | 9.14 (30)     |
| HBFO12-05U1S1-40F  | 12.19 (40)    |
| HBFO12-05U1S1-50F  | 15.24 (50)    |
| HBFO12-05U1S1-60F  | 18.29 (60)    |
| HBFO12-05U1S1-70F  | 21.34 (70)    |
| HBFO12-05U1S1-80F  | 24.38 (80)    |
| HBFO12-05U1S1-90F  | 27.43 (90)    |
| HBFO12-05U1S1-100F | 30.48 (100)   |

1/2" OD, UL  
1 PAIR 10AWG DC  
2 PAIR SM FIBER



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO12-05U1S2-10F  | 3.05 (10)     |
| HBFO12-05U1S2-20F  | 6.10 (20)     |
| HBFO12-05U1S2-30F  | 9.14 (30)     |
| HBFO12-05U1S2-40F  | 12.19 (40)    |
| HBFO12-05U1S2-50F  | 15.24 (50)    |
| HBFO12-05U1S2-60F  | 18.29 (60)    |
| HBFO12-05U1S2-70F  | 21.34 (70)    |
| HBFO12-05U1S2-80F  | 24.38 (80)    |
| HBFO12-05U1S2-90F  | 27.43 (90)    |
| HBFO12-05U1S2-100F | 30.48 (100)   |

1/2" OD, UL  
1 PAIR 10AWG DC  
2 STRAND SM FIBER



| MODEL NUMBER        | LENGTH m (ft) |
|---------------------|---------------|
| HBFO12-05U1SS2-10F  | 3.05 (10)     |
| HBFO12-05U1SS2-20F  | 6.10 (20)     |
| HBFO12-05U1SS2-30F  | 9.14 (30)     |
| HBFO12-05U1SS2-40F  | 12.19 (40)    |
| HBFO12-05U1SS2-50F  | 15.24 (50)    |
| HBFO12-05U1SS2-60F  | 18.29 (60)    |
| HBFO12-05U1SS2-70F  | 21.34 (70)    |
| HBFO12-05U1SS2-80F  | 24.38 (80)    |
| HBFO12-05U1SS2-90F  | 27.43 (90)    |
| HBFO12-05U1SS2-100F | 30.48 (100)   |

5/8" OD, UL  
1 PAIR 8 AWG DC  
2 PAIR SM FIBER



| MODEL NUMBER        | LENGTH m (ft) |
|---------------------|---------------|
| HBFO58-08U1S2-3F1   | 0.91 (3)      |
| HBFO58-08U1S2-5F1   | 1.52 (5)      |
| HBFO58-08U1S2-6F1   | 1.83 (6)      |
| HBFO58-08U1S2-8F1   | 2.44 (8)      |
| HBFO58-08U1S2-9F1   | 2.74 (9)      |
| HBFO58-08U1S2-10F1  | 3.05 (10)     |
| HBFO58-08U1S2-12F1  | 3.66 (12)     |
| HBFO58-08U1S2-15F1  | 4.57 (15)     |
| HBFO58-08U1S2-20F1  | 6.10 (20)     |
| HBFO58-08U1S2-25F1  | 7.62 (25)     |
| HBFO58-08U1S2-30F1  | 9.14 (30)     |
| HBFO58-08U1S2-40F1  | 12.19 (40)    |
| HBFO58-08U1S2-50F1  | 15.24 (50)    |
| HBFO58-08U1S2-60F1  | 18.29 (60)    |
| HBFO58-08U1S2-70F1  | 21.34 (70)    |
| HBFO58-08U1S2-80F1  | 24.38 (80)    |
| HBFO58-08U1S2-90F1  | 27.43 (90)    |
| HBFO58-08U1S2-100F1 | 30.48 (100)   |
| HBFO58-08U1S2-130F1 | 39.62 (130)   |
| HBFO58-08U1S2-140F1 | 42.67 (140)   |
| HBFO58-08U1S2-160F1 | 48.77 (160)   |
| HBFO58-08U1S2-170F1 | 51.82 (170)   |
| HBFO58-08U1S2-200F1 | 60.96 (200)   |
| HBFO58-08U1S2-230F1 | 70.10 (230)   |
| HBFO58-08U1S2-250F1 | 76.20 (250)   |
| HBFO58-08U1S2-300F1 | 91.44 (300)   |
| HBFO58-08U1S2-400F1 | 121.92 (400)  |

5/8" OD, UL  
1 PAIR 8 AWG DC  
1 PAIR SM FIBER



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1S1-3F   | 0.91 (3)      |
| HBFO58-08U1S1-5F   | 1.52 (5)      |
| HBFO58-08U1S1-6F   | 1.83 (6)      |
| HBFO58-08U1S1-8F   | 2.44 (8)      |
| HBFO58-08U1S1-9F   | 2.74 (9)      |
| HBFO58-08U1S1-10F  | 3.05 (10)     |
| HBFO58-08U1S1-12F  | 3.66 (12)     |
| HBFO58-08U1S1-14F  | 4.27 (14)     |
| HBFO58-08U1S1-15F  | 4.57 (15)     |
| HBFO58-08U1S1-20F  | 6.10 (20)     |
| HBFO58-08U1S1-25F  | 7.62 (25)     |
| HBFO58-08U1S1-30F  | 9.14 (30)     |
| HBFO58-08U1S1-40F  | 12.19 (40)    |
| HBFO58-08U1S1-50F  | 15.24 (50)    |
| HBFO58-08U1S1-60F  | 18.29 (60)    |
| HBFO58-08U1S1-70F  | 21.34 (70)    |
| HBFO58-08U1S1-80F  | 24.38 (80)    |
| HBFO58-08U1S1-90F  | 27.43 (90)    |
| HBFO58-08U1S1-100F | 30.48 (100)   |
| HBFO58-08U1S1-125F | 38.10 (125)   |
| HBFO58-08U1S1-150F | 45.72 (150)   |
| HBFO58-08U1S1-175F | 53.34 (175)   |
| HBFO58-08U1S1-200F | 60.96 (200)   |
| HBFO58-08U1S1-300F | 91.44 (300)   |
| HBFO58-08U1S1-400F | 121.92 (400)  |

5/8" OD, UL  
1 PAIR 8 AWG DC  
2 STRAND SM FIBER



| MODEL NUMBER        | LENGTH m (ft) |
|---------------------|---------------|
| HBFO58-08U1SS210F1  | 3.05 (10)     |
| HBFO58-08U1SS220F1  | 6.10 (20)     |
| HBFO58-08U1SS230F1  | 9.14 (30)     |
| HBFO58-08U1SS240F1  | 12.19 (40)    |
| HBFO58-08U1SS250F1  | 15.24 (50)    |
| HBFO58-08U1SS260F1  | 18.29 (60)    |
| HBFO58-08U1SS270F1  | 21.34 (70)    |
| HBFO58-08U1SS280F1  | 24.38 (80)    |
| HBFO58-08U1SS290F1  | 27.43 (90)    |
| HBFO58-08U1SS2100F1 | 30.48 (100)   |

5/8" OD, UL  
1 PAIR 8 AWG DC  
1 STRAND SM FIBER



| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HBFO58-08U1SS-08F1 | 2.44 (8)      |
| HBFO58-08U1SS-12F1 | 3.66 (12)     |
| HBFO58-08U1SS-15F1 | 4.57 (15)     |
| HBFO58-08U1SS-20F1 | 6.10 (20)     |
| HBFO58-08U1SS-30F1 | 9.14 (30)     |

## HYBRID POWER DIRECT WITH OPTICAL FIBER JUMPERS

### Fiber Only Jumper Assemblies, LC/AOPC Connectors Top, ODC Connectors Bottom

SINGLE-MODE FIBER,  
1 PAIR, ARMORED

| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FOJBF-ON01S-003M | 3 (9.8)       |
| FOJBF-ON01S-005M | 5 (16.4)      |

| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FOJBF-ON01S-010M | 10 (32.8)     |
| FOJBF-ON01S-020M | 20 (65.6)     |



### Fiber Only Jumper Assemblies, LC/Nokia Flexi Boot Connectors Top, ODC Connectors Bottom

SINGLE-MODE FIBER,  
1 PAIR, ARMORED

| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FOJBF-OB01S-003M | 3 (9.8)       |

| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FOJBF-OB01S-005M | 5 (16.4)      |



### Fiber Only Jumper Assemblies, LC/AOPE Connectors Top, ODC Connectors Bottom

SINGLE-MODE FIBER,  
1 PAIR, ARMORED

| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FOJBF-OPE01S-003M | 3 (9.8)       |
| FOJBF-OPE01S-005M | 5 (16.4)      |

| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FOJBF-OPE01S-010M | 10 (32.8)     |
| FOJBF-OPE01S-020M | 20 (65.6)     |



### Fiber Only Jumper Assemblies, LC/AOPA Connectors Top, ODC Connectors Bottom

SINGLE-MODE FIBER,  
1 PAIR, ARMORED

| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FOJBF-OPA01S-003M | 3 (9.8)       |

| MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|
| FOJBF-OPA01S-005M | 5 (16.4)      |



### Fiber Only Jumper Assemblies, LC/R2CT Connectors Top, ODC Connectors Bottom

SINGLE-MODE FIBER,  
1 PAIR, ARMORED

| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FOJBF-OC01S-003M | 3 (9.8)       |
| FOJBF-OC01S-005M | 5 (16.4)      |

| MODEL NUMBER     | LENGTH m (ft) |
|------------------|---------------|
| FOJBF-OC01S-010M | 10 (32.8)     |
| FOJBF-OC01S-020M | 20 (65.6)     |



## HYBRID POWER DIRECT WITH OPTICAL FIBER JUMPERS

3 DC Pairs, 6 F/O Pairs, 6 AWG, 7/8" Single-Mode, DLC to ODC Connectors, with 6AWG DC breakout top

### HYBRID RISER FIXED LENGTH ASSEMBLIES, 3X6, 6AWG

| MODEL NUMBER       | LENGTH m (ft) | MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|--------------------|---------------|
| HB078-13U3S6-50M2  | 50 (164.0)    | HB078-13U3S6-120M2 | 120 (393.7)   |
| HB078-13U3S6-60M2  | 60 (196.8)    | HB078-13U3S6-130M2 | 130 (426.5)   |
| HB078-13U3S6-70M2  | 70 (229.7)    | HB078-13U3S6-140M2 | 140 (459.3)   |
| HB078-13U3S6-80M2  | 80 (262.5)    | HB078-13U3S6-150M2 | 150 (492.1)   |
| HB078-13U3S6-90M2  | 90 (295.3)    | HB078-13U3S6-160M2 | 160 (524.9)   |
| HB078-13U3S6-100M2 | 100 (328.1)   | HB078-13U3S6-170M2 | 170 (557.7)   |
| HB078-13U3S6-110M2 | 110 (360.9)   |                    |               |



6 DC Pairs, 12 F/O Pairs, 6 AWG, 1-1/4" Single Mode, DLC to ODC, with 10AWG DC breakout top

### HYBRID RISER FIXED LENGTH ASSEMBLIES, 6X12, 6AWG

| MODEL NUMBER         | LENGTH m (ft) | MODEL NUMBER         | LENGTH m (ft) |
|----------------------|---------------|----------------------|---------------|
| HB114-13U6S12-10M-01 | 10 (32.8)     | HB114-13U6S12-50M-01 | 50 (164.0)    |
| HB114-13U6S12-20M-01 | 20 (65.6)     | HB114-13U6S12-60M-01 | 60 (196.8)    |
| HB114-13U6S12-30M-01 | 30 (98.4)     | HB114-13U6S12-70M-01 | 70 (229.7)    |
| HB114-13U6S12-40M-01 | 40 (131.2)    | HB114-13U6S12-80M-01 | 80 (262.5)    |



6 DC Pairs, 12 F/O Pairs, 4 AWG, 1-5/8" Single Mode, DLC to ODC, with 6AWG DC breakout top

### HYBRID RISER FIXED LENGTH ASSEMBLIES 6X12, 4AWG

| MODEL NUMBER         | LENGTH m (ft) | MODEL NUMBER          | LENGTH m (ft) |
|----------------------|---------------|-----------------------|---------------|
| HB158-21U6S12-40M-01 | 40 (131.2)    | HB158-21U6S12-90M-01  | 90 (295.3)    |
| HB158-21U6S12-50M-01 | 50 (164.0)    | HB158-21U6S12-100M-01 | 100 (328.1)   |
| HB158-21U6S12-60M-01 | 60 (196.8)    | HB158-21U6S12-110M-01 | 110 (360.9)   |
| HB158-21U6S12-70M-01 | 70 (229.7)    | HB158-21U6S12-120M-01 | 120 (393.7)   |
| HB158-21U6S12-80M-01 | 80 (262.5)    | HB158-21U6S12-130M-01 | 130 (426.5)   |

## HYBRID POWER DIRECT WITH OPTICAL FIBER JUMPERS

Fiber Only Jumper Assemblies, LC/FullAXS Connectors Top, ODC Connectors Bottom

### SINGLE-MODE FIBER, 1 PAIR, ARMORED

| MODEL NUMBER        | LENGTH    | MODEL NUMBER        | LENGTH m (ft) |
|---------------------|-----------|---------------------|---------------|
| HA-FOJBF-OA-01SM-3  | 3 (9.8)   | HA-FOJBF-OA-01SM-20 | 20 (65.6)     |
| HA-FOJBF-OA-01SM-5  | 5 (16.4)  | HA-FOJBF-OA-01SM-30 | 30 (98.4)     |
| HA-FOJBF-OA-01SM-10 | 10 (32.8) |                     |               |



6 DC Pairs, 24 F/O Pairs, 4 AWG, 1-5/8" Single Mode, DLC to ODC, with 6AWG DC breakout top

### HYBRID RISER FIXED LENGTH ASSEMBLIES, 6X24, 4AWG

| MODEL NUMBER      | LENGTH m (ft) | MODEL NUMBER       | LENGTH m (ft) |
|-------------------|---------------|--------------------|---------------|
| HB158-21U6S24-10M | 10 (32.8)     | HB158-21U6S24-80M  | 80 (262.5)    |
| HB158-21U6S24-20M | 20 (65.6)     | HB158-21U6S24-90M  | 90 (295.3)    |
| HB158-21U6S24-30M | 30 (98.4)     | HB158-21U6S24-100M | 100 (328.1)   |
| HB158-21U6S24-40M | 40 (131.2)    | HB158-21U6S24-110M | 110 (360.9)   |
| HB158-21U6S24-50M | 50 (164.0)    | HB158-21U6S24-120M | 120 (393.7)   |
| HB158-21U6S24-60M | 60 (196.8)    | HB158-21U6S24-130M | 130 (426.5)   |
| HB158-21U6S24-70M | 70 (229.7)    |                    |               |



Fiber Only Jumper Assemblies, ODC Plug Top, DLC Connector Bottom

### SINGLE-MODE FIBER, 1 PAIR, ARMORED

| MODEL NUMBER       | LENGTH m (ft) | MODEL NUMBER        | LENGTH m (ft) |
|--------------------|---------------|---------------------|---------------|
| HA-FOJBF-OL-01SM-1 | 1 (3.3)       | HA-FOJBF-OL-01SM-10 | 10 (32.8)     |
| HA-FOJBF-OL-01SM-3 | 3 (9.8)       | HA-FOJBF-OL-01SM-20 | 20 (65.6)     |
| HA-FOJBF-OL-01SM-5 | 5 (16.4)      |                     |               |





## STANDARD POWER WIRE HYBRID FOR JUNCTION BOX INSTALLATIONS

1 DC Pair, 3 F/O Strand, 6 AWG, 5/8" Single-Mode, DLC Connectors

**HYBRIFLEX® HYBRID RISER FIXED LENGTH ASSEMBLIES, 1X3 (STRAND)**

| MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|
| HB058-13U1SS3-150F | 45.72 (150)   |



3 DC Pairs, 6 F/O Pairs, 6 AWG, 7/8" Single-Mode, DLC Connectors

**HYBRIFLEX® HYBRID RISER FIXED LENGTH ASSEMBLIES, 3X6**

| MODEL NUMBER      | LENGTH m (ft) | MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|-------------------|---------------|
| HB078-13U3S6-10J  | 3.05 (10)     | HB078-13U3S6-160J | 48.77 (160)   |
| HB078-13U3S6-20J  | 6.1 (20)      | HB078-13U3S6-170J | 51.82 (170)   |
| HB078-13U3S6-30J  | 9.14 (30)     | HB078-13U3S6-180J | 54.86 (180)   |
| HB078-13U3S6-40J  | 12.19 (40)    | HB078-13U3S6-190J | 57.91 (190)   |
| HB078-13U3S6-50J  | 15.24 (50)    | HB078-13U3S6-200J | 60.96 (200)   |
| HB078-13U3S6-60J  | 18.29 (60)    | HB078-13U3S6-210J | 64.01 (210)   |
| HB078-13U3S6-70J  | 21.34 (70)    | HB078-13U3S6-220J | 67.06 (220)   |
| HB078-13U3S6-80J  | 24.38 (80)    | HB078-13U3S6-230J | 70.10 (230)   |
| HB078-13U3S6-90J  | 27.43 (90)    | HB078-13U3S6-240J | 73.15 (240)   |
| HB078-13U3S6-100J | 30.48 (100)   | HB078-13U3S6-250J | 76.20 (250)   |
| HB078-13U3S6-110J | 33.53 (110)   | HB078-13U3S6-260J | 79.25 (260)   |
| HB078-13U3S6-120J | 36.58 (120)   | HB078-13U3S6-270J | 82.30 (270)   |
| HB078-13U3S6-130J | 39.62 (130)   | HB078-13U3S6-280J | 85.34 (280)   |
| HB078-13U3S6-140J | 42.67 (140)   | HB078-13U3S6-290J | 88.39 (290)   |
| HB078-13U3S6-150J | 45.72 (150)   | HB078-13U3S6-300J | 91.44 (300)   |



3 DC Pairs, 6 F/O Pairs, 4 AWG, 1-1/4" Single-Mode, DLC Connectors

**HYBRIFLEX® HYBRID RISER FIXED LENGTH ASSEMBLIES, 3X6**

| MODEL NUMBER      | LENGTH m (ft) | MODEL NUMBER      | LENGTH m (ft) |
|-------------------|---------------|-------------------|---------------|
| HB114-21U3S6-70J  | 21.30 (70)    | HB114-21U3S6-360J | 109.73 (360)  |
| HB114-21U3S6-200J | 60.96 (200)   | HB114-21U3S6-370J | 112.78 (370)  |
| HB114-21U3S6-210J | 64.01 (210)   | HB114-21U3S6-380J | 115.82 (380)  |
| HB114-21U3S6-220J | 67.06 (220)   | HB114-21U3S6-390J | 118.87 (390)  |
| HB114-21U3S6-230J | 70.10 (230)   | HB114-21U3S6-400J | 121.92 (400)  |
| HB114-21U3S6-240J | 73.15 (240)   | HB114-21U3S6-410J | 124.97 (410)  |
| HB114-21U3S6-250J | 76.20 (250)   | HB114-21U3S6-420J | 128.02 (420)  |
| HB114-21U3S6-260J | 79.25 (260)   | HB114-21U3S6-430J | 131.06 (430)  |
| HB114-21U3S6-270J | 82.30 (270)   | HB114-21U3S6-440J | 134.11 (440)  |
| HB114-21U3S6-280J | 85.34 (280)   | HB114-21U3S6-450J | 137.16 (450)  |
| HB114-21U3S6-290J | 88.39 (290)   | HB114-21U3S6-460J | 140.21 (460)  |
| HB114-21U3S6-300J | 91.44 (300)   | HB114-21U3S6-470J | 143.26 (470)  |
| HB114-21U3S6-310J | 94.49 (310)   | HB114-21U3S6-480J | 146.30 (480)  |
| HB114-21U3S6-320J | 97.54 (320)   | HB114-21U3S6-490J | 149.35 (490)  |
| HB114-21U3S6-330J | 100.58 (330)  | HB114-21U3S6-500J | 152.40 (500)  |
| HB114-21U3S6-340J | 103.63 (340)  | HB114-21U3S6-540J | 164.59 (540)  |
| HB114-21U3S6-350J | 106.68 (350)  |                   |               |



Distribution Box



| DESCRIPTION  | MODEL NUMBER         |
|--|----------------------|
| 3 Pairs DC, 12 Pairs Optical Fiber, for Tower, Pole or Wall Mounting, IP65 | <b>DBOH-3Z6SL-JH</b> |

## STANDARD POWER WIRE HYBRID FOR JUNCTION BOX INSTALLATIONS

6 DC Pairs, 12 F/O Pairs, 6 AWG, 1-1/4" Single-Mode, DLC Connectors

**HYBRIFLEX® HYBRID RISER FIXED LENGTH ASSEMBLIES, 6X12**

| MODEL NUMBER       | LENGTH m (ft) | MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|--------------------|---------------|
| HB114-13U6S12-30J  | 9.14 (30)     | HB114-13U6S12-170J | 51.82 (170)   |
| HB114-13U6S12-40J  | 12.19 (40)    | HB114-13U6S12-180J | 54.86 (180)   |
| HB114-13U6S12-50J  | 15.24 (50)    | HB114-13U6S12-190J | 57.91 (190)   |
| HB114-13U6S12-60J  | 18.29 (60)    | HB114-13U6S12-200J | 60.96 (200)   |
| HB114-13U6S12-70J  | 21.34 (70)    | HB114-13U6S12-210J | 64.01 (210)   |
| HB114-13U6S12-80J  | 24.38 (80)    | HB114-13U6S12-220J | 67.06 (220)   |
| HB114-13U6S12-90J  | 27.43 (90)    | HB114-13U6S12-230J | 70.10 (230)   |
| HB114-13U6S12-100J | 30.48 (100)   | HB114-13U6S12-240J | 73.15 (240)   |
| HB114-13U6S12-110J | 33.53 (110)   | HB114-13U6S12-250J | 76.20 (250)   |
| HB114-13U6S12-120J | 36.58 (120)   | HB114-13U6S12-260J | 79.25 (260)   |
| HB114-13U6S12-130J | 39.62 (130)   | HB114-13U6S12-270J | 82.30 (270)   |
| HB114-13U6S12-140J | 42.67 (140)   | HB114-13U6S12-280J | 85.34 (280)   |
| HB114-13U6S12-150J | 45.72 (150)   | HB114-13U6S12-290J | 88.39 (290)   |
| HB114-13U6S12-160J | 48.77 (160)   | HB114-13U6S12-300J | 91.44 (300)   |

6 DC Pairs, 12 F/O Pairs, 4 AWG, 1-5/8" Single-Mode, DLC Connectors

**HYBRIFLEX® HYBRID RISER FIXED LENGTH ASSEMBLIES, 6X12**

| MODEL NUMBER       | LENGTH m (ft) | MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|--------------------|---------------|
| HB158-21U6S12-200J | 60.96 (200)   | HB158-21U6S12-360J | 109.73 (360)  |
| HB158-21U6S12-210J | 64.01 (210)   | HB158-21U6S12-370J | 112.78 (370)  |
| HB158-21U6S12-220J | 67.06 (220)   | HB158-21U6S12-380J | 115.82 (380)  |
| HB158-21U6S12-230J | 70.10 (230)   | HB158-21U6S12-390J | 118.87 (390)  |
| HB158-21U6S12-240J | 73.15 (240)   | HB158-21U6S12-400J | 121.92 (400)  |
| HB158-21U6S12-250J | 76.20 (250)   | HB158-21U6S12-410J | 124.97 (410)  |
| HB158-21U6S12-260J | 79.25 (260)   | HB158-21U6S12-420J | 128.02 (420)  |
| HB158-21U6S12-270J | 82.30 (270)   | HB158-21U6S12-430J | 131.06 (430)  |
| HB158-21U6S12-280J | 85.34 (280)   | HB158-21U6S12-440J | 134.11 (440)  |
| HB158-21U6S12-290J | 88.39 (290)   | HB158-21U6S12-450J | 137.16 (450)  |
| HB158-21U6S12-300J | 91.44 (300)   | HB158-21U6S12-460J | 140.21 (460)  |
| HB158-21U6S12-310J | 94.49 (310)   | HB158-21U6S12-470J | 143.26 (470)  |
| HB158-21U6S12-320J | 97.54 (320)   | HB158-21U6S12-480J | 146.30 (480)  |
| HB158-21U6S12-330J | 100.58 (330)  | HB158-21U6S12-490J | 149.35 (490)  |
| HB158-21U6S12-340J | 103.63 (340)  | HB158-21U6S12-500J | 152.40 (500)  |
| HB158-21U6S12-350J | 106.68 (350)  | HB158-21U6S12-540J | 164.59 (540)  |

# HYBRIFLEX® PLUG-AND-PLAY SOLUTION FOR RAPID DEPLOYMENTS & HIGH-BANDWIDTH APPLICATIONS

**IN-BUILDING APPLICATIONS**

Optimize indoor and cross-campus connectivity

HYBRIFLEX solutions for in-building applications target requirements for high-density, mission-critical and cross-campus connectivity in active DAS, distributed radio system (DRS) and small cell deployments.

Each HYBRIFLEX solution combines high-bandwidth optical fibers with specially selected, enhanced features to provide a fully converged communications network that supports all wired

and wireless technologies and frequencies, and is optimized for Radio over Fiber (RoF) applications.

The futureproof, converged network makes it easy to deliver multi-operator wireless services up to 6 GHz and beyond, including those that use PMR, UHF, TETRA, wireless LAN, Wi-Fi, Z-Wave IoT, RFID, 5G and other wireless technologies.

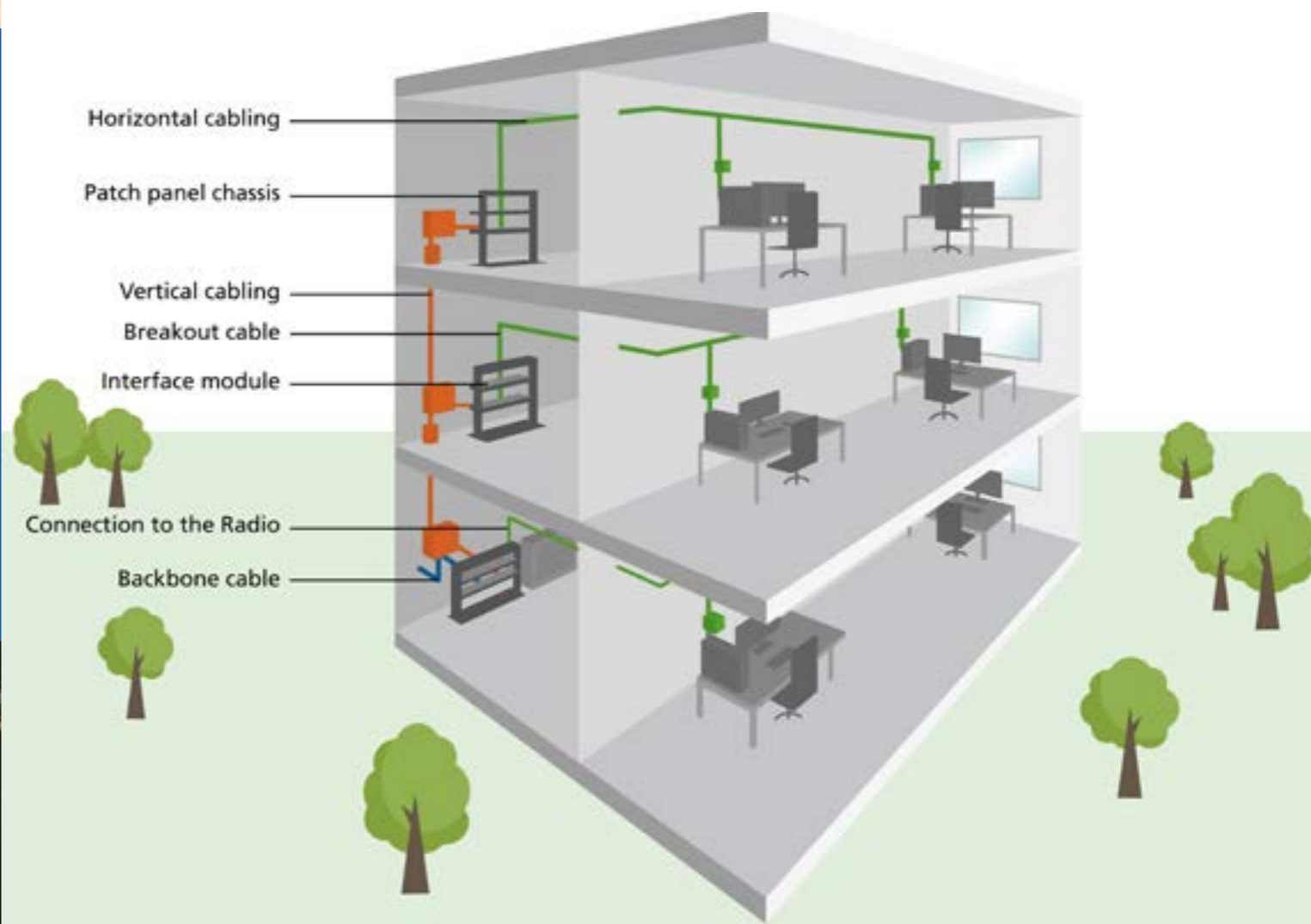
## MINIMIZE THE TIME AND SKILLS REQUIRED TO INSTALL, TERMINATE AND TEST HIGH BANDWIDTH OPTICAL FIBER NETWORKS IN BUILDINGS

The HYBRIFLEX plug-and-play connectivity solution is based on a set of products which have been pre-terminated in our highly controlled factory environment. The necessary on-site installation skills and time required are significantly reduced due to the elimination of fusion splicing and testing.

The solution is based on the most future-proof optical fiber (single mode) which ensures that the most bandwidth intensive applications can be supported not only today but also into the future. The evolution from traditional two fiber transmission to single fiber Bi-directional (BiDi) and onwards to Dense Wavelength Division Multiplexing (DWDM) technology as bandwidth demands increase is fully supported.

The solution features factory installed, high-density Multi Fiber Push On (MPO) connectors that enable high density connections to be easily routed through confined ducts and cable routes within buildings.

All of the connections within the HYBRIFLEX plug-and-play solution are based on Angled Physical Contact (APC) interfaces which minimize back reflection and ensure very low losses to deliver in even the most technically challenging application, Radio over Fiber (RoF).





## HYBRIFLEX PLUG-AND-PLAY SOLUTION

### FOR RAPID DEPLOYMENTS & HIGH-BANDWIDTH APPLICATIONS

Fiber Optic Backbone Cable, 12 x single mode fibers, MTP12(f) to MTP12(f), indoor, LSZH

**FIBER ASSEMBLIES, PRE-TERMINATED, MTP12 FEMALE CONNECTORS BOTH ENDS, INDOOR**

| MODEL NUMBER    | LENGTH m (ft) | MODEL NUMBER    | LENGTH m (ft) |
|-----------------|---------------|-----------------|---------------|
| FONF-FF06S-010M | 10 (32.8)     | FONF-FF06S-110M | 110 (360.9)   |
| FONF-FF06S-020M | 20 (65.6)     | FONF-FF06S-120M | 120 (393.7)   |
| FONF-FF06S-030M | 30 (98.4)     | FONF-FF06S-130M | 130 (426.5)   |
| FONF-FF06S-040M | 40 (131.2)    | FONF-FF06S-140M | 140 (459.3)   |
| FONF-FF06S-050M | 50 (164.0)    | FONF-FF06S-150M | 150 (492.1)   |
| FONF-FF06S-060M | 60 (196.8)    | FONF-FF06S-160M | 160 (524.9)   |
| FONF-FF06S-070M | 70 (229.7)    | FONF-FF06S-170M | 170 (557.7)   |
| FONF-FF06S-080M | 80 (262.5)    | FONF-FF06S-180M | 180 (590.5)   |
| FONF-FF06S-090M | 90 (295.3)    | FONF-FF06S-190M | 190 (623.4)   |
| FONF-FF06S-100M | 100 (328.1)   | FONF-FF06S-200M | 200 (656.2)   |

Fiber Optic Backbone Cable, 24 x single mode fibers, 2 x MTP12(f) to 2 x MTP12(f), indoor, LSZH

**FIBER ASSEMBLIES, PRE-TERMINATED, 2 X MTP12 FEMALE CONNECTORS BOTH ENDS, INDOOR**

| MODEL NUMBER       | LENGTH m (ft) | MODEL NUMBER       | LENGTH m (ft) |
|--------------------|---------------|--------------------|---------------|
| FONF-FF12S-010M-01 | 10 (32.8)     | FONF-FF12S-110M-01 | 110 (360.9)   |
| FONF-FF12S-020M-01 | 20 (65.6)     | FONF-FF12S-120M-01 | 120 (393.7)   |
| FONF-FF12S-030M-01 | 30 (98.4)     | FONF-FF12S-130M-01 | 130 (426.5)   |
| FONF-FF12S-040M-01 | 40 (131.2)    | FONF-FF12S-140M-01 | 140 (459.3)   |
| FONF-FF12S-050M-01 | 50 (164.0)    | FONF-FF12S-150M-01 | 150 (492.1)   |
| FONF-FF12S-060M-01 | 60 (196.8)    | FONF-FF12S-160M-01 | 160 (524.9)   |
| FONF-FF12S-070M-01 | 70 (229.7)    | FONF-FF12S-170M-01 | 170 (557.7)   |
| FONF-FF12S-080M-01 | 80 (262.5)    | FONF-FF12S-180M-01 | 180 (590.5)   |
| FONF-FF12S-090M-01 | 90 (295.3)    | FONF-FF12S-190M-01 | 190 (623.4)   |
| FONF-FF12S-100M-01 | 100 (328.1)   | FONF-FF12S-200M-01 | 200 (656.2)   |

Fiber Optic Branch Cable, 12 x single mode fibers, MTP12(m) to MTP10(m) & 2 x SC/APC, indoor, LSZH

**FIBER ASSEMBLIES, PRE-TERMINATED WITH MTP12 MALE TO MTP10 MALE AND 2 X SC/APC SIMPLEX CONNECTORS, INDOOR**

| MODEL NUMBER    | LENGTH m (ft) | MODEL NUMBER    | LENGTH m (ft) |
|-----------------|---------------|-----------------|---------------|
| FONF-ME06S-001M | 1 (3.3)       | FONF-ME06S-006M | 6 (19.7)      |
| FONF-ME06S-002M | 2 (6.6)       | FONF-ME06S-007M | 7 (23.0)      |
| FONF-ME06S-003M | 3 (9.8)       | FONF-ME06S-008M | 8 (26.2)      |
| FONF-ME06S-004M | 4 (13.1)      | FONF-ME06S-009M | 9 (29.5)      |
| FONF-ME06S-005M | 5 (16.4)      | FONF-ME06S-010M | 10 (32.8)     |

Fiber Optic Span Connect Cable, 12 x single mode fibers, MTP12(m) to MTP12(m), indoor, LSZH

**FIBER ASSEMBLIES, MTP12 MALE CONNECTORS BOTH ENDS, INDOOR**

| MODEL NUMBER    | LENGTH m (ft) | MODEL NUMBER    | LENGTH m (ft) |
|-----------------|---------------|-----------------|---------------|
| FONF-MM06S-001M | 1 (3.3)       | FONF-MM06S-006M | 6 (19.7)      |
| FONF-MM06S-002M | 2 (6.6)       | FONF-MM06S-007M | 7 (23.0)      |
| FONF-MM06S-003M | 3 (9.8)       | FONF-MM06S-008M | 8 (26.2)      |
| FONF-MM06S-004M | 4 (13.1)      | FONF-MM06S-009M | 9 (29.5)      |
| FONF-MM06S-005M | 5 (16.4)      | FONF-MM06S-010M | 10 (32.8)     |

## HYBRIFLEX PLUG-AND-PLAY SOLUTION

### FOR RAPID DEPLOYMENTS & HIGH-BANDWIDTH APPLICATIONS

Fiber Optic Breakout Cable, 12 x single mode fibers, MTP12(m) to 12 x SC/APC, indoor, LSZH

**FIBER ASSEMBLIES, MTP12 MALE CONNECTOR TO 12 X SC/APC CONNECTORS, INDOOR**

| MODEL NUMBER    | LENGTH m (ft) | MODEL NUMBER    | LENGTH m (ft) |
|-----------------|---------------|-----------------|---------------|
| FONF-MU06S-001M | 1 (3.3)       | FONF-MU06S-006M | 6 (19.7)      |
| FONF-MU06S-002M | 2 (6.6)       | FONF-MU06S-007M | 7 (23.0)      |
| FONF-MU06S-003M | 3 (9.8)       | FONF-MU06S-008M | 8 (26.2)      |
| FONF-MU06S-004M | 4 (13.1)      | FONF-MU06S-009M | 9 (29.5)      |
| FONF-MU06S-005M | 5 (16.4)      | FONF-MU06S-010M | 10 (32.8)     |

Fiber Optic Patch Panel, 19", Rack Mounted, Pre-terminated

**PATCH PANEL, 1U FOR PLUG & PLAY SOLUTION UP TO 96 LC/APC CONNECTORS**

| MODEL NUMBER        | DESCRIPTION   |
|---------------------|---|
| PPIF-0Z48Z-1U-YC    | Chassis, Rack Mount G4-1U (19"), up to 4 MTP-LC Interface Modules |
| PPIF-0Z12SL-MLAP-YC | Interface module, 2 x MTP12(m) to 24 x LC/APC, SMF                |

Adapters

**ADAPTERS FOR INDOOR PLUG & PLAY CONNECTIONS**

| MODEL NUMBER  | TYPE    | FIBERS   | MOUNT          |
|---------------|---------|----------|----------------|
| HA-AD-SASA-40 | SC/APC  | 1        | Snap fit       |
| HA-AD-MM-40   | MTP/MPO | Up to 12 | Snap fit/loose |

Fiber Wall Outlet, Indoor, Surface Mount Box Style

**WALL OUTLET FOR INDOOR PLUG & PLAY CONNECTIONS**

| MODEL NUMBER        | PORTS | ADAPTERS | INCLUDED |
|---------------------|-------|----------|----------|
| WOIF-0Z01SS-APPD-YC | 1     | SC/APC   | Adapters |
| WOIF-0Z02SS-APPD-YC | 2     | SC/APC   | Adapters |

Fiber Optic Patch Cable, Simplex, 1 x single mode fiber, LC/APC to SC/APC, indoor, LSZH

**FIBER ASSEMBLIES, PATCH CORDS, INDOOR**

| MODEL NUMBER    | LENGTH m (ft) | MODEL NUMBER    | LENGTH m (ft) |
|-----------------|---------------|-----------------|---------------|
| FOPC-LU1SS-001M | 1 (3.3)       | FOPC-LU1SS-006M | 6 (19.7)      |
| FOPC-LU1SS-002M | 2 (6.6)       | FOPC-LU1SS-007M | 7 (23.0)      |
| FOPC-LU1SS-003M | 3 (9.8)       | FOPC-LU1SS-008M | 8 (26.2)      |
| FOPC-LU1SS-004M | 4 (13.1)      | FOPC-LU1SS-009M | 9 (29.5)      |
| FOPC-LU1SS-005M | 5 (16.4)      | FOPC-LU1SS-010M | 10 (32.8)     |

Fiber Optic Patch Cable, Simplex, 1 x single mode fiber, SC/APC to SC/APC, indoor, LSZH

**FIBER ASSEMBLIES, PATCH CORDS, INDOOR**

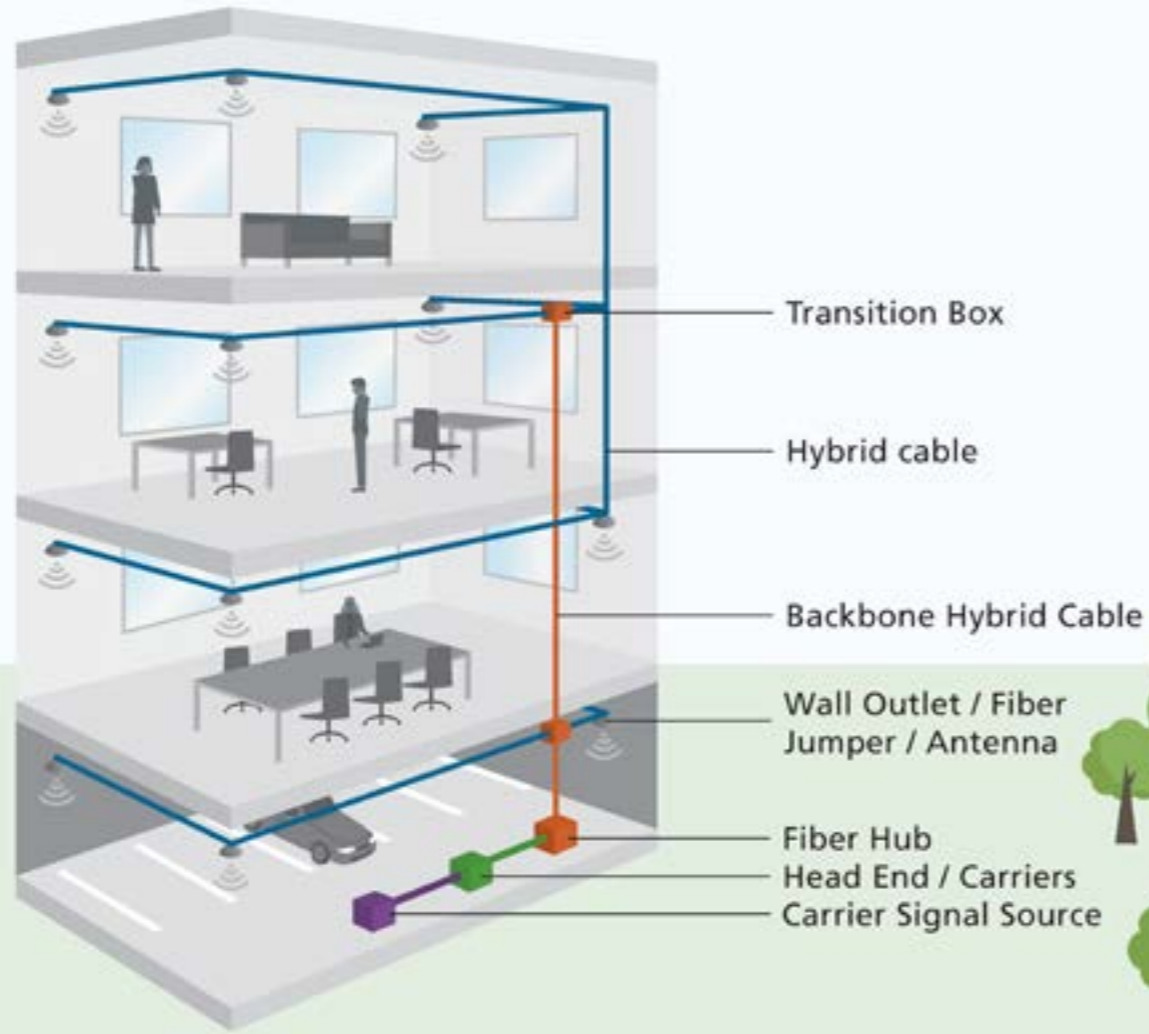
| MODEL NUMBER    | LENGTH m (ft) | MODEL NUMBER    | LENGTH m (ft) |
|-----------------|---------------|-----------------|---------------|
| FOPC-UU1SS-001M | 1 (3.3)       | FOPC-UU1SS-006M | 6 (19.7)      |
| FOPC-UU1SS-002M | 2 (6.6)       | FOPC-UU1SS-007M | 7 (23.0)      |
| FOPC-UU1SS-003M | 3 (9.8)       | FOPC-UU1SS-008M | 8 (26.2)      |
| FOPC-UU1SS-004M | 4 (13.1)      | FOPC-UU1SS-009M | 9 (29.5)      |
| FOPC-UU1SS-005M | 5 (16.4)      | FOPC-UU1SS-010M | 10 (32.8)     |

## HYBRIFLEX HYBRID SOLUTION FOR MISSION CRITICAL APPLICATIONS

### DELIVER MISSION-CRITICAL WIRELESS SERVICES AS WELL AS TRADITIONAL ETHERNET SERVICES

The HYBRIFLEX mission-critical connectivity solution eliminates the need to deploy and maintain a separate in-building or cross-campus network to support your highest priority applications. The hybrid cables enable all remotely connected devices to be protected by a single uninterruptible power supply (UPS). This solution not only provides a highly reliable data connection but also secures the power needed by remote devices regardless if it is a mission-critical application or a traditional Ethernet services. The solution is designed around fully screened cables to allow their deployment in data or power cable ducts providing maximum system design flexibility and greater options to achieve full system redundancy through diverse routing.

The solution can be fusion-sliced on site, and is optimized to minimize the time, cost, and disruption required to bring fast, reliable connectivity to mission-critical applications, including those that rely on data from wireless access points, CCTV cameras, IP phones and other remote IoT devices.



## HYBRIFLEX HYBRID SOLUTION FOR MISSION CRITICAL APPLICATIONS

1 DC Pair, 12 F/O Pairs, 4mm<sup>2</sup>, 1/2", Single Mode Loose Tube, LSZH

### HYBRID, LSZH OUTER SHEATH AND DRY STRUCTURE, IN-BUILDING BACKBONE & OUTDOOR APPLICATIONS

| MODEL NUMBER      | SCREEN/SHIELD         |
|-------------------|-----------------------|
| HB012-S-04U1-S12F | Corrugated Steel Tape |
| HB012-B-04U1-S12F | None                  |

1 DC Pair, 12 F/O Pairs, 1.5mm<sup>2</sup>, 1/2", Single Mode Loose Tube, LSZH

### HYBRID, LSZH OUTER SHEATH AND DRY STRUCTURE, IN-BUILDING HORIZONTAL & OUTDOOR APPLICATIONS

| MODEL NUMBER      | SCREEN/SHIELD         |
|-------------------|-----------------------|
| HB012-S-01U1-S12F | Corrugated Steel Tape |
| HB012-B-01U1-S12F | None                  |

1 DC Pair, 1 F/O Pair, 1.5mm<sup>2</sup>, 1/2", Single Mode Bow-Type, LSZH

### HYBRID, LSZH OUTER SHEATH AND BOW-TYPE SIMPLEX FIBER WITH STEEL WIRE STRENGTH MEMBERS, IN-BUILDING HORIZONTAL & OUTDOOR APPLICATIONS

| MODEL NUMBER     | SCREEN/SHIELD |
|------------------|---------------|
| HB014-S-01U1-S1J | None          |





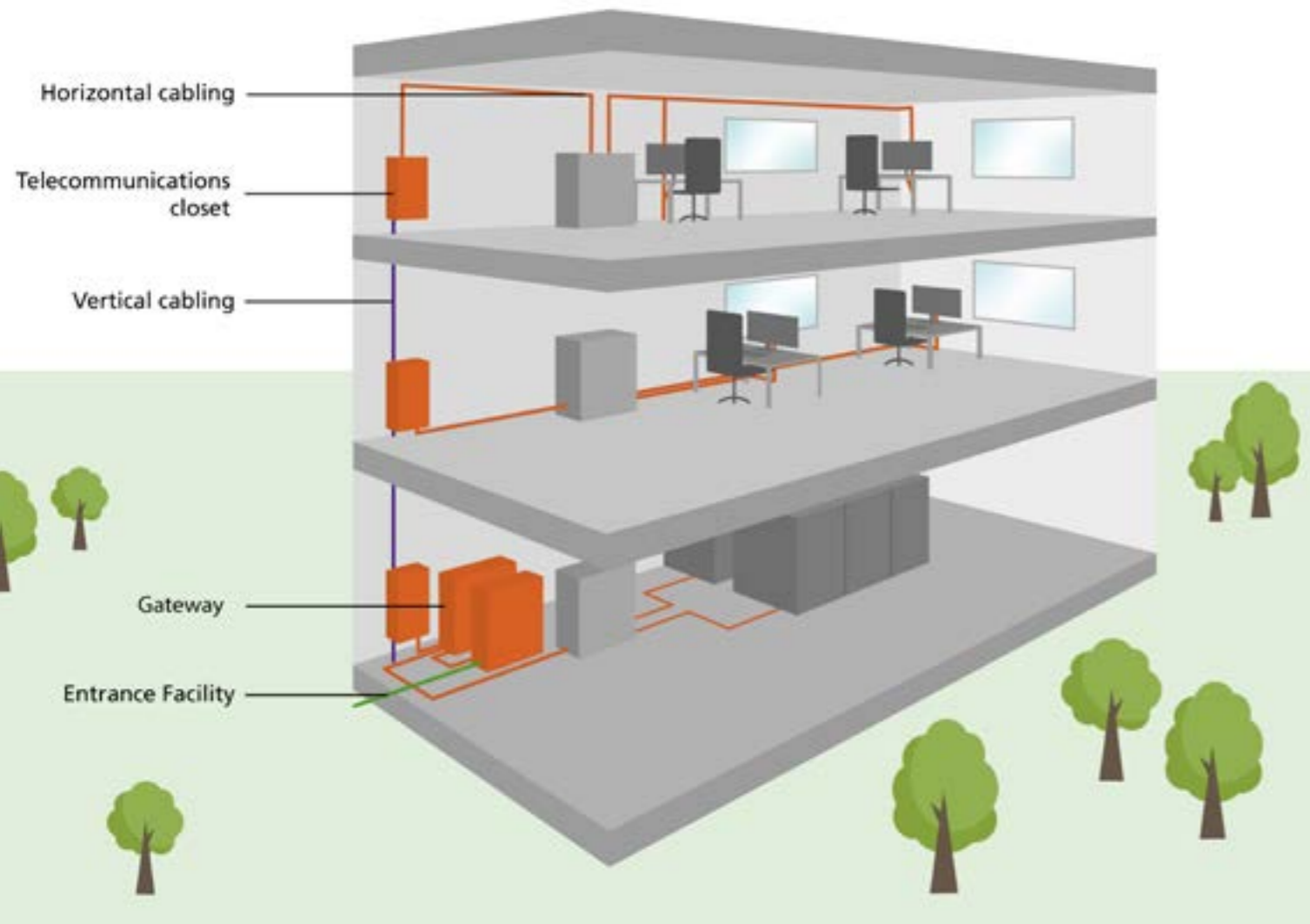
## HYBRIFLEX CONVENTIONAL SOLUTION FOR HIGH BANDWIDTH FUTURE PROOF APPLICATIONS

### EXTEND RELIABLE, HIGH-BANDWIDTH CONNECTIVITY

This solution is based on traditional fiber optic installation and testing practices. However, the individual elements have been chosen to ensure the most future-proof infrastructure is installed with the optimum performance and cost.

The solution is based on the most future-proof optical fiber (single mode) which ensures that the most bandwidth intensive applications can be supported not only today but also into the future. The evolution from traditional two fiber transmission to single fiber Bi-directional (BiDi) and onwards to Dense Wavelength Division Multiplexing (DWDM) technology as bandwidth demands increase is fully supported.

All of the connections within the HYBRIFLEX conventional solutions are based on Angled Physical Contact (APC) interfaces which minimize back reflection and ensure very low losses to deliver in even the most technically challenging application, Radio over Fiber (RoF).



## HYBRIFLEX CONVENTIONAL SOLUTION FOR HIGH BANDWIDTH FUTURE PROOF APPLICATIONS

Fiber Optic Cable, Single Mode Fibers, Indoor/Outdoor, LSZH

### MULTI-PURPOSE TIGHT BUFFERED BACKBONE/HORIZONTAL DISTRIBUTION CABLE

| MODEL NUMBER      | FIBERS | SUBUNITS | FIBER/SUBUNIT |
|-------------------|--------|----------|---------------|
| FONT-12x01SA1-F00 | 12     | 0        | 12            |
| FONT-24x01SA1-F00 | 24     | 0        | 24            |
| FONT-04x12SA1-F00 | 48     | 4        | 12            |
| FONT-08x12SA1-F00 | 96     | 8        | 12            |
| FONT-12x12SA1-F00 | 144    | 12       | 12            |

Fiber Optic Drop Cable, Single Mode Fibers, LSZH

### COMPACT DROP CABLES

| MODEL NUMBER      | FIBERS | TYPE    |
|-------------------|--------|---------|
| FOGT-01x02SA2-F04 | 2      | Indoor  |
| FOGT-01x02SA2-J00 | 2      | Outdoor |

Fiber Optic Patch Panel, 19", Rack Mounted, Fusion spliced

### 1U FOR FUSION SPLICING UP TO 24 SC/APC CONNECTORS

| MODEL NUMBER      | INCLUDES                                       |
|-------------------|--|
| PPIF-0Z12SP-OS-YC | Splice trays & 24 x SC/APC adapters & pigtails |

Fiber Optic Distribution Boxes, Indoor/Outdoor, Splice & Patch, inc. adapters & pigtails

### SPLICE AND PATCH TERMINATION POINT FOR FIBER CABLES WHICH ARE FUSION SPLICED SITE

| MODEL NUMBER        | PORTS | CONNECTORS | INCLUDED            |
|---------------------|-------|------------|---------------------|
| SBIF-0Z6SS-APAP-YC  | 12    | SC/APC     | Adapters & pigtails |
| SBIF-0Z12SS-APAP-YC | 24    | SC/APC     | Adapters & pigtails |
| SBIF-0Z24SS-APAP-YC | 48    | SC/APC     | Adapters & pigtails |

Fiber Distribution Boxes, Indoor/Outdoor, Splice only

### SPLICE ONLY TERMINATION BOX

| MODEL NUMBER     | CORES |
|------------------|-------|
| SBIF-0Z12Z-OS-YC | 24    |

Fiber Wall Outlet, Indoor, Surface Mount Box Style

### WALL OUTLET FOR FUSION SPLICED CONNECTIONS

| MODEL NUMBER        | PORTS | ADAPTERS | INCLUDED            |
|---------------------|-------|----------|---------------------|
| WOIF-0Z02SS-APMW-YC | 2     | SC/APC   | Adapters & pigtails |
| WOIF-0Z04SS-APMW-YC | 4     | SC/APC   | Adapters & pigtails |

Fiber Optic Pig Tail, 1 x Single Mode Fiber, SC/APC, 1m, LSZH

### 900um TIGHT BUFFERED FIBER WITH SC/APC CONNECTOR ON ONE END

| MODEL NUMBER    | LENGTH M (FT) |
|-----------------|---------------|
| FOPC-U01SS-001M | 1 (3.3)       |
| FOPC-U01SS-002M | 2 (6.6)       |
| FOPC-U01SS-003M | 3 (9.8)       |

## IN-BUILDING APPLICATIONS DISTRIBUTION AND ACCESSORIES

### IN-BUILDING ACCESSORY MATRIX

| MODEL NUMBER               | PLUG & PLAY | MISSION CRITICAL | CONVENT. SOLUTION | DESCRIPTION   |
|----------------------------|-------------|------------------|-------------------|---|
| <b>PATCH PANELS</b>        |             |                  |                   |   |
| PPIF-0Z48Z-1U-YC           | x           |                  |                   | Patch panel chassis, 1U x 19" for 4 interface modules with p/c management               |
| PPIF-0Z12L-MLAP-YC         | x           |                  |                   | Interface module, 2 x MTP12(m) to 12 x DLC/APC, OS2                                     |
| <b>DISTRIBUTION BOXES</b>  |             |                  |                   |   |
| SBOH-4Z12SL-OS-JH          |             | x                |                   | Transition box, 24 splice, 8 x DC   |
| SBIF-0Z06Z-OS-YC           |             | x                | x                 | Fiber dist. terminal, indoor, 12 fiber, splice only                                     |
| SBIF-0Z12Z-OS-YC           |             | x                | x                 | Fiber dist. terminal, indoor, 24 fiber, splice only                                     |
| SBIF-0Z02SS-APAP-YC        |             | x                | x                 | Fiber dist. box, indoor/outdoor, IP65, (ABS), 4 port with SC/APC adapters & pigtails    |
| SBIF-0Z04SS-APAP-YC        |             | x                | x                 | Fiber dist. box, indoor/outdoor, IP65, (ABS), 8 port with SC/APC adapters & pigtails    |
| SBIF-0Z06SS-APAP-YC        | x           | x                | x                 | Fiber dist. box, indoor/outdoor, IP65, (ABS), 12 port with SC/APC adapters & pigtails   |
| SBIF-0Z12SS-APAP-YC        |             | x                | x                 | Fiber dist. box, indoor/outdoor, IP65, (ABS), 24 port with SC/APC adapters & pigtails   |
| SBIF-0Z24SS-APAP-YC        |             |                  | x                 | Fiber dist. box, indoor/outdoor, IP65, (ABS), 48 port with SC/APC adapters & pigtails   |
| SBIF-0Z06SS-APMP-YC        |             | x                | x                 | Fiber dist. box, indoor/outdoor, IP65, (metal), 12 port with SC/APC adapters & pigtails |
| SBIF-0Z12SS-APMP-YC        |             | x                | x                 | Fiber dist. box, indoor/outdoor, IP65, (metal), 24 port with SC/APC adapters & pigtails |
| SBIF-0Z24SS-APMP-YC        |             |                  | x                 | Fiber dist. box, indoor/outdoor, IP65, (metal), 48 port with SC/APC adapters & pigtails |
| SBIF-0Z36SS-APMP-YC        |             |                  | x                 | Fiber dist. box, indoor/outdoor, IP65, (metal), 72 port with SC/APC adapters & pigtails |
| SBIF-0Z48SS-APMP-YC        |             |                  | x                 | Fiber dist. box, indoor/outdoor, IP65, (metal), 96 port with SC/APC adapters & pigtails |
| <b>WALL OUTLETS</b>        |             |                  |                   |   |
| WOIF-0Z01SS-APC-YC         |             | x                | x                 | Wall outlet (flush mount), 1 port   |
| WOIF-0Z01SS-APPD-YC        | x           | x                | x                 | Wall outlet (flush mount), 1 port with 1 x SC/APC adapter                               |
| WOIF-0Z02SS-APPD-YC        | x           | x                | x                 | Wall outlet (flush mount), 2 port with 2 x SC/APC adapter                               |
| WOIF-0Z02SS-APMW-YC        |             | x                | x                 | Wall outlet (surface mount), 2 port with SC/APC adapters & pigtails                     |
| WOIF-0Z04SS-APMW-YC        |             | x                | x                 | Wall outlet (surface mount), 4 port with SC/APC adapters & pigtails                     |
| <b>ADAPTERS &amp; TOOL</b> |             |                  |                   |   |
| HA-AD-SASA-40              | x           | x                | x                 | Adapter, SC/APC, simplex  |
| HA-AD-MM-40                | x           |                  |                   | Adapter, MTP  |
| TRIM-SETH12-001            |             | x                |                   | Armor Removal Tool for HB012 1/2" cable   |

## IN-BUILDING APPLICATIONS DISTRIBUTION AND ACCESSORIES

### Fiber Distribution Boxes, Indoor, Metal

#### DISTRIBUTION BOX WITH ADAPTERS



| MODEL NUMBER        | PORTS | CONNECTORS | INCLUDED |
|---------------------|-------|------------|----------|
| SBIF-0Z06SS-APCM-YC | 12    | SC/APC     | adapters |
| SBIF-0Z12SS-APCM-YC | 24    | SC/APC     | adapters |
| SBIF-0Z24SS-APCM-YC | 48    | SC/APC     | adapters |
| SBIF-0Z36SS-APCM-YC | 72    | SC/APC     | adapters |
| SBIF-0Z48SS-APCM-YC | 96    | SC/APC     | adapters |

### Fiber Distribution Boxes, Indoor, Metal

#### DISTRIBUTION BOX WITH ADAPTERS AND PIGTAILS

| MODEL NUMBER        | PORTS | CONNECTORS | INCLUDED            |
|---------------------|-------|------------|---------------------|
| SBIF-0Z06SS-APMP-YC | 12    | SC/APC     | adapters & pigtails |
| SBIF-0Z12SS-APMP-YC | 24    | SC/APC     | adapters & pigtails |
| SBIF-0Z24SS-APMP-YC | 48    | SC/APC     | adapters & pigtails |
| SBIF-0Z36SS-APMP-YC | 72    | SC/APC     | adapters & pigtails |
| SBIF-0Z48SS-APMP-YC | 96    | SC/APC     | adapters & pigtails |

### Fiber Distribution Boxes, Indoor, ABS Plastic

#### DISTRIBUTION BOX WITH ADAPTERS

| MODEL NUMBER        | PORTS | CONNECTORS | INCLUDED |
|---------------------|-------|------------|----------|
| SBIF-0Z02SS-APCA-YC | 4     | SC/APC     | adapters |
| SBIF-0Z04SS-APCA-YC | 8     | SC/APC     | adapters |
| SBIF-0Z06SS-APCA-YC | 12    | SC/APC     | adapters |
| SBIF-0Z12SS-APCA-YC | 24    | SC/APC     | adapters |
| SBIF-0Z24SS-APCA-YC | 48    | SC/APC     | adapters |



### Fiber Distribution Boxes, Indoor, ABS Plastic

#### DISTRIBUTION BOX WITH ADAPTERS AND PIGTAILS

| MODEL NUMBER        | PORTS | CONNECTORS | INCLUDED            |
|---------------------|-------|------------|---------------------|
| SBIF-0Z02SS-APAP-YC | 4     | SC/APC     | adapters & pigtails |
| SBIF-0Z04SS-APAP-YC | 8     | SC/APC     | adapters & pigtails |
| SBIF-0Z06SS-APAP-YC | 12    | SC/APC     | adapters & pigtails |
| SBIF-0Z12SS-APAP-YC | 24    | SC/APC     | adapters & pigtails |
| SBIF-0Z24SS-APAP-YC | 48    | SC/APC     | adapters & pigtails |





## IN-BUILDING APPLICATIONS DISTRIBUTION AND ACCESSORIES

Fiber Distribution Boxes, Indoor, Polycarbonate

**OPTICAL FIBER CABLE  
TERMINAL BOX,  
STACKED SPLICE TRAY,  
PIGTAIL TYPE**

| MODEL NUMBER     | CORES |
|------------------|-------|
| SBIF-0Z06Z-OS-YC | 12    |
| SBIF-0Z12Z-OS-YC | 24    |



Fiber Wall Outlet, Indoor, Flush Mount

**WALL OUTLET,  
SUITABLE FOR THE  
INDOOR CABLE  
TERMINATION, FIXING  
AND FIBER PIGTAIL  
SPLICING IN BUILDING**

| MODEL NUMBER        | PORTS | ADAPTERS | INCLUDED |
|---------------------|-------|----------|----------|
| WOIF-0Z01SS-APC-YC  | 1     | -        | -        |
| WOIF-0Z01SS-APPD-YC | 1     | SC/APC   | Pigtail  |
| WOIF-0Z02SS-APPD-YC | 2     | SC/APC   | Pigtails |

Fiber Wall Outlet, Indoor, Surface Mount Box Style

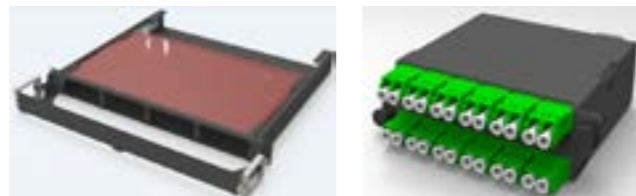
**WALL OUTLET,  
SUITABLE FOR THE  
INDOOR CABLE  
TERMINATION, FIXING  
AND FIBER PIGTAIL  
SPLICING IN BUILDING**

| MODEL NUMBER        | PORTS | ADAPTERS | INCLUDED |
|---------------------|-------|----------|----------|
| WOIF-0Z02SS-APMW-YC | 2     | SC/APC   | Pigtails |
| WOIF-0Z04SS-APMW-YC | 4     | SC/APC   | Pigtails |

Patch Panels

**UP TO FOUR MTP  
INTERFACE MODULES,  
1U (19") RACK MOUNT,  
PATCH CORD  
MANAGEMENT, FULL  
DENSITY OF THE  
PATCHING FIELD (96  
FIBERS IN 1U)**

| MODEL NUMBER        | DESCRIPTION   |
|---------------------|---|
| PPIF-0Z48Z-1U-YC    | Chassis, Rack Mount G4-1U (19"), up to 4 MTP-LC Interface Modules |
| PPIF-0Z12SL-MLAP-YC | Interface module, 2 x MTP12(m) to 24 x LC/APC, SMF                |



Adapters

**HIGH PRECISION, LOW  
INSERTION LOSS, HIGH  
RETURN LOSS &  
EXCELLENT STABILITY  
FOR ROF (RADIO OVER  
FIBER) APPLICATIONS**

| MODEL NUMBER  | TYPE    | FIBERS   | MATERIAL       |
|---------------|---------|----------|----------------|
| HA-AD-SASA-40 | SC/APC  | 1        | Polyetherimide |
| HA-AD-MM-40   | MTP/MPO | Up to 12 | Polyetherimide |

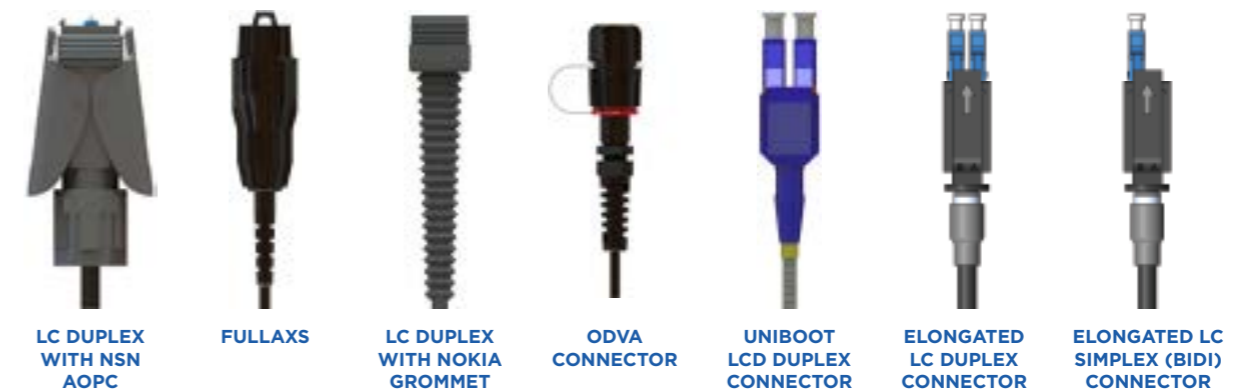


## HYBRIFLEX® GENERAL CONNECTORS & ACCESSORIES

### FIND A CONFIGURATION FOR EVERY APPLICATION

We have the expertise and agility to deliver hybrid cable configurations for any application. All of our hybrid cable solutions support any network technology and any frequency. We are ready to support your 5G evolution. To help mobile operators and installers address unique deployment scenarios and challenges, hybrid cable designers must be ready, willing and able to adapt their solutions to meet specific requirements. Our hybrid cable solutions are recognized globally for their quality, performance and long-term reliability. **You can customize with complete confidence.**

### A WIDE VARIETY OF CONNECTOR OPTIONS



### A COMPLETE END-TO-END SOLUTION

We provide a complete portfolio of ancillary accessories for your deployments including:

- Hoist Grips – pre-laced and lace up types, critical for hoisting cable and load bearing after installation
- Ground Kits – used for grounding hybrid cable at multiple points of installed assembly, linked to tower grounding system
- Clamps – used for lateral support typically every meter, to prevent movement (ex: wind) not primary accessory for load support
- Bulkhead fittings
- Weatherproofing
- Adapters and hardware
- Specialty installation tools



## HYBRIFLEX® GENERAL INSTALLATION TOOLS

### ARMOR REMOVAL TOOLS

Our Armor Removal Tools are designed to make a quick and safe circular cut on the top of the armor corrugation of HYBRIFLEX cables. They are quite useful for length adjustment and enable quick and easy jacket and armor cuts in just a few turns. The tools are designed to avoid cutting any internal cable elements. The long-lasting cutting blades are replaceable.

| MODEL NUMBER      | CABLE SIZE | DESCRIPTION                  |
|-------------------|------------|------------------------------|
| TRIM-SET-H12-001  | 1/2"       | Armor Removal Tool for HB012 |
| TRIM-SET-H58-001  | 5/8"       | Armor Removal Tool for HB058 |
| TRIM-SET-H78-001  | 7/8"       | Armor Removal Tool for HB078 |
| TRIM-SET-H114-001 | 1-1/4"     | Armor Removal Tool for HB114 |
| TRIM-B30          | All        | Spare Blades                 |



TRIM-SET-H12-001



TRIM-SET-H58-001



TRIM-SET-H78-001



TRIM-SET-H114-001

### JACKET STRIPPING TOOLS

Our Jacket Stripping Tools are used for quick and easy removal of the cable jacket for installation of grounding kits. The heavy duty version with exchangeable blade is ideal for use on cable mounted close to structures and/or in multiple runs. Just clamp the JSTRIP tool around the cable and rotate. The standard version requires the use of a screwdriver as a handle.

| MODEL NUMBER | CABLE SIZE / TYPE  | REPLACEMENT BLADES |
|--------------|--------------------|--------------------|
| JSTRIP-12    | 1/2", Heavy Duty   | 916529-001         |
| JSTRIP-78    | 7/8", Heavy Duty   | 916529-002         |
| JSTRIP-114   | 1-1/4", Heavy Duty | 916529-003         |
| JSTRIP-158   | 1-5/8", Heavy Duty | 916529-004         |
| JSTRIP-12-3  | 1/2", Standard     | N/A                |
| JSTRIP-78-2  | 7/8", Standard     | N/A                |
| JSTRIP-114-2 | 1-1/4", Standard   | N/A                |
| JSTRIP-158-2 | 1-5/8", Standard   | N/A                |



HEAVY DUTY



STANDARD

### RIP TOOL

Our Rip Tool is designed to work in conjunction with an electric drill, to cut through armor by use of the rip cord that is integrated in the HYBRIFLEX cable.

| MODEL NUMBER | CABLE SIZE | DESCRIPTION                          |
|--------------|------------|--------------------------------------|
| HTRT-1-000   | All        | Rip Tool for HYBRIFLEX with Rip Cord |

## WIRE SIZE / GAUGE CROSS REFERENCE

| AWG NUMBER             | 46     | 45     | 44     | 43     | 42     | 41     | 40     | 39      | 38      | 37      | 36      | 35      | 34      |
|------------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| Diameter, in           | 0.0016 | 0.0018 | 0.002  | 0.0022 | 0.0024 | 0.0027 | 0.0031 | 0.0035  | 0.004   | 0.0045  | 0.005   | 0.0056  | 0.0063  |
| Diameter (Ø), mm       | 0.04   | 0.05   | 0.05   | 0.06   | 0.06   | 0.07   | 0.08   | 0.09    | 0.1     | 0.11    | 0.13    | 0.14    | 0.16    |
| Cross, mm <sup>2</sup> | 0.0013 | 0.0016 | 0.002  | 0.0025 | 0.0029 | 0.0037 | 0.0049 | 0.0062  | 0.0081  | 0.010   | 0.013   | 0.016   | 0.020   |
| AWG NUMBER             | 33     | 32     | 31     | 30     | 29     | 28     | 27     | 26      | 25      | 24      | 23      | 22      | 21      |
| Diameter, in           | 0.0071 | 0.0079 | 0.0089 | 0.01   | 0.0113 | 0.0126 | 0.0142 | 0.0159  | 0.0179  | 0.0201  | 0.0226  | 0.0253  | 0.0285  |
| Diameter (Ø), mm       | 0.18   | 0.2    | 0.23   | 0.25   | 0.29   | 0.32   | 0.36   | 0.4     | 0.45    | 0.51    | 0.57    | 0.64    | 0.72    |
| Cross, mm <sup>2</sup> | 0.026  | 0.032  | 0.04   | 0.051  | 0.065  | 0.08   | 0.1    | 0.13    | 0.16    | 0.2     | 0.26    | 0.32    | 0.41    |
| AWG NUMBER             | 20     | 19     | 18     | 17     | 16     | 15     | 14     | 13      | 12      | 11      | 10      | 9       | 8       |
| Diameter, in           | 0.0319 | 0.0359 | 0.0403 | 0.0453 | 0.0508 | 0.0571 | 0.0641 | 0.0719  | 0.0808  | 0.0907  | 0.1019  | 0.1144  | 0.1285  |
| Diameter (Ø), mm       | 0.81   | 0.91   | 1.02   | 1.15   | 1.29   | 1.45   | 1.63   | 1.83    | 2.05    | 2.3     | 2.59    | 2.91    | 3.26    |
| Cross, mm <sup>2</sup> | 0.52   | 0.65   | 0.82   | 1      | 1.3    | 1.7    | 2.1    | 2.6     | 3.3     | 4.2     | 5.3     | 6.6     | 8.4     |
| AWG NUMBER             | 7      | 6      | 5      | 4      | 3      | 2      | 1      | 0 (1/0) | 0 (2/0) | 0 (3/0) | 0 (4/0) | 0 (5/0) | 0 (6/0) |
| Diameter, in           | 0.1443 | 0.162  | 0.1819 | 0.2043 | 0.2294 | 0.2576 | 0.2893 | 0.3249  | 0.3648  | 0.4096  | 0.46    | 0.5165  | 0.58    |
| Diameter (Ø), mm       | 3.67   | 4.11   | 4.62   | 5.19   | 5.83   | 6.54   | 7.35   | 8.25    | 9.27    | 10.4    | 11.68   | 13.13   | 14.73   |
| Cross, mm <sup>2</sup> | 10.6   | 13.3   | 16.8   | 21.1   | 26.7   | 33.6   | 42.4   | 53.5    | 67.4    | 85      | 107.2   | 135.2   | 170.5   |

We have the expertise and agility to efficiently adapt our designs to

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