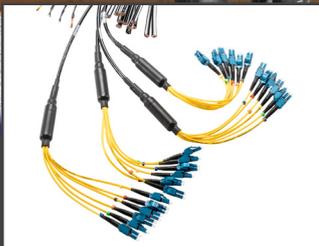




# RADIO FREQUENCY SYSTEMS

## HYBRIFLEX<sup>®</sup> FIBER AND POWER ORDERING GUIDE

Edition 3 rev. A | 02.2024



# RADIO FREQUENCY SYSTEMS

## TABLE OF CONTENTS

### INTRODUCTION

<b>Trust HYBRIFLEX Power and Fiber Solutions</b> for faster, easier deployments	1
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### OUTDOOR, MACRO & SMALL CELL APPLICATIONS

<b>Power Cable</b> Application	3
<b>Box Less</b> Application	4
<b>Box Less</b> Fiber Trunk	5
<b>Box Less</b> Fiber Jumpers & Accessories	6
<b>Box to Box</b> Application	7
<b>Box to Box</b> Fiber Trunk & Jumper	8
<b>Box to Box</b> Hybrid Jumper & Box	9
<b>Standard Fiber</b>	10
Direct connections between BBU & RRU	
<b>Fiber/Power Connect Assemblies</b>	12
With Compact Distributor	

### IN-BUILDING APPLICATIONS

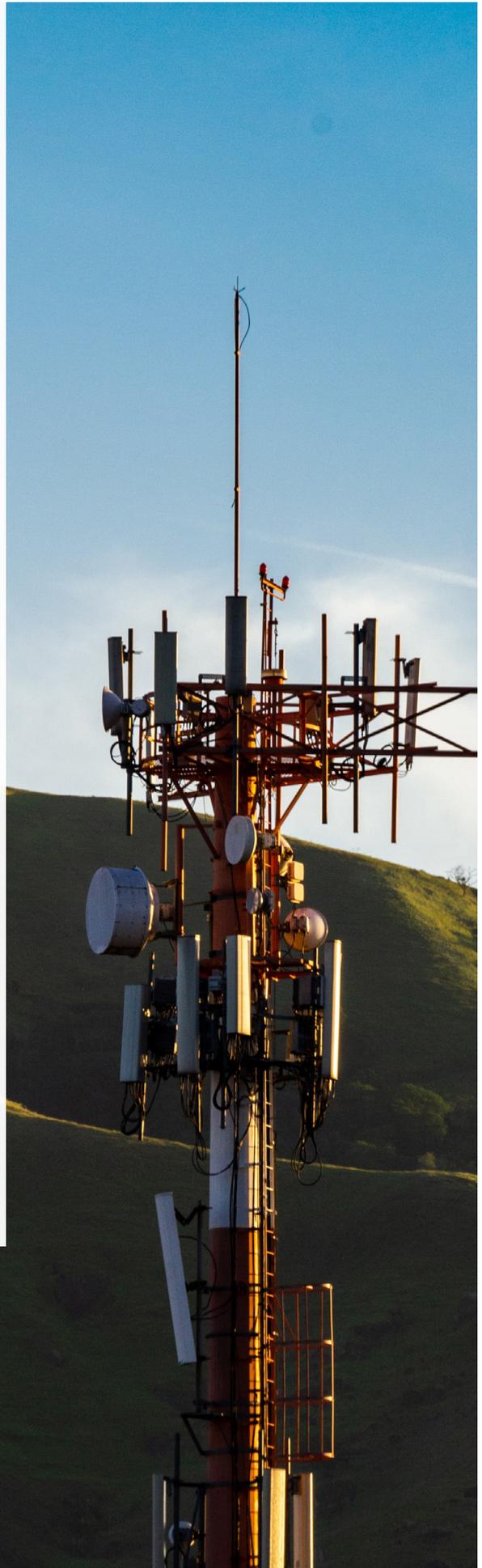
<b>HYBRIFLEX® Plug-and-Play Solution</b>	16
For Rapid Deployments & High-Bandwidth Applications	
<b>HYBRIFLEX Hybrid Solution</b>	19
For Mission Critical Applications	
<b>HYBRIFLEX Conventional Solution</b>	22
For High Bandwidth Future Proof Applications	
<b>In-Building Applications</b>	23
Distribution & Accessories	

### HYBRIFLEX® GENERAL

<b>Connectors &amp; Accessories</b>	26
<b>Installation Tools</b>	27

### WIRE SIZE / WIRE GAUGE

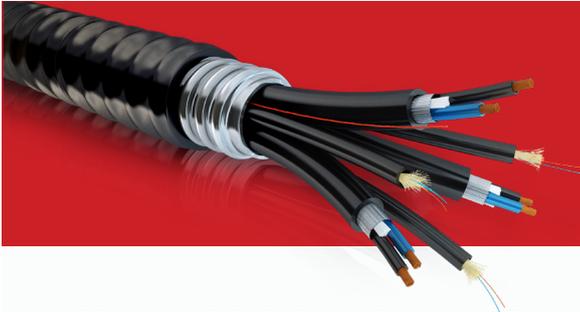
<b>Cross reference</b>	28
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## TRUST HYBRIFLEX® POWER AND FIBER SOLUTIONS FOR FASTER, EASIER DEPLOYMENTS

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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.

## OUTDOOR, MACRO & SMALL CELL **APPLICATIONS**

Delivering the fiber and power cables you need for network evolution

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

RFS has 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.

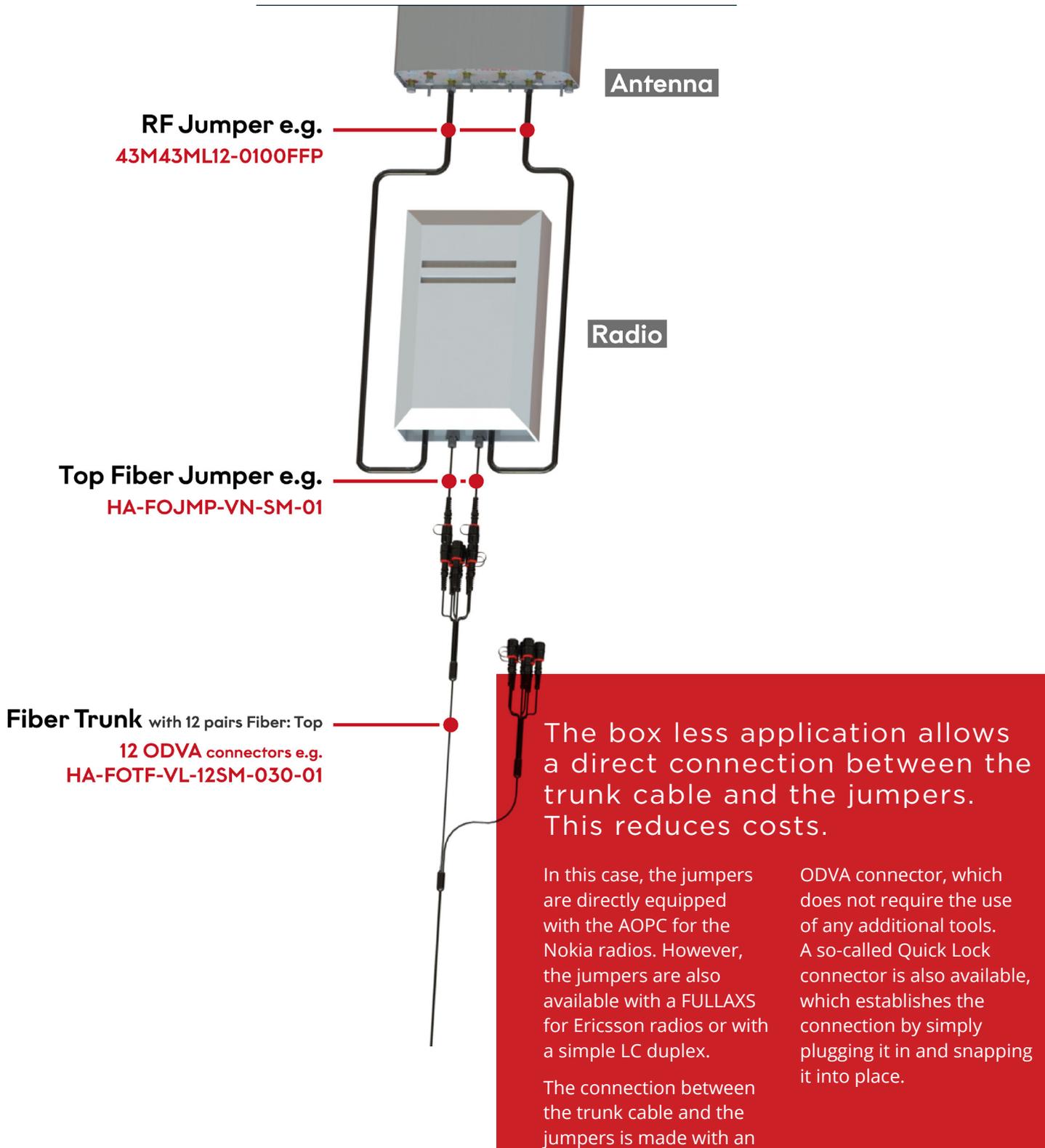


## POWER CABLE APPLICATION

Power Cables (configurations given as example)

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

## BOX LESS APPLICATION



## BOX LESS FIBER TRUNK

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, 0X3

MODEL NUMBER	LENGTH m (ft)
HA-FOTF-VL-03SM-010	10 (32.8)
HA-FOTF-VL-03SM-020	20 (65.6)
HA-FOTF-VL-03SM-030	30 (98.4)
HA-FOTF-VL-03SM-040	40 (131.2)
HA-FOTF-VL-03SM-050	50 (164.0)
HA-FOTF-VL-03SM-060	60 (196.8)
HA-FOTF-VL-03SM-070	70 (229.7)
HA-FOTF-VL-03SM-080	80 (262.5)
HA-FOTF-VL-03SM-090	90 (295.3)
HA-FOTF-VL-03SM-100	100 (328.1)

MODEL NUMBER	LENGTH m (ft)
HA-FOTF-VL-03SM-110	110 (360.9)
HA-FOTF-VL-03SM-120	120 (393.7)
HA-FOTF-VL-03SM-130	130 (426.5)
HA-FOTF-VL-03SM-140	140 (459.3)
HA-FOTF-VL-03SM-150	150 (492.1)
HA-FOTF-VL-03SM-160	160 (524.9)
HA-FOTF-VL-03SM-170	170 (557.7)
HA-FOTF-VL-03SM-180	180 (590.5)
HA-FOTF-VL-03SM-190	190 (623.4)
HA-FOTF-VL-03SM-200	200 (656.2)

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

### FIBER CONNECT FIBER TRUNK FIXED LENGTH ASSEMBLIES FOR 3RRU, 0X6

MODEL NUMBER	LENGTH m (ft)
HA-FOTF-VL-06SM-010	10 (32.8)
HA-FOTF-VL-06SM-020	20 (65.6)
HA-FOTF-VL-06SM-030	30 (98.4)
HA-FOTF-VL-06SM-040	40 (131.2)
HA-FOTF-VL-06SM-050	50 (164.0)
HA-FOTF-VL-06SM-060	60 (196.8)
HA-FOTF-VL-06SM-070	70 (229.7)
HA-FOTF-VL-06SM-080	80 (262.5)
HA-FOTF-VL-06SM-090	90 (295.3)
HA-FOTF-VL-06SM-100	100 (328.1)

MODEL NUMBER	LENGTH m (ft)
HA-FOTF-VL-06SM-110	110 (360.9)
HA-FOTF-VL-06SM-120	120 (393.7)
HA-FOTF-VL-06SM-130	130 (426.5)
HA-FOTF-VL-06SM-140	140 (459.3)
HA-FOTF-VL-06SM-150	150 (492.1)
HA-FOTF-VL-06SM-160	160 (524.9)
HA-FOTF-VL-06SM-170	170 (557.7)
HA-FOTF-VL-06SM-180	180 (590.5)
HA-FOTF-VL-06SM-190	190 (623.4)
HA-FOTF-VL-06SM-200	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, 0X12

MODEL NUMBER	LENGTH m (ft)
HA-FOTF-VL-12SM-010-01	10 (32.8)
HA-FOTF-VL-12SM-020-01	20 (65.6)
HA-FOTF-VL-12SM-030-01	30 (98.4)
HA-FOTF-VL-12SM-040-01	40 (131.2)
HA-FOTF-VL-12SM-050-01	50 (164.0)
HA-FOTF-VL-12SM-060-01	60 (196.8)
HA-FOTF-VL-12SM-070-01	70 (229.7)
HA-FOTF-VL-12SM-080-01	80 (262.5)
HA-FOTF-VL-12SM-090-01	90 (295.3)
HA-FOTF-VL-12SM-100-01	100 (328.1)

MODEL NUMBER	LENGTH m (ft)
HA-FOTF-VL-12SM-110-01	110 (360.9)
HA-FOTF-VL-12SM-120-01	120 (393.7)
HA-FOTF-VL-12SM-130-01	130 (426.5)
HA-FOTF-VL-12SM-140-01	140 (459.3)
HA-FOTF-VL-12SM-150-01	150 (492.1)
HA-FOTF-VL-12SM-160-01	160 (524.9)
HA-FOTF-VL-12SM-170-01	170 (557.7)
HA-FOTF-VL-12SM-180-01	180 (590.5)
HA-FOTF-VL-12SM-190-01	190 (623.4)
HA-FOTF-VL-12SM-200-01	200 (656.2)

# BOX LESS FIBER JUMPERS & ACCESSORIES

## Jumper Cables



ODVA to LCD



ODVA to AOPC



ODVA to LCD with NSN Grommet

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

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

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



ODVA to FULLAXS



LCD to FULLAXS

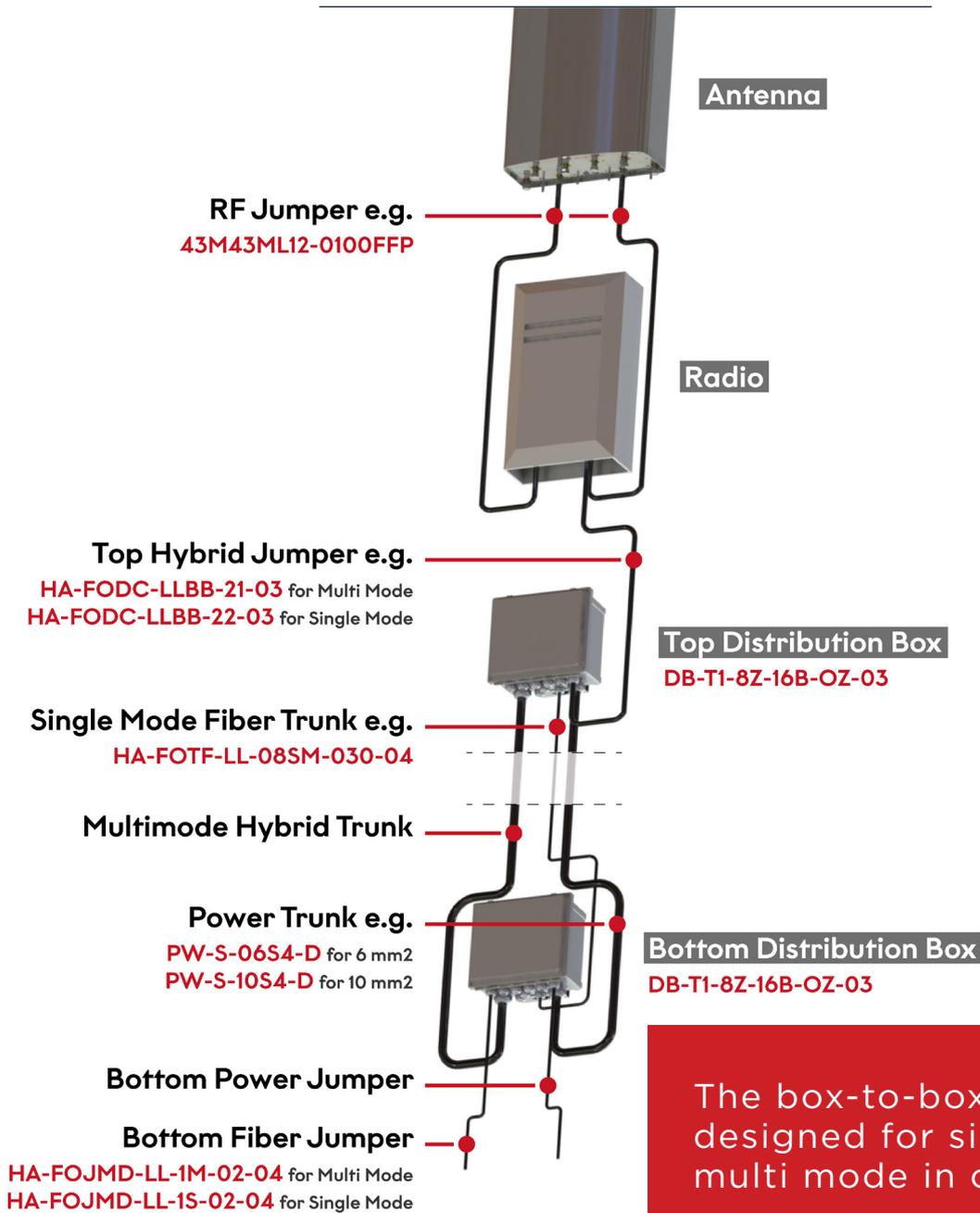
MODEL NUMBER	LENGTH m (ft)
HA-FOJMP-VA-SM-01	1 (3.3)
HA-FOJMP-VA-SM-02	2 (6.6)
HA-FOJMP-VA-SM-03	3 (9.8)
HA-FOJMP-VA-SM-04	4 (13.1)
HA-FOJMP-VA-SM-05	5 (16.4)

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

## BOX TO BOX APPLICATION



The box-to-box application is designed for single mode and multi mode in one system.

However, this system can also be operated with pure single mode or pure multi mode. The box has 16 pairs of fibre adapters and 8 pairs of power terminals.

The jumpers from the top box to the radios are available as hybrid versions. Each hybrid jumper has 1 pair of power and 2 pairs of fibre. The jumpers are prepared for Ericsson, Nokia or HW radios from the fibre side.

The jumpers from the bottom box into the BBU are available as a separate solution.

## BOX TO BOX FIBER TRUNK & JUMPER

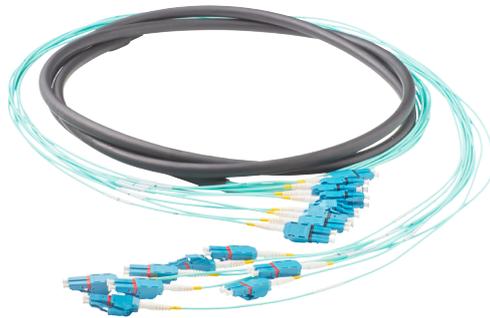
Single Mode and Multi Mode Fiber with 8 pairs LCD on both sides; One side connectors stacked and one side all connectors on the same length; Used as Bottom Jumper (one side in Box and one side to BBU) in the system

### SINGLE-MODE MODEL NUMBER



MODEL NUMBER	LENGTH m (ft)
HA-FOJMF-LL-1S-02-04	2 (6.6)
HA-FOJMF-LL-1S-03-04	3 (9.8)
HA-FOJMF-LL-1S-05-04	5 (16.4)
HA-FOJMF-LL-1S-07-04	7 (23)
HA-FOJMF-LL-1S-10-04	10 (32.8)
HA-FOJMF-LL-1S-15-04	15 (49.2)
HA-FOJMF-LL-1S-20-04	20 (65.6)

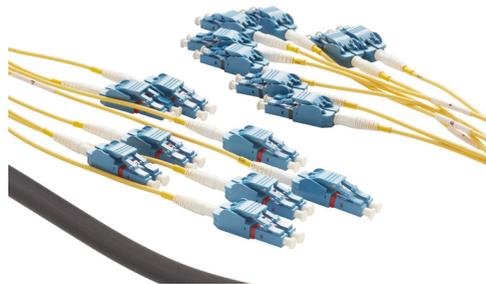
### MULTI-MODE MODEL NUMBERS



MODEL NUMBER	LENGTH m (ft)
HA-FOJMF-LL-1M-02-04	2 (6.6)
HA-FOJMF-LL-1M-03-04	3 (9.8)
HA-FOJMF-LL-1M-05-04	5 (16.4)
HA-FOJMF-LL-1M-07-04	7 (23)
HA-FOJMF-LL-1M-10-04	10 (32.8)
HA-FOJMF-LL-1M-15-04	15 (49.2)
HA-FOJMF-LL-1M-20-04	20 (65.6)

Single Mode Fiber with 8 pairs LCD on both sides; Both sides connectors stacked; Used as Trunk Cable from Box to Box in the system

### SINGLE-MODE MODEL NUMBER



MODEL NUMBER	LENGTH m (ft)
HA-FOTD-LL-08SM-010-04	10 (32.8)
HA-FOTD-LL-08SM-020-04	20 (65.6)
HA-FOTD-LL-08SM-030-04	30 (98.4)
HA-FOTD-LL-08SM-040-04	40 (131.2)
HA-FOTD-LL-08SM-050-04	50 (164.0)
HA-FOTD-LL-08SM-060-04	60 (196.8)
HA-FOTD-LL-08SM-070-04	70 (229.7)

## BOX TO BOX HYBRID JUMPER & BOX

Single Mode and Multi Mode fibre combined with power to a Hybrid Jumper. One side is prepared for a box and other side for RRUs. Every Hybrid Jumper have one pair power cable with 6 mm<sup>2</sup> and 2 pairs of Fibre

### SINGLE-MODE MODEL NUMBER



MODEL NUMBER	LENGTH m (ft)
HA-FODD-LLBB-21-02	2 (6.6)
HA-FODD-LLBB-21-03	3 (9.8)
HA-FODD-LLBB-21-05	5 (16.4)
HA-FODD-LLBB-21-07	7 (23)
HA-FODD-LLBB-21-10	10 (32.8)
HA-FODD-LLBB-21-15	15 (49.2)
HA-FODD-LLBB-21-20	20 (65.6)

### MULTI-MODE MODEL NUMBERS



MODEL NUMBER	LENGTH m (ft)
HA-FODD-LLBB-22-02	2 (6.6)
HA-FODD-LLBB-22-03	3 (9.8)
HA-FODD-LLBB-22-05	5 (16.4)
HA-FODD-LLBB-22-07	7 (23)
HA-FODD-LLBB-22-10	10 (32.8)
HA-FODD-LLBB-22-15	15 (49.2)
HA-FODD-LLBB-22-20	20 (65.6)

Single Mode Fiber with 8 pairs LCD on both sides; Both sides connectors stacked; Used as Trunk Cable from Box to Box in the system

### SINGLE-MODE MODEL NUMBER



### MODEL NUMBER

DB-T1-8Z-16B-0Z-03

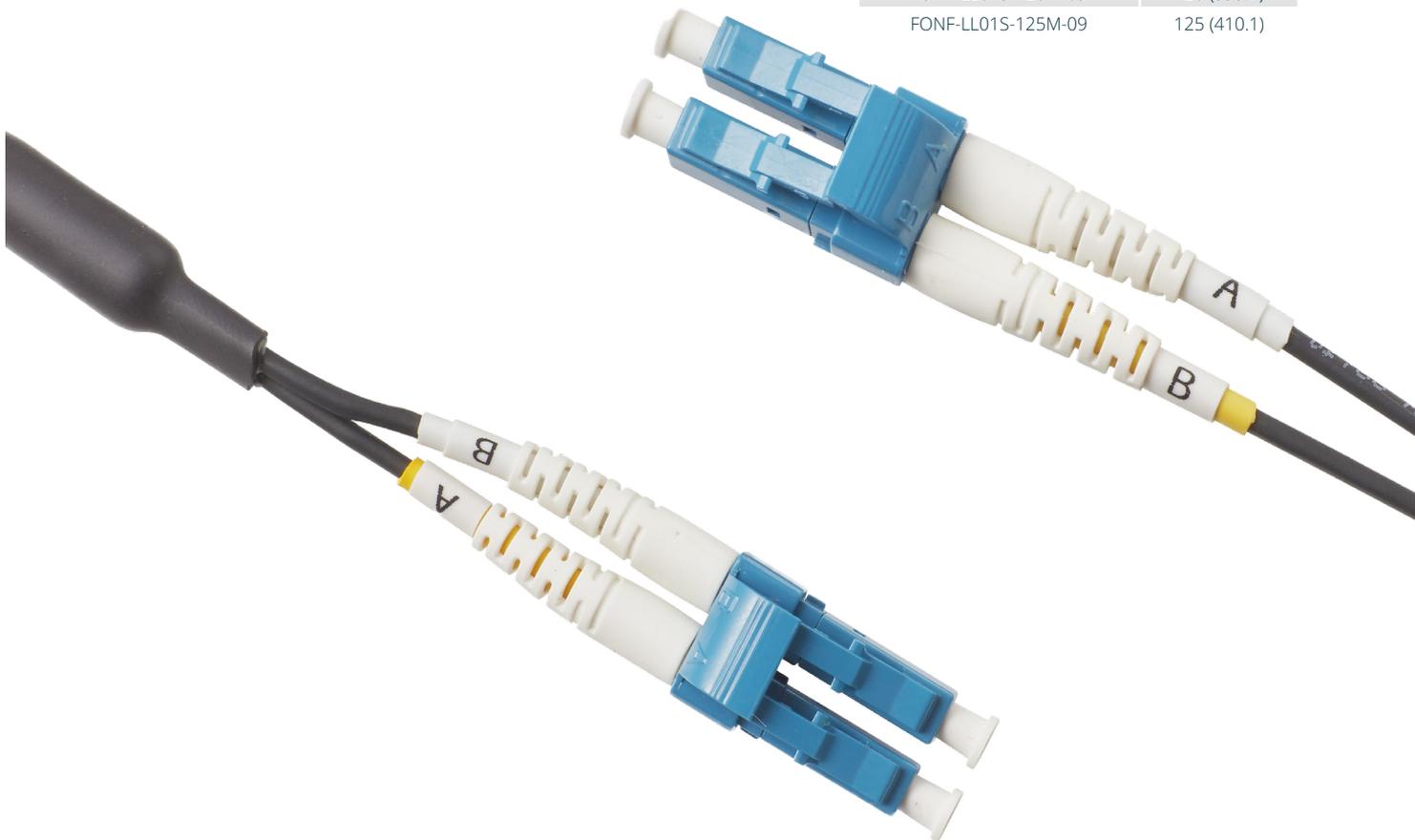
## STANDARD FIBER DIRECT CONNECTIONS BETWEEN BBU & RRU

Breakout length 75 mm on one side and 275 mm on the other side. Single Mode A2 cables are used for optimized handling in the field.

### SINGLE-MODE MODEL NUMBER

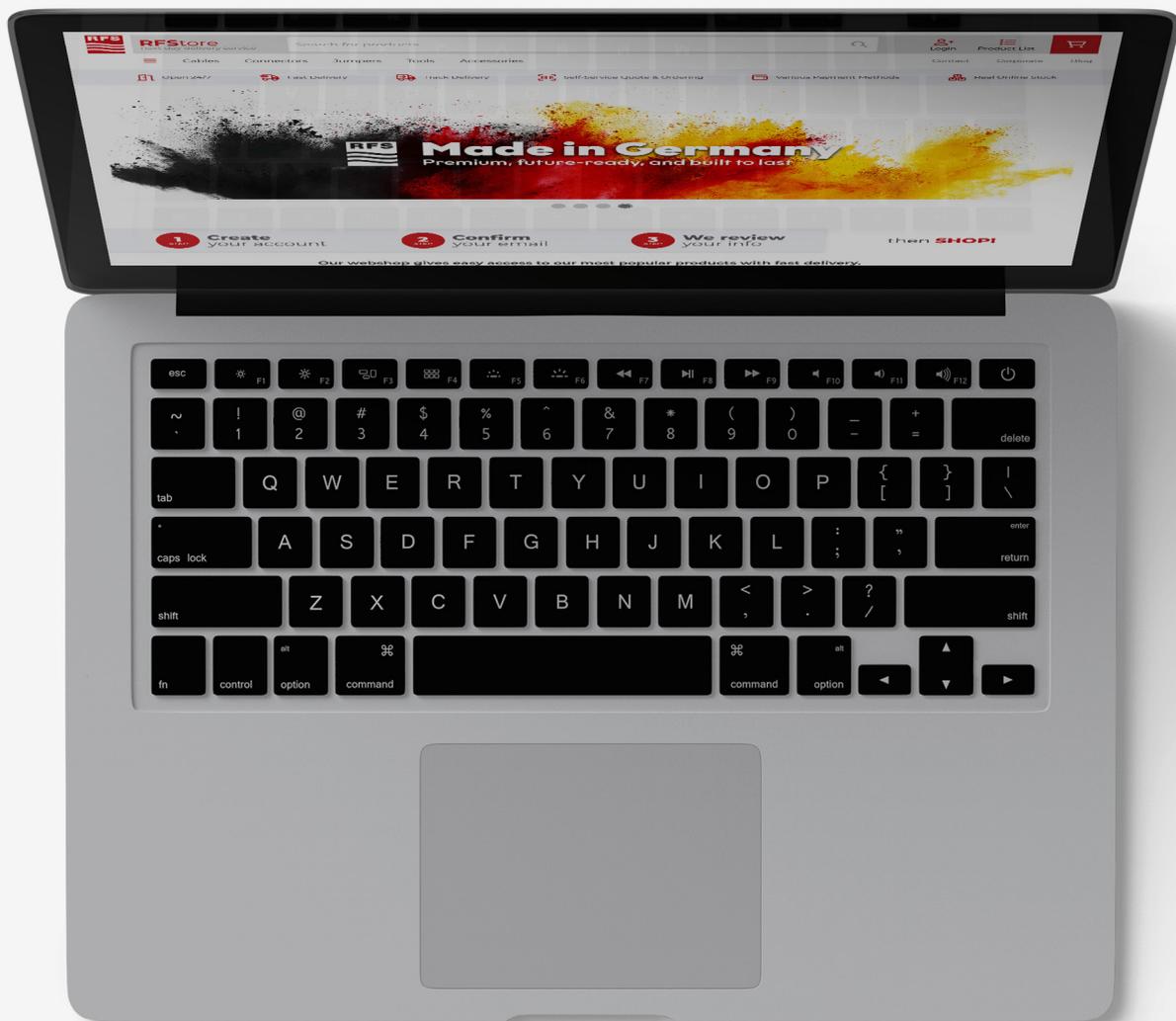


MODEL NUMBER	LENGTH m (ft)
FONF-LL01S-001M-09	1 (3.3)
FONF-LL01S-003M-09	3 (9.8)
FONF-LL01S-005M-09	5 (16.4)
FONF-LL01S-010M-09	10 (32.8)
FONF-LL01S-015M-09	15 (49.2)
FONF-LL01S-020M-09	20 (65.6)
FONF-LL01S-025M-09	25 (82.0)
FONF-LL01S-030M-09	30 (98.4)
FONF-LL01S-040M-09	40 (131.2)
FONF-LL01S-050M-09	50 (164.0)
FONF-LL01S-060M-09	60 (196.8)
FONF-LL01S-070M-09	70 (229.7)
FONF-LL01S-080M-09	80 (262.5)
FONF-LL01S-090M-09	90 (295.3)
FONF-LL01S-100M-09	100 (328.1)
FONF-LL01S-120M-09	120 (393.7)
FONF-LL01S-125M-09	125 (410.1)



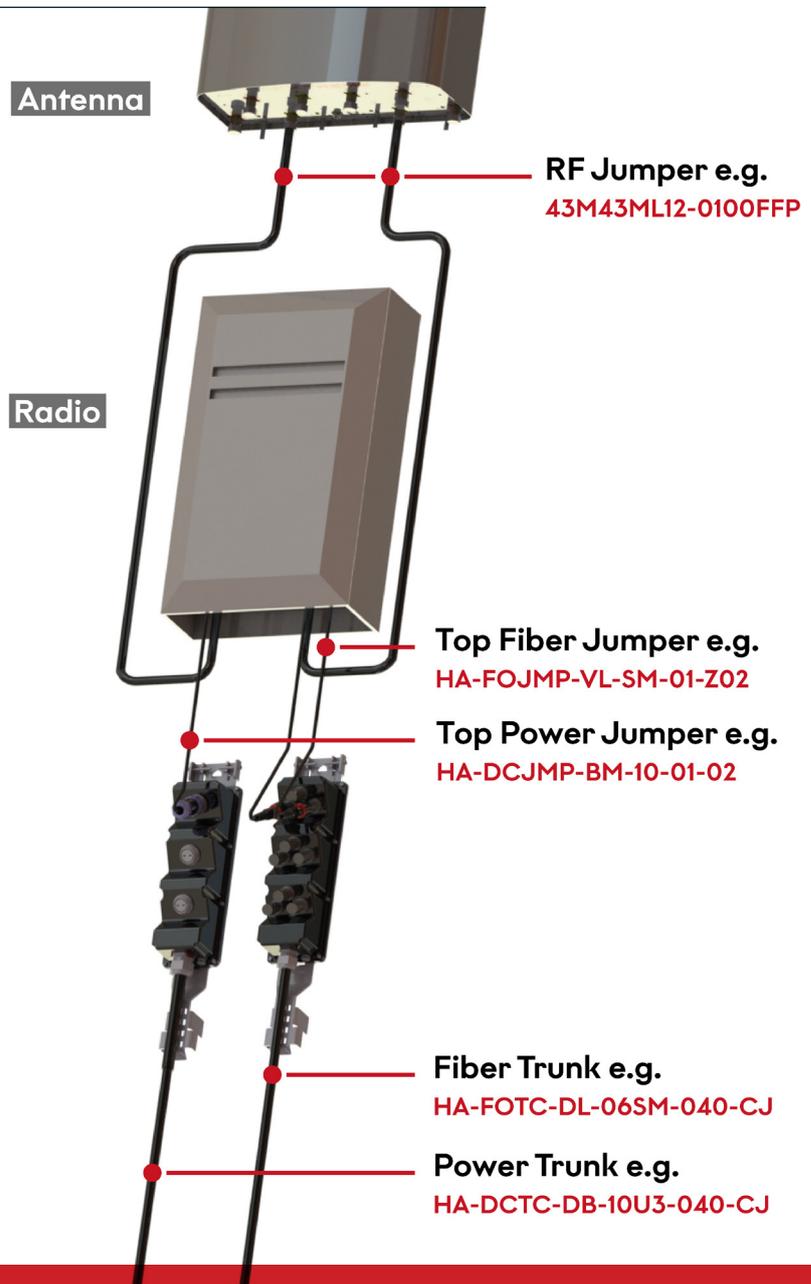
# SHOP ONLINE

Cables | Connectors | Jumpers | Tools | Accessories



**RFStore.rfsworld.com**

## FIBER/POWER CONNECT ASSEMBLIES WITH COMPACT DISTRIBUTOR



The **Fiber/Power Connect Assemblies with Compact Distributor** is exactly the right application for easy installation.

Both the power and the fibre side have a separate box mounted directly on the trunk cable. This box can simply be pulled up the tower and mounted using the eyelet provided.

The box on the fibre side as well as the fibre jumpers are equipped with an ODVA connector, which makes a tool superfluous. The power side is also fitted with a simple hand-mountable plug.

## 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, 3X0

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

3 DC pairs 16mm<sup>2</sup> unshielded, includes Compact distributor preassembled

### POWER CONNECT POWER TRUNK FIXED LENGTH ASSEMBLIES FOR 3RRU, 3X0

MODEL NUMBER	LENGTH m (ft)
HA-DCTC-DB-16U3-080-CJ	80 (262.5)
HA-DCTC-DB-16U3-090-CJ	90 (295.3)
HA-DCTC-DB-16U3-100-CJ	100 (328.1)

**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, 0X6

MODEL NUMBER	LENGTH m (ft)
HA-FOTC-DL-06SM-010-CJ	10 (32.8)
HA-FOTC-DL-06SM-015-CJ	15 (49.2)
HA-FOTC-DL-06SM-020-CJ	20 (65.6)
HA-FOTC-DL-06SM-025-CJ	25 (82.0)
HA-FOTC-DL-06SM-030-CJ	30 (98.4)
HA-FOTC-DL-06SM-035-CJ	35 (114.8)
HA-FOTC-DL-06SM-040-CJ	40 (131.2)

MODEL NUMBER	LENGTH m (ft)
HA-FOTC-DL-06SM-050-CJ	50 (164.0)
HA-FOTC-DL-06SM-060-CJ	60 (196.8)
HA-FOTC-DL-06SM-070-CJ	70 (229.7)
HA-FOTC-DL-06SM-080-CJ	80 (262.5)
HA-FOTC-DL-06SM-090-CJ	90 (295.3)
HA-FOTC-DL-06SM-100-CJ	100 (328.1)

**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-10-01-02	1 (3.3)	HA-DCJMP-BM-10-03-02	3 (9.8)
HA-DCJMP-BM-10-02-02	2 (6.6)	HA-DCJMP-BM-10-05-02	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

## 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.

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# HYBRIFLEX® PLUG-AND-PLAY SOLUTION

## FOR RAPID DEPLOYMENTS & HIGH-BANDWIDTH APPLICATIONS

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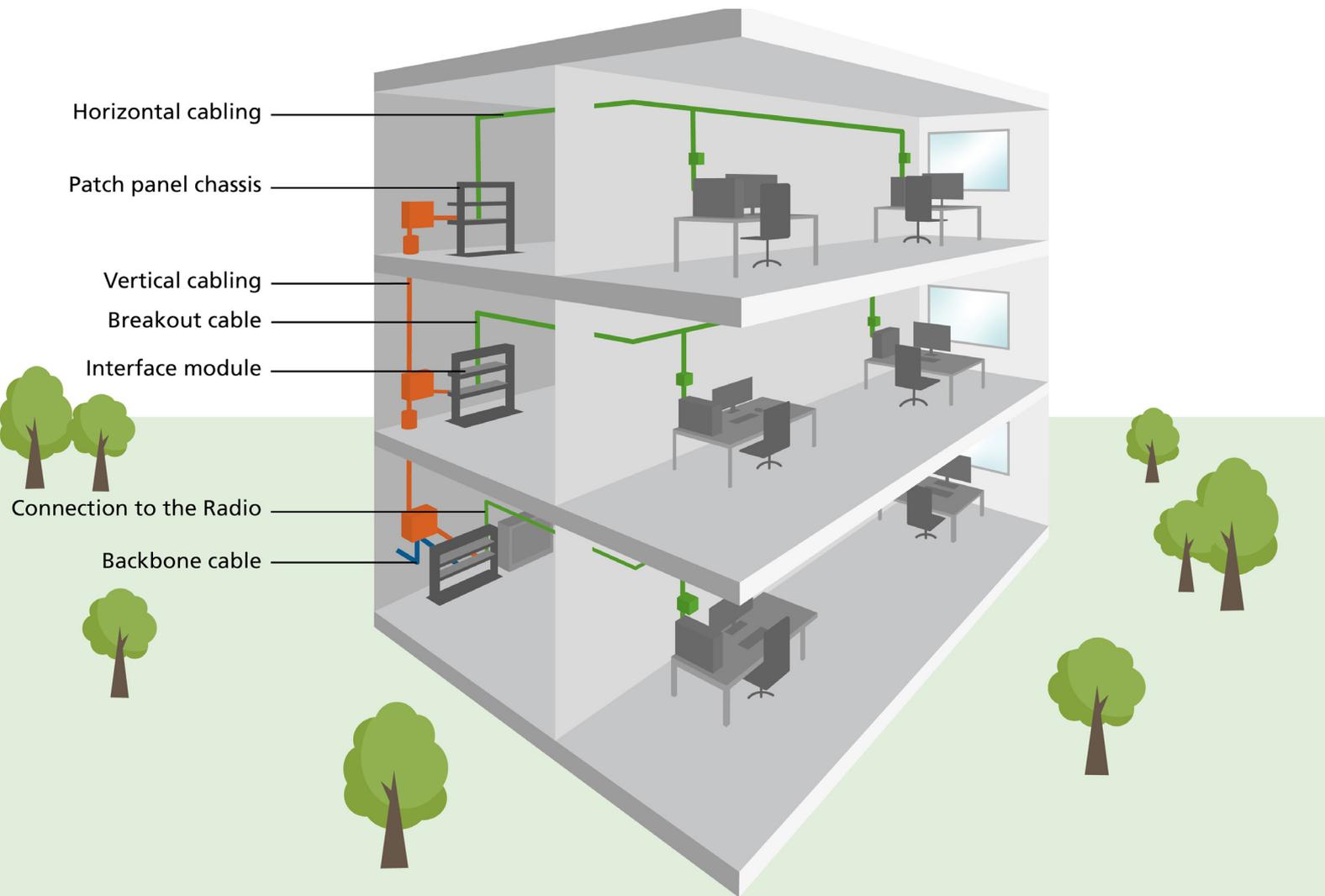
### MINIMIZE THE TIME AND SKILLS REQUIRED TO INSTALL, TERMINATE AND TEST HIGH BANDWIDTH OPTICAL FIBER NETWORKS IN BUILDINGS

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 CONNEC-  
TORS 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 CONNec- TOR 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 SOLU- TION 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)

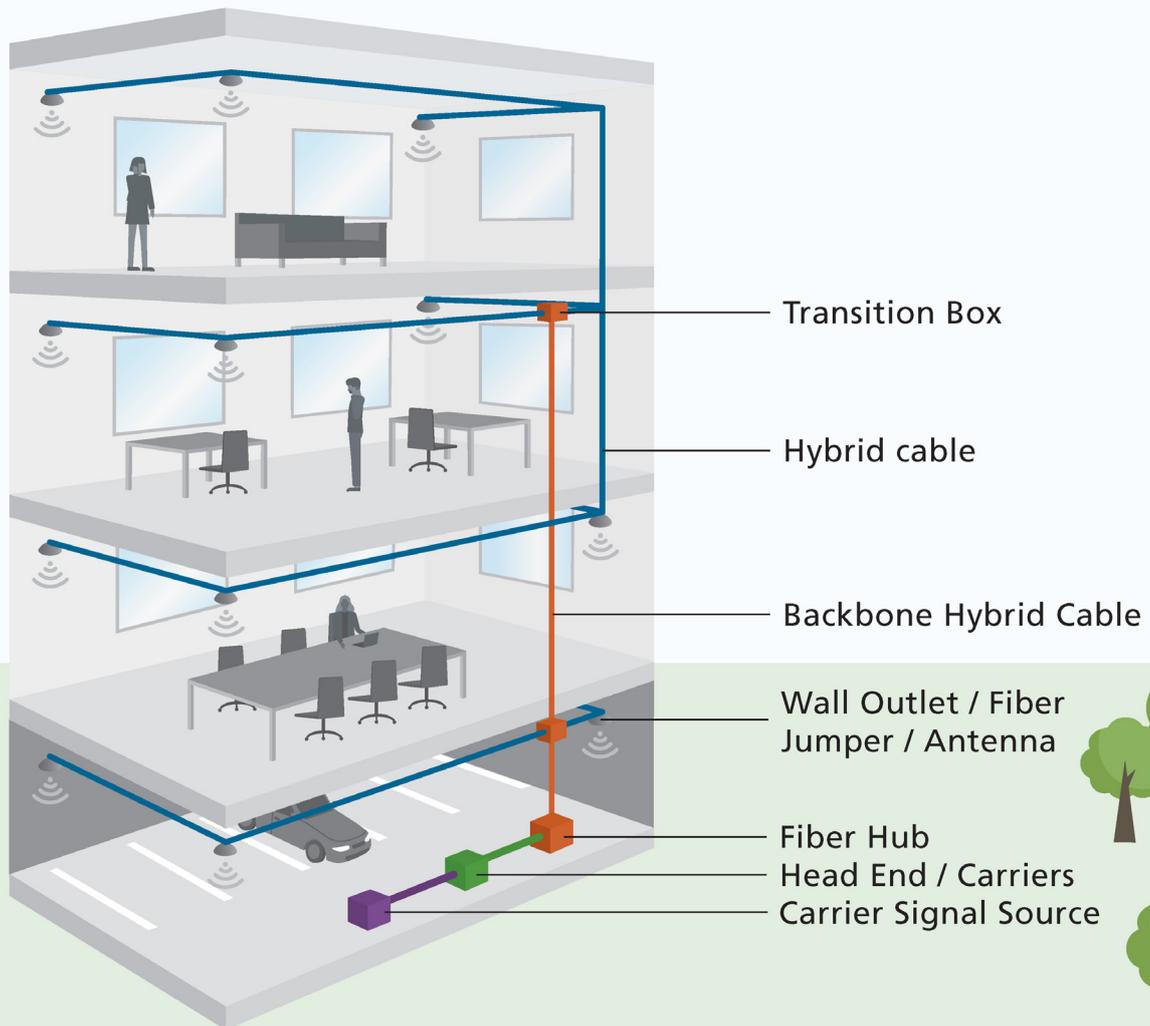


## HYBRIFLEX HYBRID SOLUTION FOR MISSION CRITICAL APPLICATIONS

### 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-spliced 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.



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## **HYBRIFLEX HYBRID SOLUTION** FOR MISSION CRITICAL APPLICATIONS

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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



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## HYBRIFLEX CONVENTIONAL SOLUTION FOR HIGH BANDWIDTH FUTURE PROOF APPLICATIONS

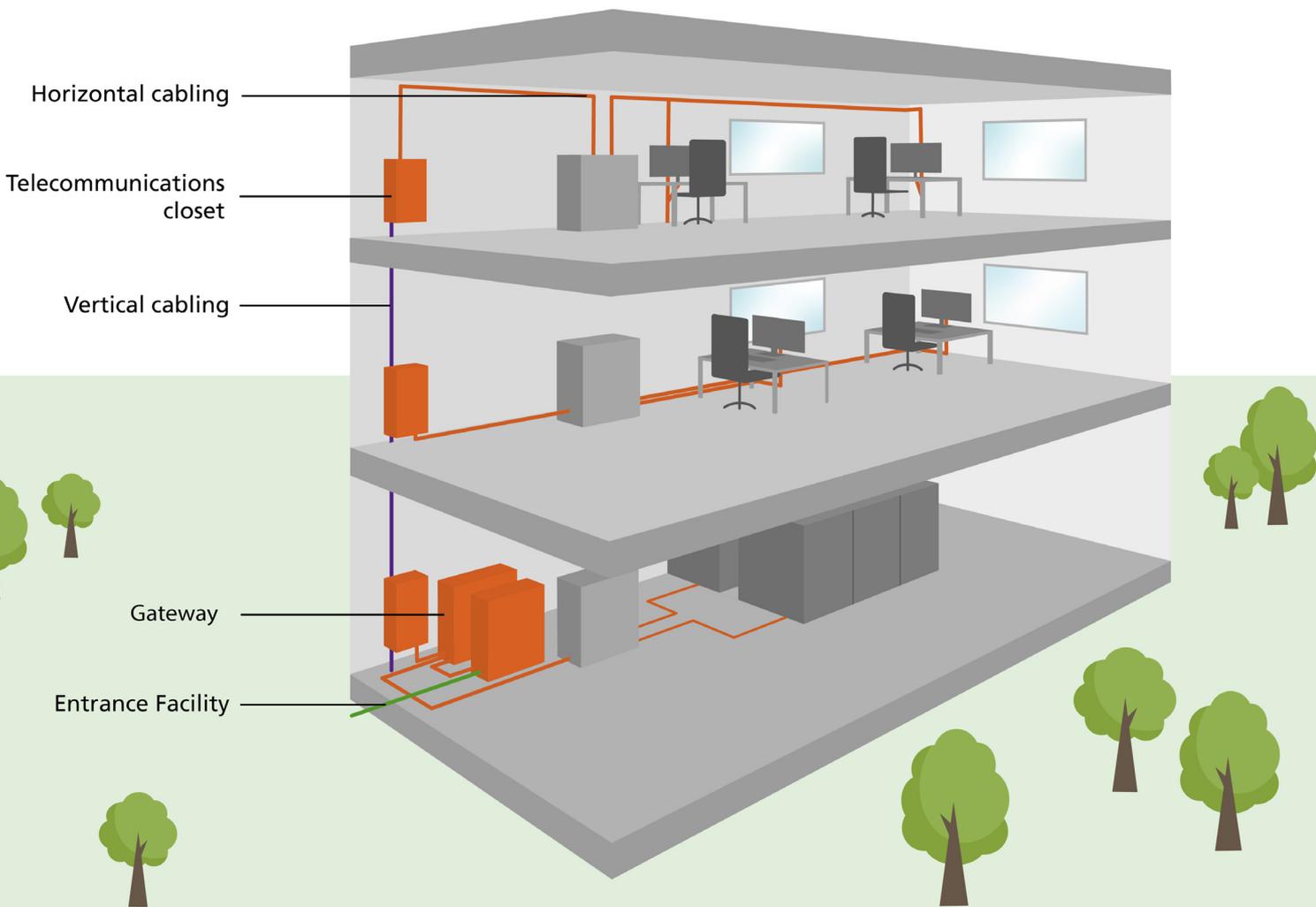
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### EXTEND RELIABLE, HIGH-BANDWIDTH CONNECTIVITY

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-SET-H12-001		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

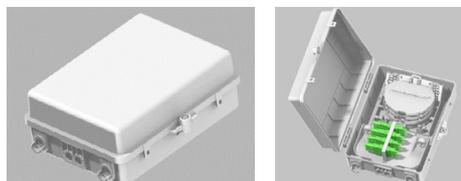
MODEL NUMBER	PORTS	CONNECTORS	INCLUDED
SBIF-0Z02SS-APCA-YC	4	SC/APC	adapters
SBIF-0Z04SS-APCA-YC	8	SC/APC	adapters
SBIF-0Z06SS-APCA-YC	12	SC/APC	adapters
SBIF-0Z12SS-APCA-YC	24	SC/APC	adapters
SBIF-0Z24SS-APCA-YC	48	SC/APC	adapters



### 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	Pigtails
WOIF-0Z02SS-APPD-YC	2	SC/APC	Pigtails

### Fiber Wall Outlet, Indoor, Surface Mount Box Style

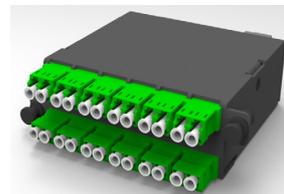
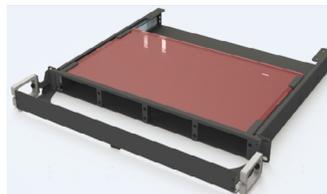
**WALL OUTLET,  
SUITABLE FOR THE  
INDOOR CABLE  
TERMINATION, FIXING  
AND FIBER PIGTAIL  
SPLICING IN BUILDING**

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



**LC DUPLEX  
WITH NSN  
AOPC**



**FULLAXS**



**LC DUPLEX  
WITH NOKIA  
GROMMET**



**ODVA  
CONNECTOR**



**UNIBOOT  
LCD DUPLEX  
CONNECTOR**



**ELONGATED  
LC DUPLEX  
CONNECTOR**



**ELONGATED LC  
SIMPLEX (BIDI)  
CONNECTOR**

## A COMPLETE END-TO-END SOLUTION

RFS provides 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

RFS 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

RFS 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.



JSTRIP-114-2



JSTRIP-12-3

MODEL NUMBER	CABLE SIZE / TYPE	REPLACEMENT BLADES
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

### RIP TOOL

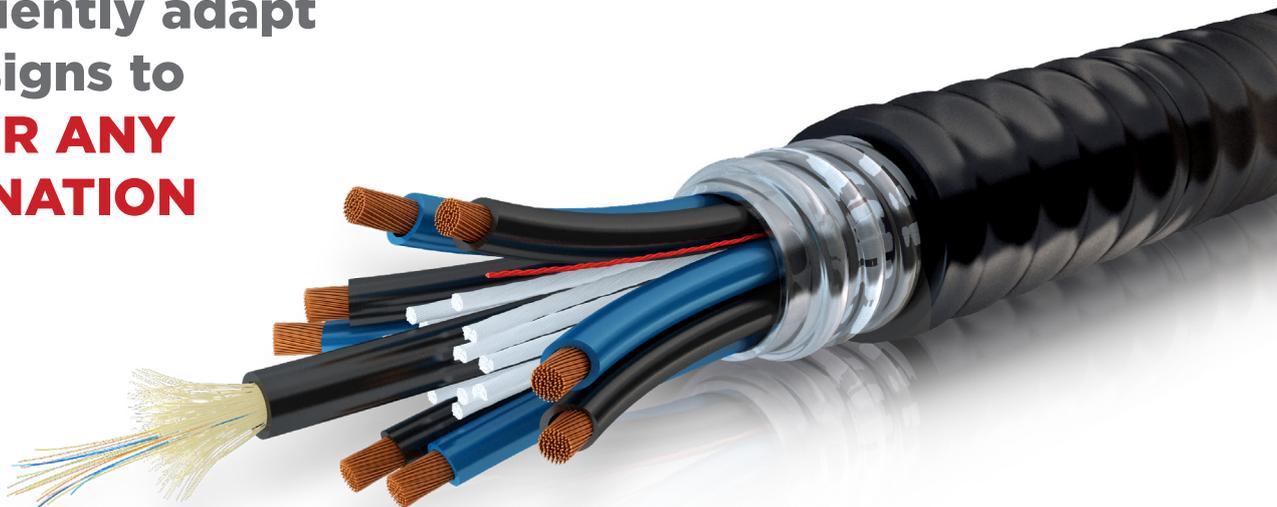
The RFS Rip Tool is designed to work in conjunction with an electric drill, to cut through armor by use of the rip cord that is integrated in the HYBRIFLEX cable.

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

## WIRE SIZE / GAUGE CROSS REFERENCE

<b>AWG NUMBER</b>	<b>46</b>	<b>45</b>	<b>44</b>	<b>43</b>	<b>42</b>	<b>41</b>	<b>40</b>	<b>39</b>	<b>38</b>	<b>37</b>	<b>36</b>	<b>35</b>	<b>34</b>
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
<b>AWG NUMBER</b>	<b>33</b>	<b>32</b>	<b>31</b>	<b>30</b>	<b>29</b>	<b>28</b>	<b>27</b>	<b>26</b>	<b>25</b>	<b>24</b>	<b>23</b>	<b>22</b>	<b>21</b>
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
<b>AWG NUMBER</b>	<b>20</b>	<b>19</b>	<b>18</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>
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
<b>AWG NUMBER</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0 (1/0) 0</b>	<b>0 (2/0) -1</b>	<b>0 (3/0) -2</b>	<b>0 (4/0) -3</b>	<b>0 (5/0) -4</b>	<b>0 (6/0) -5</b>
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

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