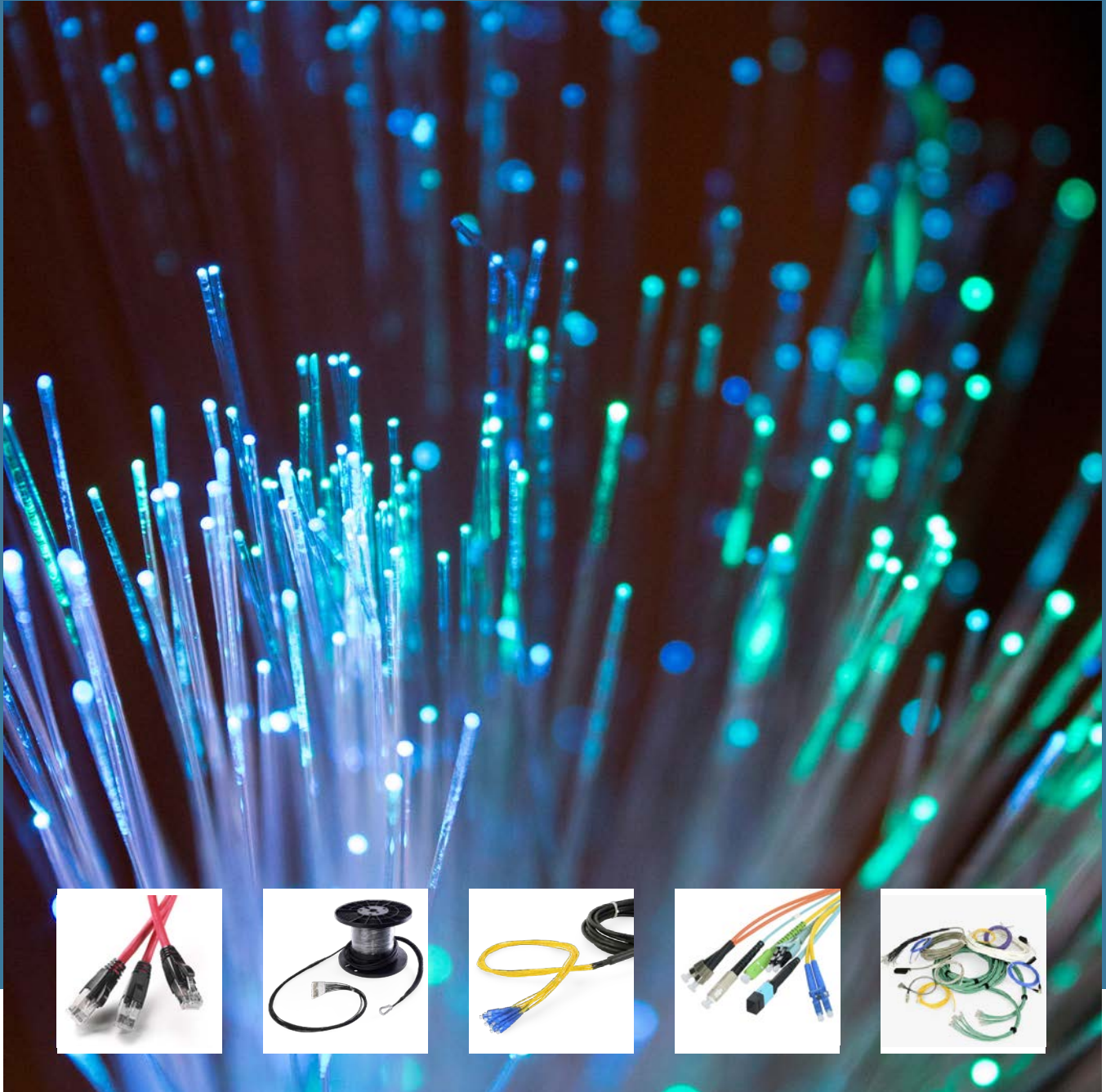


QUICK TURN FIBER

Multifiber and Custom OptiTip® and OptiTap® Assemblies



ISO-9001-2015 Certified • AS9100 Compliant • Corning CAH Gold Program



www.rfindustries.com



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QUICK TURN FIBER

Program Overview

Thanks to our exclusive licensing agreement with Corning Optical Communications, we're proud to offer a comprehensive range of Corning-compatible products with Quick Turn lead times. We ship high-quality fiber jumpers and assemblies in one week or less.

The Quick Turn Fiber program provides our customers access to high quality fiber jumpers and Corning Compatible OptiTip® and OptiTap® assemblies but with much faster lead times when compared to purchasing directly from Corning.

With Corning Gold Certified Assembly Houses on both the east and west coast of the U.S., our Cables Unlimited and C-Enterprises divisions are fully equipped to meet the requirements and service level agreements set in place by our Fiber Quick Turn Program. Inventory stocking and dedicated capacity at each location will ensure satisfactory delivery on our promises.

QUICK TURN FIBER PROGRAM HIGHLIGHTS

The program revolves around several key initiatives designed to ensure high quality, short lead times and a Lifetime Warranty – If an assembly fails in the field, we will replace it at no charge.

INVENTORY STOCKING PROGRAM

Our Inventory Stocking Program works directly with our customers to stock the necessary fiber, connectors and components to support our Quick Turn lead time service level agreements.

QUICK TURN LEAD TIME

Installation delays become a thing of the past with our Quick Turn Lead



- **Inventory Stocking Program**
- **Quick Turn Lead Times**
- **Dedicated Capacity**
- **Kitted Assemblies**
- **Lifetime Warranty**

Time initiative, designed to ship most configurations of fiber jumpers and assemblies within 1 week.

The Quick Turn Lead Time program is designed to not only cover the easy to build simplex and duplex fiber jumpers but also includes multistrand and custom configured MTP and Corning compatible OptiTip® and OptiTap® assemblies as well.

In fact, 80% of the fiber assembly configurations requests we receive today ship within 1 week.

DEDICATED CAPACITY

Our two dedicated fiber assembly facilities strategically located on the east and west coasts of the U.S. give us the ability to allocate portions of production capacity to support and fulfill the lead times required by our customers and our Quick Lead Time initiative.

OUR BRANDS

Since 1984, C Enterprises has been dedicated to manufacturing and delivering reliable, quality connectivity solutions. Our highly trained staff employs years of industry experience to address custom build requirements, while meeting client manufacturing and shipping expectations. We deliver on our promise to provide solutions to all of your custom fiber optic and copper cable needs.

Cables Unlimited is a manufacturer of custom cable assemblies, custom wire harnesses, fiber cables, and custom hybrid cables to meet even the most unique challenges of the communications, automotive, military, robotic, industrial, wireless, and medical industries.



OptiTip® and OptiTap®

Corning Compatible Assemblies

Our FTTH and FTTA interconnect solutions are designed to meet the rapidly increasing demand of the wireless communication infrastructure. Assemblies provide a reliable connection for your hardware in harsh outdoor conditions. We offer connector and cable options compatible with large scale equipment manufacturers. Custom built with industry reduced lead times. **All products proudly assembled and tested in the USA.**

OptiTip® AND OptiTap® FEATURES

Assemblies are engineered to provide high performance connections between the Base Unit and Remote Radio Units. Due to the ongoing demand and growth of high-speed technology, the requirements for equipment and installation sites continue to change and evolve. Cable assemblies require constant design iterations and custom configurations to meet the installation requirements of LTE™ and 5G densification.

Processes and techniques developed by C Enterprises allow for variations of cable and connection types to suit the application and environment.

Our field-proven Corning compatible OptiTip® and OptiTap® wireless assembly series deliver consistent reliable performance. shroud virtually maintenance free. This means lower overall costs.

APPLICATION, CUSTOMIZATION AND DURABILITY

For use in wireless network systems that require high performance custom interconnect solutions with environmentally rated ruggedized materials.

Applications include:

- Cell Tower
- DAS/Small Cell/PICO Cell
- Outdoor DAS Networks
- FTTx Applications

Assemblies can be employed in both rigorous outdoor conditions and indoor routing. Outdoor and indoor/outdoor assemblies are provided with UV resistant cable jackets.

OptiTip® AND OptiTap® AVAILABLE OPTIONS

Connector Types	Connector Compliance and Ratings
OptiTip® / HMFOC and OptiTap® / HFOC	RoHS/REACH Compliant
LC / LC-Uniboot	ANSI/TIA 568
SC / FC / ST	TIA 604
Ingress Protection Ratings	Telecordia GR-326
IP20 / IP67 / IP68 Glands	
Cable Jacket Ratings	Cable Compliance
Outdoor	RoHS/REACH Compliant
Indoor/Outdoor	ANSI/TIA 568
Plenum and Riser	ITU-T G.657.A1
Cable Design	Cable Design Compliance
Flat Drop, Round and Self-Supporting	UL Listed
Aerial	OFNP-NFPA262 Flame Rating
Armored and Micro-Armored	OFNR-UL1666 Flame Rating



MULTIFIBER INDOOR/OUTDOOR ASSEMBLIES

Custom Fiber Indoor/Outdoor Assemblies

Our custom-built fiber assemblies are designed to meet the rapidly increasing demand for wireless communication.



These indoor/outdoor assemblies are designed for both rigorous outdoor conditions and indoor routing. Outer cable jacket is UV resistant and contain water blocking aramid yarn strength members.

Connectors used in our assemblies exceed industry standard for mechanical performance, optical performance and reliability. Our offering is suitable for use in wireless applications such as: fiber to the antenna (FTTA), fiber to the cell site (FTTCS), and Distributed Antenna Systems (DAS).

We employ a wide range of components that will ensure compatibility with large scale equipment manufacturers.



FEATURES

- **FTTA / FTTCS** – Assemblies are engineered for connecting Remote Radio Units (RRUs) and the Base Band Unit (BBU) in a wide range of antenna designs.
- **DAS** – A key part of DAS antennas providing reliable wireless services in public spaces and buildings. Ideally suited for DAS systems that are required by NFPA 72, IFC 510.1 Appendix J, and may be required by state and municipal fire codes for public safety.
- **Superior Design** – Assembly built with OSP furcated breakouts and uses an impact resistant breakout knuckle design.
- **Connector Types** – Duplex LC, LC Uniboot, MTP®/MPO, SC, FullAXS™ compatible glands, and IP-Series outdoor connectors.

AGENCY STANDARD COMPLIANCE

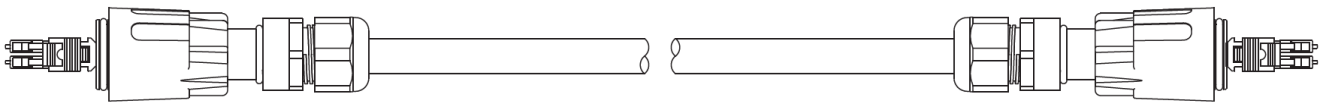
Cable	Connectors
RoHS/REACH Compliant	RoHS/REACH Compliant
ANSI/TIA 568	ANSI/TIA 568
ITU-T G.657.A1	TIA 604
UL Listed	Telecordia GR-326

MULTIFIBER INDOOR/OUTDOOR ASSEMBLIES

Available Configurations

ARMORED DUPLEX INDOOR/OUTDOOR ASSEMBLY

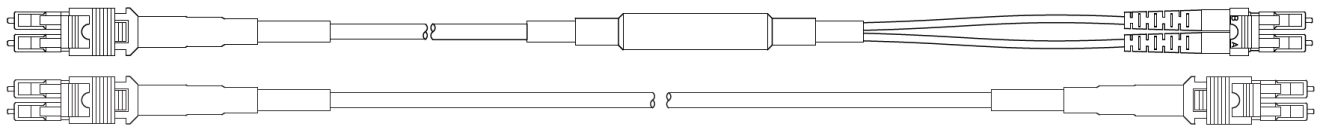
They provide protection from harsh weather conditions as well as small animals. The cable is Indoor/Outdoor rated with water blocking elements to provide protection from the environment. Designed with interlocking armor and employing a rodent-deterrenting agent in the outer jacket, the cable provides protection from rough handling and against rodent biting. Assembly depicted with duplex LC connectors in FullAXS™ compatible cable glands.



Agency /Standard Compliance	Parameters
ANSI/TIA 568	Operating Temp: -40°C to +70°C (-40°F to +158°F)
RoHS/REACH Compliant	Cable Diameter: 13.3 mm (0.52 inches)
Core Cable tested to Verizon TPR9424, Issue 2	Corning SMF-28 Bend Insensitive Fiber
ETL Listed Type OFCR	
Meets Telcordia GR-20	

DUPLEX INDOOR/OUTDOOR ASSEMBLY

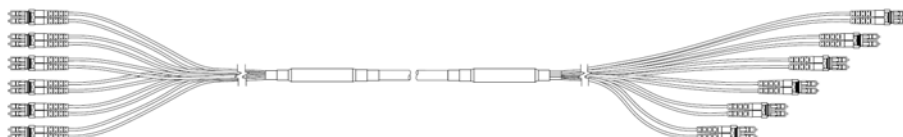
They provide a connection between the BBU and the RRU. This can be direct from the BBU to the RRU or from a junction box to the RRU. Solutions available to accommodate the manufacturers of various antenna systems.



Connector Options	Breakout
LC Clipped	Furcated Tubing
FullAXIS™ Compatible Cable Glands	OSP Furcated Tubing
IP Series Connectors (ODVA)	Corning SMF-28 Bend Insensitive Fiber
LC Uniboot with Heat Shrink	
Other connector options available	

MULTIFIBER INDOOR/OUTDOOR ASSEMBLY

They provide an effective way to connect the BBU to multiple RRUs on the antenna.



Connector Options	Breakout
LC Clipped	Furcated Tubing
LC Uniboot	OSP Furcated Tubing
MTP®/MPO	Staggered Connectors
SC Clipped	
Other connector options available	

CABLE AND CONNECTOR OPTIONS

Find the Right Connection

We have a wide selection of fiber cable and connector options to support wireless installations. All our fiber assemblies employ the highest quality Industry and Carrier rated components to provide unmatched level of customer satisfaction.

IP-PLUS® SERIES

IP-68 rated, UV-resistant, ODVA-style connectors provide a secure connection in harsh environments requiring water and dust ingress protection. Available in LC, MPO and SC connector varieties.

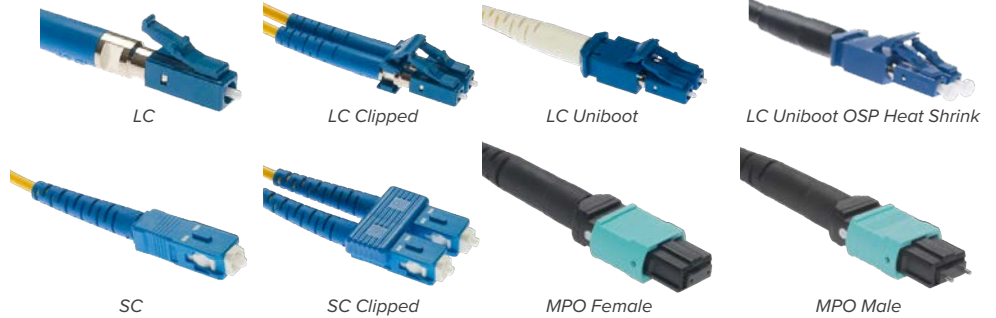


IP-ONE® POWER+ DATA

Wireless applications such as Cell Tower and DAS require a secure connection for both data and power. The IP-ONE connector series provides a unique solution to fit this need. The ODVA style uses an innovative interface for connecting Optical and Power requirements.

COMMON CONNECTORS

We stock a large selection of common connectors to ensure we will have the exact connector combination required for your custom fiber assembly. Our connectors are assembled from high-quality components and materials ensuring long-term reliability.



FULLAXS™ COMPATIBLE GLAND AND FULLAXS™ COMPATIBLE PROTECTION SLEEVE

This component is commonly employed on Cell Towers for a connection to Remote Radio Units. The IP-67 rated gland is water and dust ingress protected, corrosion resistant and designed with a bayonet-style locking system for secure and easy mating. The protection sleeve protects the last foot of the connection to an RRU.

BREAKOUTS AND IP FAN OUT KITS

We offer a variety of breakout options customized to meet environmental and customer applications.

Our IP Fan Out kits provide a robust weather-proof and dust proof alternative to using junction boxes. These kits are ideal for large scale installations as they require minimal installation activity on the antenna.

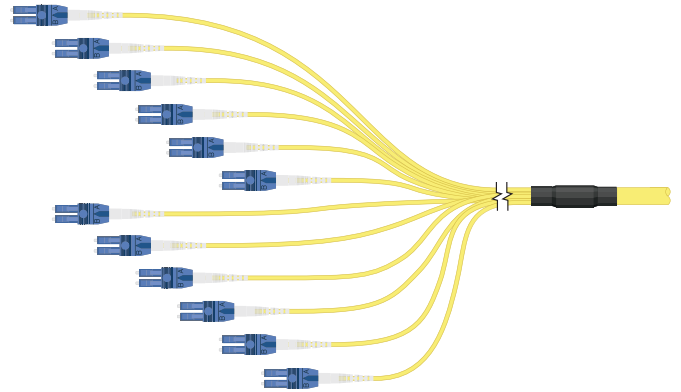


FIBER OPTIC CABLES

Leading Edge Fiber Optic, Made in the USA

STAGGERS

Assemblies connecting to Remote Radio Units often rely on carrier/installer specified staggering patterns to ensure best usage of antenna space, allowing for future growth.



FIBER OPTIC CABLES

Select from OSP and Indoor/Outdoor cables that will withstand the rigors of the wireless environment and meet applicable carrier/hardware standards. Below are some of the durable cable designs we employ to ensure a constant, secure connection for your assemblies.

MICROARMOR FIBER™ CABLES

The patented stainless-steel tube design greatly reduces cable diameter and weight compared to other types of armored cables. Tubing provides excellent rodent protection and crush resistance. Available with armored subunits.



ALUMINUM INTERLOCKING ARMORED (AIA) CABLES

Standard jacketed cables are housed inside interlocking aluminum for crush resistance and ruggedness. Design eliminates the need for installing conduits.



CORRUGATED ARMORED CABLE

This commonly used armored cable design provides crush resistance and rodent protection. Design is appropriate for direct burial applications.

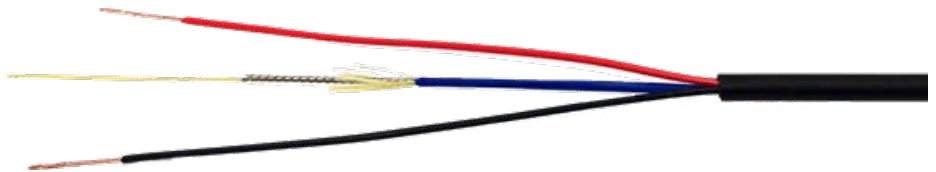


HYBRID FIBER & POWER CABLES

Cables containing both optical fiber and power provide a flexible, easy-to-route solution for Wireless infrastructure such as RRUs. Pre-terminated hybrid cable assemblies reduce the amount of cables running up an antenna mast and may eliminate the need for distribution boxes.

MICROARMOR FIBER™ HYBRID CABLES

Take advantage of the innovative, crush resistant MicroArmor stainless-steel tubing for Hybrid Wireless applications such as DAS and oDAS.



The patented cable design greatly reduces cable diameter, while providing a critical power connection in 12 AWG to 22 AWG options.

FIBER ACCESSORIES

Everything You Need for Your Next Deployment

PULLING EYES/ SPOOLS

Assemblies can be offered spooled and with pulling eyes to ease installation in wireless environments.

Our sturdy pulling eye design secures connectors and break-outs during the installation, such as when running an assembly up an antenna.



IP-RATED ADAPTERS

A full lineup of adapters is available for our OVDA-style IP rated connectors. The bulkhead adapter allows for easy installation of IP-rated assemblies into a wide range of hardware. Our In-Line Adapter Series allows for easy cable assembly extension, providing the flexibility to fulfill updated cell tower requirements and the need for infrastructure growth.



Bulkhead Adapters



In-Line Adapters



IP-LC Adapters

CABLE GLANDS

It is critical to ensure IP-rated protection at enclosure entry and exit points. Our large selection of cable glands provides cable strain relief and maintains a gas and watertight environment. Gland designs ensure a long-term fit under harsh environment conditions. IP67 and IP68 rating and metric or imperial threading is available.



TRUST RF INDUSTRIES FOR FASTER, EASIER DEPLOYMENTS



DESIGN | PRODUCTION | INVENTORY

We have production and warehouse facilities on both coasts of the United States along with a network of distributors throughout North America and Europe to deliver finished products quickly.



QUALITY POLICY STATEMENT

We are committed to maintaining excellent product quality. It is our goal to continuously improve the quality of our products to better satisfy the needs and expectations of our customers. We are also committed to delivering products that completely suit customer requirements on time, every time, and defect-free.



SHIPPING

Our experienced staff employs best-practice packaging and shipping methods. We manage weight and dimensions to ensure the lowest shipping costs with our quick-ship capabilities.



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