



# Harsh Environment Products

## FTTA, DAS, & Small Cell

# Welcome.

For over 25 years, NetSource has provided high quality cable assemblies and components to the telecom, data, and security industries.

Today the emerging DAS and FTTx markets are creating new opportunities for us to offer the same services and responsiveness that we have become known for. Our 60,000 square foot facility is ideally suited to accommodate the various products needed by these industries.



## Proudly Assembled in the USA



CAH Connections™  
Gold Program



**260 Progress Drive, Manchester, CT 06042**  
**1-800-557-8818 • [info@NetSource-inc.com](mailto:info@NetSource-inc.com)**

# THE NETSOURCE ADVANTAGE

## Cable Assemblies for Harsh Environments

### Sourcing the Proper Components

All raw materials used are sourced directly from industry-leading manufacturers. Products are selected to ensure excellent protection and resistance to corrosion, vibration, and temperature fluctuation.

### Optimum Performance

Our strict internal processes combined with the high-performance cable and connectors results in a superior finished product. All assemblies are tested at the factory and shipped with test results.

### Cost Savings

Pre-terminated assemblies allow for ease of installation and rapid deployment while also reducing costs associated with tooling, technician training, on-site scrap, and clean up.

### Customization

Pre-terminated assemblies are made to specific customer requirements and can be supplied with virtually any fiber type, strand count, and connector type. Customized labeling, breakouts, and packaging are also available.



## PERFORMANCE SPECIFICATIONS

		INSERTION LOSS (dB)		RETURN LOSS (dB)
FIBER TYPE	FIBER INTERFACE	TYP	MAX	
MULTIMODE	LC / SC	0.20	0.25	-25
	MPO®	0.25	0.35	-30
	ODC STYLE®	0.25	0.70	-30
		INSERTION LOSS (dB)		RETURN LOSS (dB)
FIBER TYPE	FIBER INTERFACE	TYP	MAX	
SINGLE MODE	LC / SC - UPC	0.20	0.25	-57
	SC / LC - APC	0.20	0.25	-65
	MPO®	0.60	0.50	-60
	ODC®	0.30	0.60	-50
	OptiTip®	0.35	0.65	-65
	OptiTap®	0.15	0.40	-65

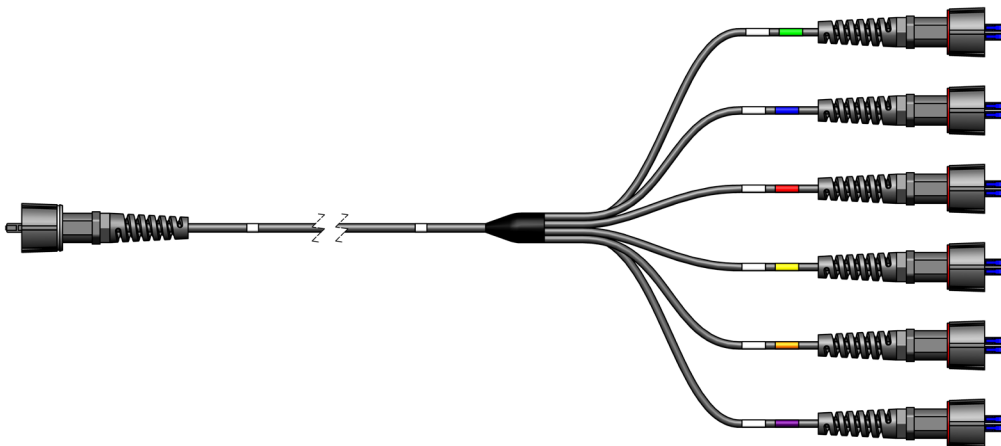
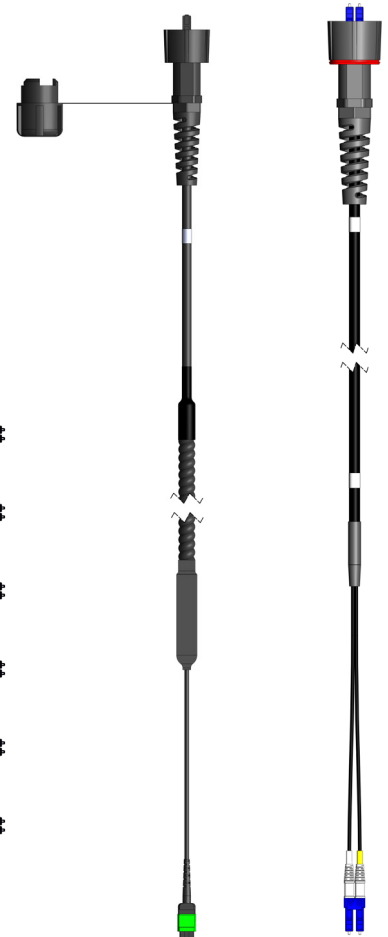
# IP 68 LC/SC/MPO

## FEATURES

- Fiber interface: Simplex SC, Duplex LC, and 12/24F MPO
- Multimode and singlemode
- Waterproof, dust-proof, and corrosion resistant
- Low cost and easy to use
- One-hand bayonet mating designed in accordance with IEC60603-7
- Color-coded safety lock to prevent unintended disconnect
- Waterproof dust caps available
- Easy extension with in-line adapter
- Cable types: Armored, I/O, and Tactical

## PERFORMANCE SPECIFICATIONS

HOUSING MATERIAL	UV / CHEMICAL / OZONE / RESISTANCE
MATING DURABILITY	100 CYCLES
MECHANICAL PERFORMANCE : PULL FORCE (LBS)	55
IP RATING	IP68
OPERATING TEMPERATURE IEC 61200-2-22	-40°C / +70°C
ODVA COMPATIBLE	YES
FLAMMABILITY RATING	UL 94-VO
SALT MIST : IEC 61300-2-26	PASSED
VIBRATION : IEC 61300-2-1	PASSED
SHOCK : IEC 61300-2-9	PASSED



# IP/68 LP/SC/MPO Hybrid

The unique design of our weather-resistant connectors allows for various configurations to help accommodate your specific needs and size requirements.

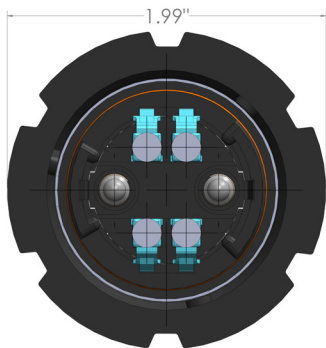
## FEATURES

- Fiber interface: Simplex SC, Duplex LC, and 12/24F MPO
- Multimode and Singlemode
- Waterproof, dust-proof, and corrosion resistant
- Color-coded safe lock to prevent unintended disconnect
- One-hand bayonet mating designed in accordance with IEC60603-7
- Waterproof dust caps available
- Easy extension with in-line adapter
- Cable types: Armored, I/O, and Tactical
- 6/8/10AWG

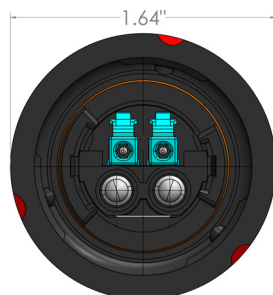


## PERFORMANCE SPECIFICATIONS

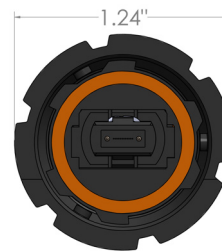
HOUSING MATERIAL	UV / CHEMICAL / OZONE / RESISTANCE
MATING DURABILITY	100 CYCLES
MECHANICAL PERFORMANCE : PULL FORCE (LBS)	55
IP RATING	IP68
OPERATING TEMPERATURE IEC 61200-2-22	-40 °C / +70 °C
ODVA COMPATIBLE	YES
FLAMMABILITY RATING	UL 94-VO
SALT MIST : IEC 61300-2-26	PASSED
VIBRATION : IEC 61300-2-1	PASSED
SHOCK : IEC 61300-2-9	PASSED



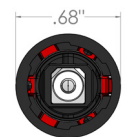
**IP-25**  
4x LC CONNECTORS  
2x COPPER



**IP-21**  
2x LC CONNECTORS  
2x COPPER



**IP-MPO**  
12/24 FIBER or  
1.25 LC FERRULE



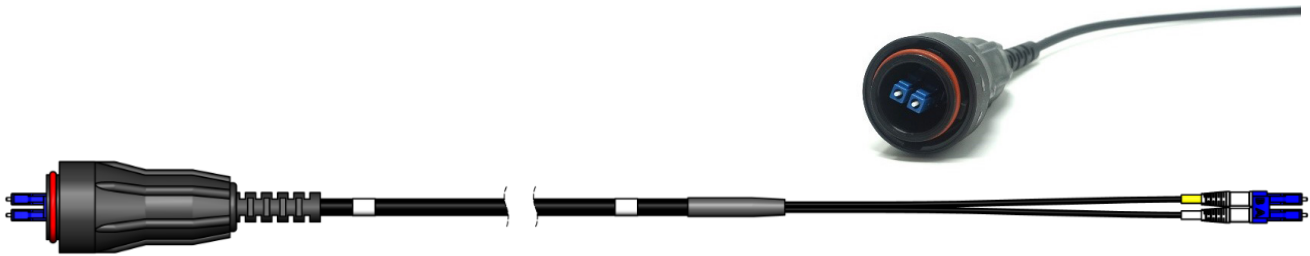
**IP-9**  
1 FIBER SC  
12 FIBER MPO

## FEATURES

- 2-fiber duplex LC interface
- Multimode and singlemode
- Waterproof, dust-proof, and corrosion resistant
- One-hand bayonet style mating
- Bulkhead cutout allows for removal of transceiver through the bulkhead (no need to open remote radio head for transceiver replacement)
- Cable types: Armored, I/O, and Tactical

## PERFORMANCE SPECIFICATIONS

NUMBER OF FIBERS	2
FLAMMABILITY RATING	UL 94-VO
MATING DURABILITY	100 CYCLES
MECHANICAL PERFORMANCE: PULL FORCE	150 N
IP RATING	IP67
OPERATING TEMPERATURE (IEC 61300-2-22)	-40°C / +85°C
SALT MIST: IEC 61300-2-26	PASSED
VIBRATION: IEC 61300-2-1	PASSED
SHOCK: IEC 61300-2-9	PASSED



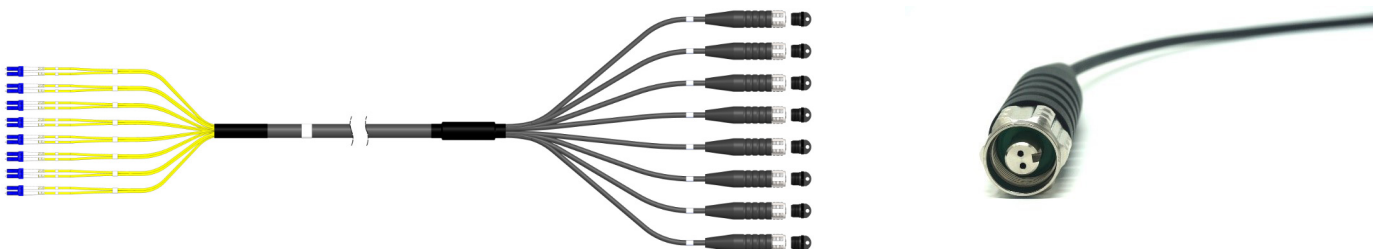
# ODC® Style

## FEATURES

- 2-4 fiber plug and socket
- Multimode and singlemode
- Waterproof, dust-proof, and corrosion resistant
- One-hand threaded mating
- 1.25mm ceramic ferrule
- Waterproof dust caps available

## PERFORMANCE SPECIFICATIONS

NUMBER OF FIBERS	2-4
HOUSING MATERIAL	NICKEL PLATED BRASS
MATING DURABILITY	500 CYCLES
IP RATING	IP68
OPERATING TEMPERATURE (IEC 61300-2-22)	-40 °C / +70 °C
SALT MIST: IEC 61300-2-26	PASSED
VIBRATION: IEC 61300-2-1	PASSED
SHOCK: IEC 61300-2-9	PASSED



# OptiTip® CORNING COMPATIBLE

Cable assemblies available OptiTip® to OptiTip® and OptiTip® to LC/SC/ST and MTP®

## FEATURES

- 12 Fiber
- Multimode and Singlemode
- Pinned and Non-Pinned
- Sealed dust cap with integrated pulling eye
- Waterproof, dust-proof, and corrosion resistant
- Available with Corning SST™ and Freedom® LSZH Indoor/Outdoor Cable

PERFORMANCE SPECIFICATIONS	
NUMBER OF FIBERS	12
MATING DURABILITY	200 cycles <.3dB change
MECHANICAL PERFORMANCE: PULL FORCE	100 N
TENSILE STRENGTH	300 LB / 1350 N
OPERATING TEMPERATURE: IEC 61300-2-22	-40 °C / +70 °C
QUALIFICATIONS	IP68, IP69K, EIA/TIA568-B, GR315 2

Designed and tested to Telcordia GR-3120



# OptiTap® CORNING COMPATIBLE

## FEATURES

- Proven reliability (deployed for over 20 years)
- Single Fiber: SC/APC or SC/UPC
- Waterproof, dust-proof, and corrosion resistant
- Corning SST™ Drop - Dielectric and Toneable
- Self Supporting at 40 lbf installation tension, 150 ft

PERFORMANCE SPECIFICATIONS	
NUMBER OF FIBERS	1 Fiber
MECHANICAL PERFORMANCE: PULL FORCE	50lbs (plug/adaptor), 100lbs (plug/plug through dust cap)
OPERATING TEMPERATURE: IEC 61300-2-22	-40 °C / +70 °C

Designed and tested to Telcordia GR-3120



# CUSTOM PRE-TERMINATED MULTI-FIBER ASSEMBLIES

NetSource pre-terminated assemblies allow for quick and easy deployment and are suitable for a wide variety of installations. All assemblies are made to customer-specific requirements and can be used in both temporary and permanent installs. Factory termination in a controlled environment ensures reliable and consistent performance.

## FIBER

- 2-144 Fibers
- Singlemode and Multimode

## BREAKOUTS

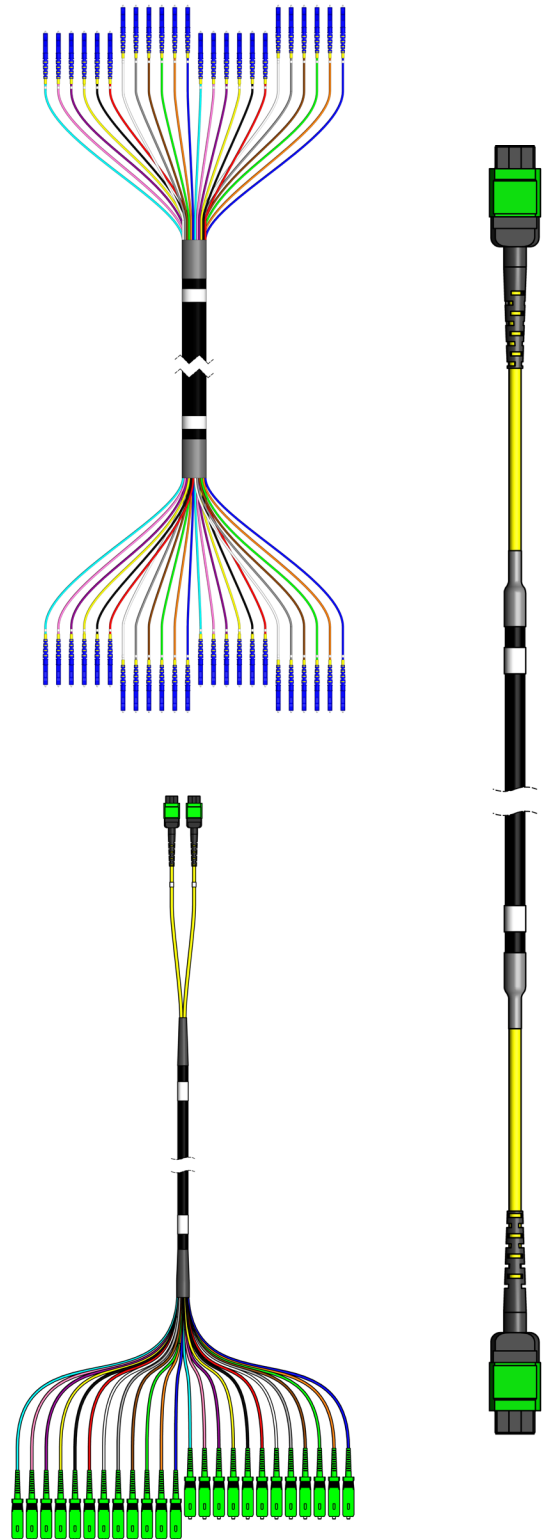
- Custom lengths
- Weather resistant
- Variety of colors and sizes

## FIBER INTERFACE

- LC, SC, ST, MTP®, FullAXS®, ODC®, OptiTip®, OptiTap®, and IP-rated connectors.

## CABLE CONSTRUCTION

- Riser / Plenum / PU / PE jackets
- Armored: Interlocking / Metal Sheath
- Indoor / Outdoor: UV-resistant cable jackets





# DAS CABLE ASSEMBLIES

NetSource distributed antenna system (DAS) cables are manufactured to your specific requirements. These cable assemblies are the perfect solution for both in building and outdoor wireless coverage.

## FIBER

- 1-24 Fibers
- Singlemode and Multimode

## POWER CONDUCTORS

- 12/14/16/18/20AWG THHN / THWN-2

## BREAKOUTS

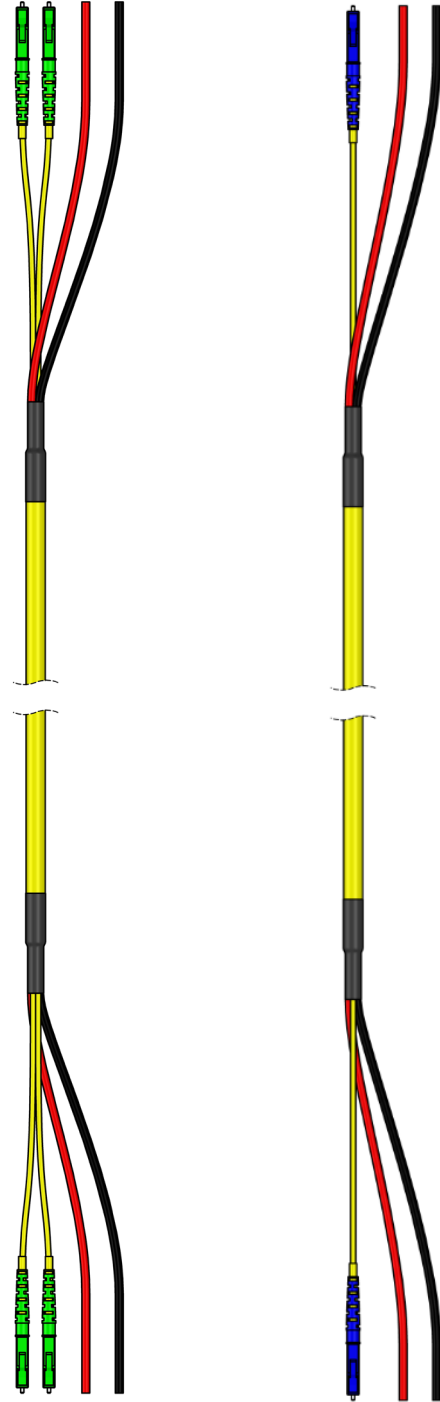
- Manufactured to specific lengths
- Weather resistant
- Variety of colors and sizes

## FIBER INTERFACE

- LC, SC, ST, MTP®

## CABLE CONSTRUCTION

- Riser / Plenum / PU / PE jackets
- Armored: Interlocking / Metal Sheath



# INDOOR ENCLOSURES

## INDOOR RACK & WALL MOUNT

### FEATURES

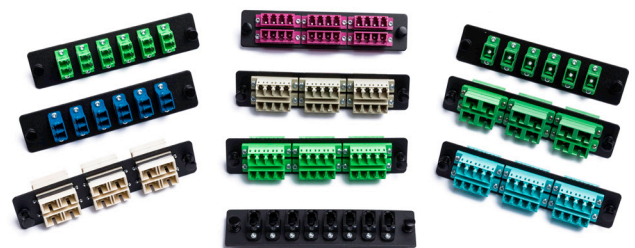
- Available for patch and splice, patch specific, or splice specific.
- The enclosures can be pre-wired to customer specification
- Supports 6-288 fibers
- 16 Gauge steel with black powder coat finish
- 19"-23" mounting
- Locks available upon request
- Accepts adapter panels and cassettes



## ADAPTER PANELS

### FEATURES

- Variety of single fiber adapters including LC, MTP®, SC, and ST
- Adapter panels are available in 6, 8, 12, 24, 72, and 96 fiber configurations
- All adapters are secured to the panel to eliminate possible movement of the mated pair
- MTP® adapter available in opposing key and aligned key



# OUTDOOR ENCLOSURES

Our family of outdoor enclosures are manufactured to provide superior protection to harsh outdoor environments. They can be pre-wired and configured to specific customer requirements that are available in a variety of fiber counts and connector types.

Pre-wired enclosures are available for splice and termination applications, as well as pre-loaded with splitter modules and MTP® cassettes.

## Features & Benefits

- Weather-resistant for protection in any environment
- Various applications including demarcation, interconnect, co-location, splice junction, and splitter distribution.
- Pre-configured/pre-loaded with factory terminated fiber assemblies

## Available Options

- Fiber Count: Up to 48 Fibers
- Mounting: Wall, Pole, H-Frame
- Application: Patch, Patch & Splice, Splitter
- Connector Types: LC, SC, ST, MPO
- Single Fiber & Mass Fusion Splice Trays
- Splitters up to 1x32
- Available in various colors/finishes



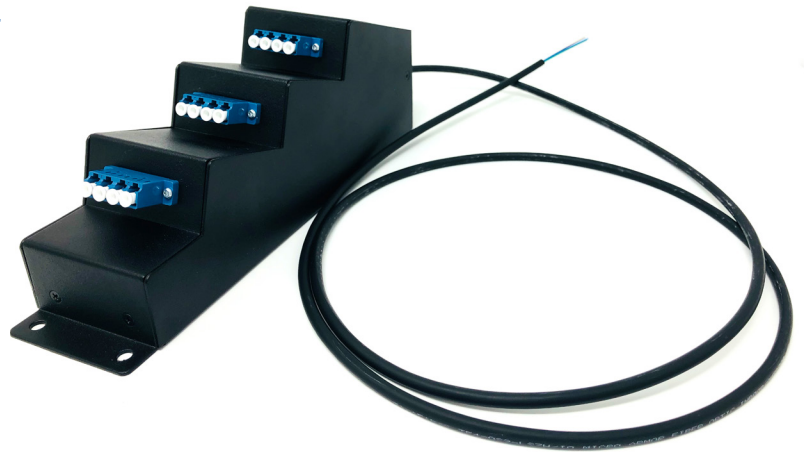
# CUSTOM PRE-TERMINATED CASSETTES

NetSource custom pre-terminated cassettes are built to meet specific customer needs. They can be terminated to a large variety of connectors and cable. These cassettes can mount in LGX or CCH footprint enclosures. Optional wall mount brackets or mounting magnets are available to help accommodate space-limited installations. All cassettes can be shipped pre-terminated to eliminate the need for splicing in the field.



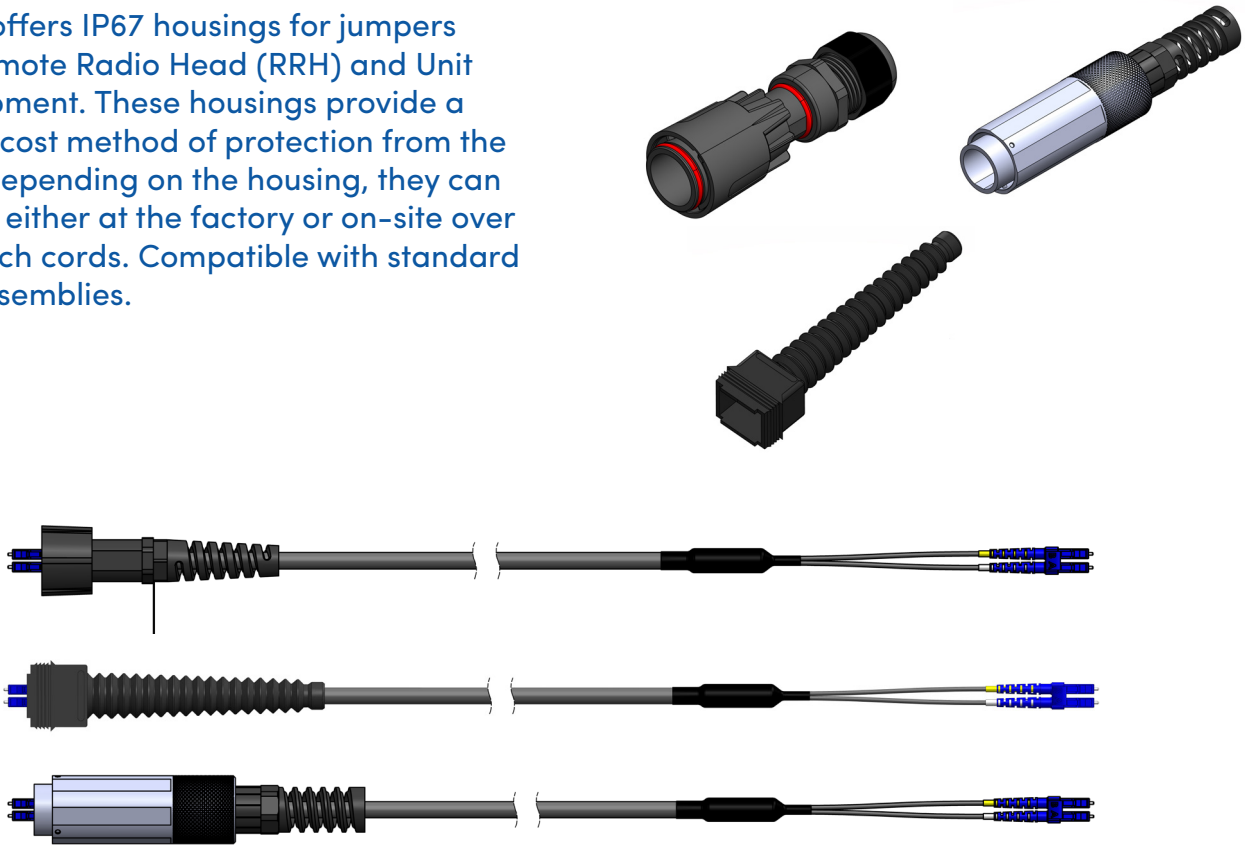
# DROP PATCH

NetSource drop patch enclosures have a compact pre-terminated design that allows for quick and easy installations in outdoor enclosures, pedestals, power poles, and Zero RU equipment racks. They can be installed permanently or as a temporary deployment. Factory terminated and tested in controlled environment to ensure reliable, consistent performance.



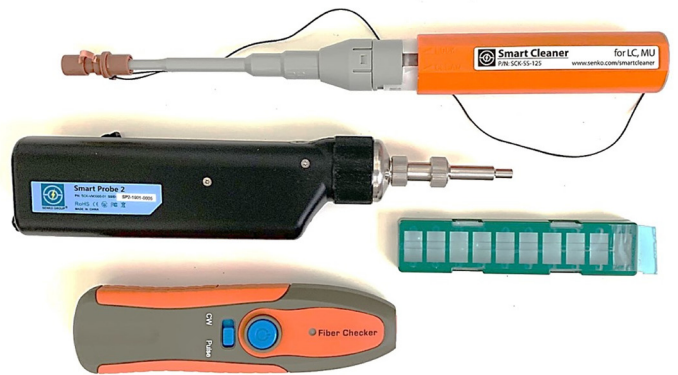
# CABLE PROTECTION

NetSource offers IP67 housings for jumpers used for Remote Radio Head (RRH) and Unit (RRU) equipment. These housings provide a simple, low cost method of protection from the elements. Depending on the housing, they can be installed either at the factory or on-site over existing patch cords. Compatible with standard LC cable assemblies.



# CLEANING AND INSPECTION

NetSource offers a wide range of cleaning and inspection components. Lack of proper cleaning is the leading cause of poor optical performance and can cause unnecessary downtime.



# Hybrid Trunks

SourceFLEX trunk cable assemblies are provided in various hybrid constructions with both copper and fiber under a single jacket. Typically, copper conductors are supplied blunt-ended (non-terminated) and fiber strands are terminated with LC style connectors.

## HYBRID CONSTRUCTIONS

### Fiber Pairs

- 12-96 Fibers
- Singlemode and Multimode

### Power Conductors

- 2, 4, 6, 8, & 10awg THHN/ THWN-Z

## BREAKOUTS

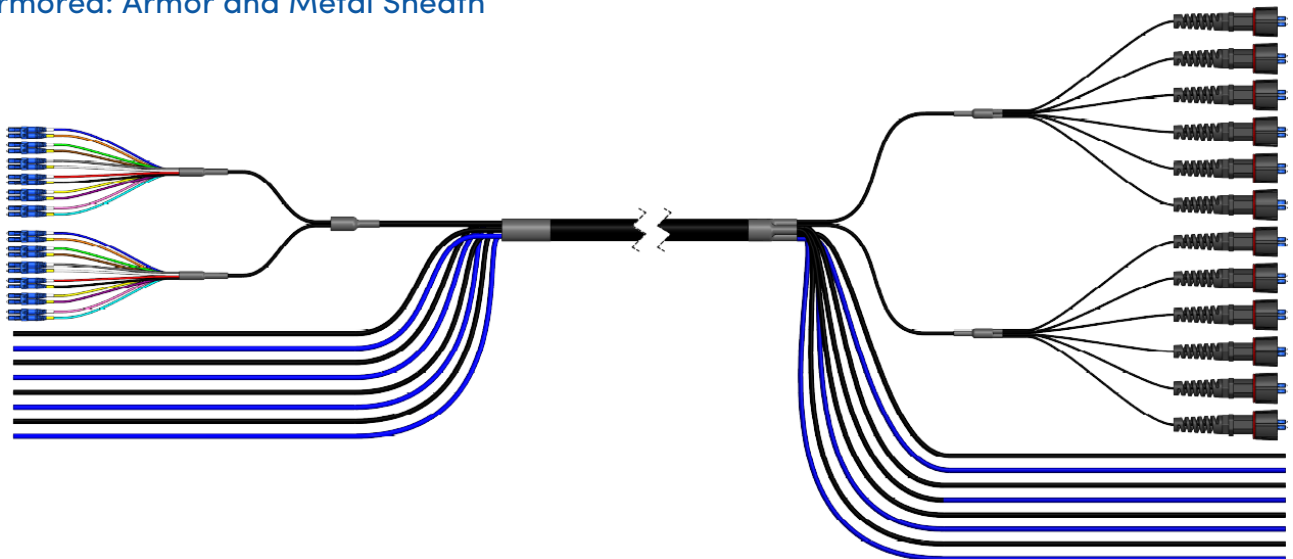
- Manufactured to specific lengths
- Weather resistant
- Variety of colors and sizes

## FIBER INTERFACE

- LC, SC, ST, MTP®, FullAXS®, ODC®, OptiTip® connector

## CABLE CONSTRUCTION

- Fiber/Copper Hybrid
- Riser, Plenum, PE and HTP Jackets
- Armored: Armor and Metal Sheath



# Remote Radio Head Jumpers

NetSource offers a complete line of factory terminated, custom build remote radio head (RRH) jumpers. While every RRH manufacturer uses system-specific installation cables, NetSource's strategic partnerships enable us to build compatible jumpers for virtually any system.

## FIBER CONNECTION INTERFACES

- OptiTip®, OptiTap®, DXLC, SXLC, SC, IP-Rated, FullAXS®, ODC®

## CABLE

- Fiber: 2-6 Fiber Singlemode
- Power Conductors: 6/8/10/12/14AWG
- Riser, Plenum, PE and HTP Jackets
- Armored: Armor, Metal Sheath, Interlocking

## ASSEMBLY CONSTRUCTION

- Standard and Custom Length Breakouts
- Indoor, Outdoor, or Armored Breakouts
- Kevlar Reinforced Pull Eyes
- IP-Rated Connector Housings





**NETSOURCE**

Our commitment to quality and customer service is our connection to you!

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