



FTTx SOLUTION ORDERING GUIDE

Chapter Two: For the Home

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OFS FTTx SOLUTIONS

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CHAPTER TWO:
For the Home

FTTx Solutions for the Home

Bandwidth usage is exploding driven in part by the rapid increase in Internet-connected devices and the use of data-heavy applications such as video on demand. Service providers are working to meet this need for greater bandwidth by expanding the deployment of fiber to the premises and then finally into the home.

Service providers building these networks all face a common challenge: the expense of the last mile in the optical network. It is critical for service providers, utilities and municipalities to have an optimized set of deployment options that help to reduce both capital and operational expenses.

The solutions presented in this section meet these challenges with several fiber deployment options from the drop point to and into the home.

BENEFITS

OFS FTTx Solutions for the Home can help residents take advantage of the Internet of Things (IoT), which is beginning to redefine how we work and live. These solutions focus not only on simplicity, cost-effectiveness and speed of installation; they also consider the pre- and post-installation customer experience, time to revenue generation and reliable subscriber connections that help to improve profitability for the service provider.

ENABLING INTERNET OF THINGS (IoT)



Lighting



Video



Audio



Smart Home



Smart Phones



Security



Shades



E-mail Notification



Camera



Home Appliances



Kitchen Appliances



Temperature

Home Pain Points and Solutions

PAIN POINTS AND SOLUTIONS

- **Time to turn-up service:** Fast and easy-to-install solutions (pre-terminated or on-site field termination) can help to speed installation, increase productivity and reduce labor costs.
- **Installation costs:** A combination of pre-terminated and field terminated solutions optimized to help lower installed cost based on a service provider's labor cost and installation skills.
- **Variety of home construction materials:** Offering solutions that complement the various materials used in home construction is critical. These materials may vary by country or even within a country.
- **Limited installation space:** Space constraints in aerial terminals, underground hand holds or even demarcation boxes may require technicians to coil, bundle or tie up fiber optic cables. Fiber specified to a minimum 2.5 mm bend radius enables technicians to avoid bending loss that can disrupt service.
- **Disruption to residents and the community:** Compact aerial and underground fiber optic cables can reduce disruption to external landscaping. Virtually invisible indoor fiber cables can blend into the existing décor.
- **Lack of indoor control:** Unlike the outside plant (OSP) infrastructure where providers have unrestricted access to rights of way, the indoor home environment is controlled by the owner or occupant. Solutions that effectively reduce negative visual or other impacts increase the likelihood of installation success.
- **Complexity:** With a broad, easy-to-configure set of products, service providers can help customers choose the optimum solution for their needs.

PRE-TERMINATED vs. FIELD-TERMINATED

Pre-terminated drop solutions are increasingly used to install fiber to homes to save time and money in higher labor cost regions. Pre-terminated drop solutions consist of drop cables that are terminated and tested in the factory, and easily plugged into the drop terminal and home terminal in the field. Pre-terminated solutions offer lower costs and faster deployment and require less installation skill.

For low labor cost markets, field terminated solutions may be preferred. Field terminated solutions use drop cables which are terminated with fusion splicing or mechanical connectors in the field during installation. They offer easier inventory management, lower material cost and easier slack management, but take longer to install, higher skilled labor and expensive field termination tools and splice machines, compared to pre-terminated solutions.

A third approach, with one end of the drop cable pre-terminated, and the other end field terminated, can solve the slack issue and allow an easy plug-in to the drop terminal and field termination at the home.

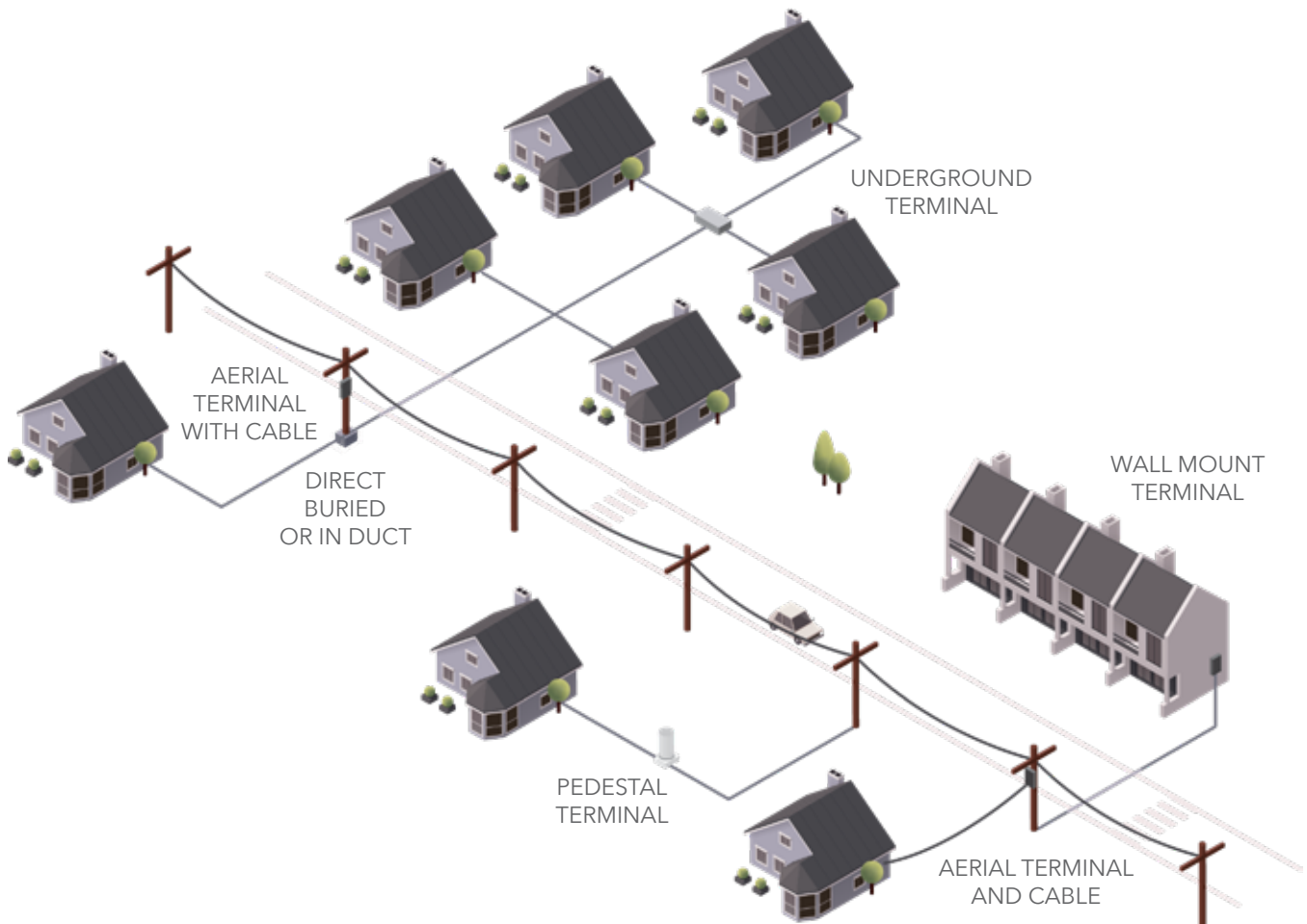
OFS offers all three of these drop solution options to fit the unique needs of each service provider. OFS pre-terminated solutions are available with EZ-Bend® cables that can solve the slack management challenge. EZ-Bend cables enable the slack to be tied into a very compact bundle.

The Access Network

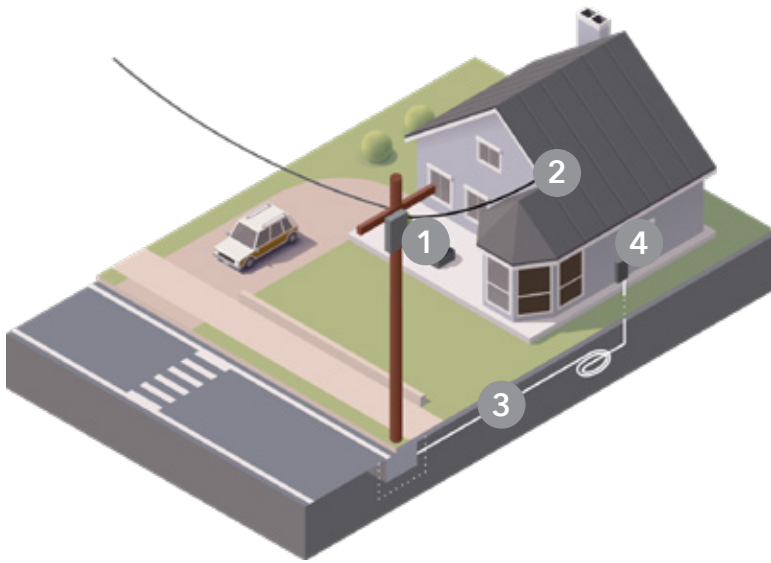
Connecting the Home

Providers typically use a combination of aerial and underground solutions to connect the last mile in a network to individual homes. A variety of factors including climate and existing infrastructure can influence solution selection.

OFS offers a complete portfolio of aerial and underground solutions including terminals, integrated splitters and drop cables to connect to the demarcation point of individual homes. From that location, a number of solutions can be leveraged to take optical fiber into the home.



Aerial Solution



SOLUTION OPTIONS

1. SlimBox™ Drop Terminal (Aerial)
- 2A. Mini LT Flat Drop Cable (Aerial)
- 2B. Mini TB Flat Drop Cable (Aerial with EZ-Bend® Cord Inside)
- 3A. EZ-Bend Ruggedized Cable 4.8 mm (Direct Buried or in Duct)
- 3B. EZ-Bend Toneable Cable (Direct Buried or in Duct)
- 3C. EZ-Bend Ruggedized Cable 3.0 mm (In Duct)
4. SlimBox Customer Splice Point (CSP) Module (Wall Mount)

Aerial deployment is typically lower in cost and preferred where poles are in place near homes. In this scenario, a SlimBox Drop Terminal is installed on a pole, with or without splitters, and then connected by a drop cable to as many as 16 homes. Below grade drop deployment is preferred if there is an existing duct placed from the terminal location to the home, or if below grade cabling is required by local regulations.

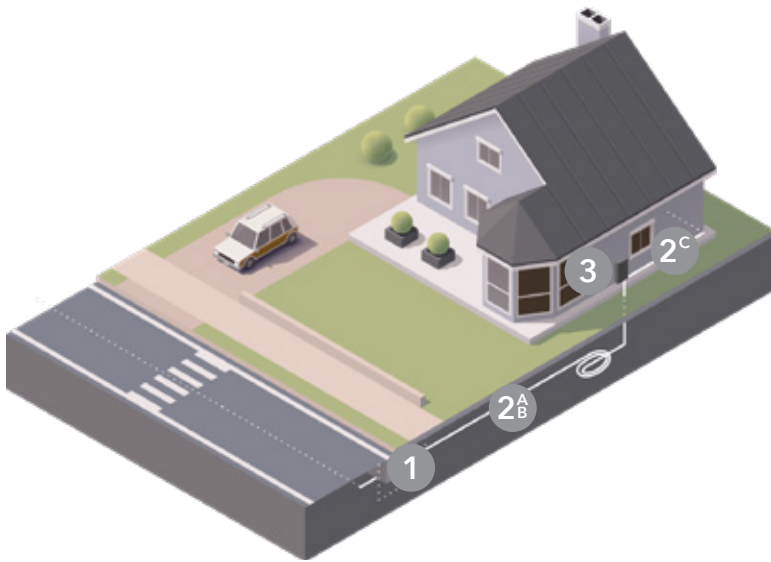
First, an installer inserts a feeder or distribution cable into the terminal. The installer then extracts the number of fibers required and fusion splices them to a pre-terminated splitter or drop fiber. Aerial or underground drop cables are then deployed from the terminal to individual residences.

In the case of aerial cables, a drop cable is placed between the pole and a point near a home's roof. The cable can be connected to a demarcation box and installed into the home through the attic or onto the side of the house at a demarcation box near the ground. To help avoid unsightly aerial cables, an aerial terminal can be connected to an underground drop cable. For aerial deployments, OFS offers the single-fiber Mini LT Flat Drop Cable and the single-fiber Mini-TB Flat Drop cable which contains 3 mm cordage that can be routed directly to an ONT.

Underground drop cable options include the single-fiber EZ-Bend® 3.0 mm and 4.8 mm Ruggedized Cables and EZ-Bend Toneable Cables. The toneable cables enable easy above ground locating of buried cables to help avoid cable cuts when other underground systems are installed. These drop cables are installed from the aerial terminal down the pole to the ground, and are then buried to minimize disruption to landscaping, or pulled into existing duct. The cable is then connected into a demarcation box installed at the side of the house, ideally in a location close to the Optical Network Terminal (ONT) on the inside.

EZ-Bend cables are preferred since their 2.5 mm bend radius allows the cables to be coiled, bent and tied without creating signal degradation. These cables can also be buried or stapled/clipped and bent around the outer perimeter walls of a home to reach an entry point closer to the preferred Optical Network Terminal (ONT) location.

Underground Solution



SOLUTION OPTIONS

1. SlimBox™ Drop Terminal (Underground)
- 2A. EZ-Bend® Ruggedized Cable 4.8 mm (Direct Buried or In Duct)
- 2B. EZ-Bend Toneable Cable (Direct Buried or In Duct)
- 2C. EZ-Bend Ruggedized Cable 3.0 mm (In Duct)
3. SlimBox Customer Splice Point (CSP) Module (Wall Mount)

SOLUTION DESIGN

In the underground solution, a SlimBox Underground Terminal is installed in a hand hole and cables are installed from the terminal to the demarcation box. The cables used in this solution are identical to the underground cables used in the aerial scenario.

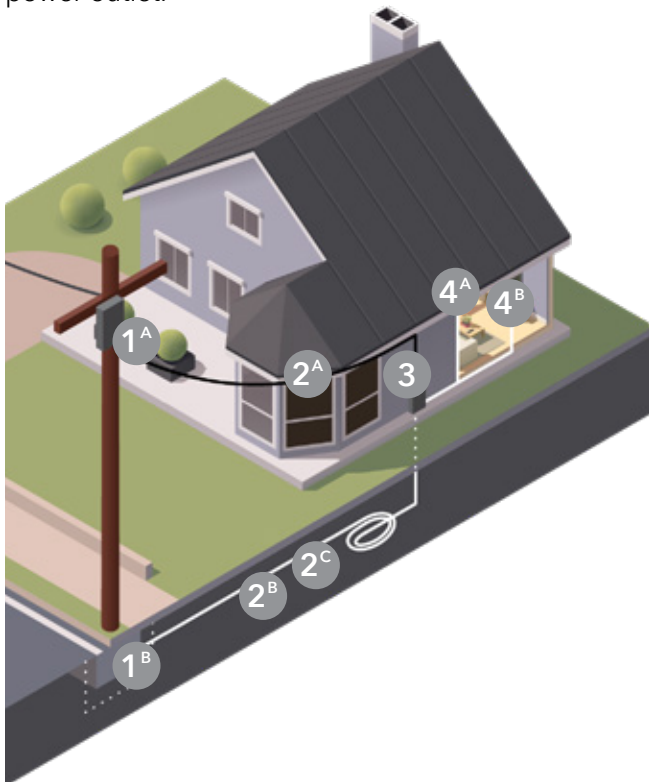
Greenfield Construction

EZ-Bend® Pre-terminated Cables

SOLUTION DESIGN

New home construction offers a win-win situation for construction companies and service providers. With the ability to “build in” optical fiber connectivity, new homes are futureproofed from the beginning, real-estate values increase and new home owners can become immediate subscribers without an expensive truck roll.

Subscribers can be connected faster using pre-terminated cables installed to and into homes during construction. OFS offers EZ-Bend® 3.0 mm and 4.8 mm cables that can be installed independently or in ducts using typical home wiring techniques, such as stapling or zip-tying of the cables, to a location or media panel where the ONT would be later placed. The home owner can later perform a “self install” by receiving an ONT from the service provider, and simply plugging in EZ-Bend cable assembly and a power adapter to the ONT. OFS also provides a SlimBox™ Wall Plate that discretely blends into a home’s décor and facilitates ONT connections in the same way as a power outlet.



BENEFITS

- Fast installation
- Requires minimal technical skills
- “Home ready” solution for quick service turn up/ fast time to revenue
- Enables subscriber “self install” to avoid expensive truck rolls
- Hidden, décor-friendly design
- Allows minimal tenant disruption
- Flexibility for wall-mounted and desktop ONTs
- Helps to increase home value

SOLUTION OPTIONS

- 1A. SlimBox™ Drop Terminal (Aerial)
- 1B. SlimBox Underground Terminal (Underground)
- 2A. Mini LT Flat Drop Cable (Aerial)
- 2B. EZ-Bend® Ruggedized Cable 4.8 mm (Direct Buried or In Duct)
- 2B. EZ-Bend Toneable Cable (Direct Buried or In Duct)
- 2C. EZ-Bend Ruggedized Cable 3.0 mm (In Duct)
3. SlimBox Customer Splice Point (CSP) Module
- 4A. InvisiLight Drop Solution
- 4B. EZ-Bend Cable Assemblies used in indoor wiring/ducts or conduits and Optical Network Terminal (ONT)
5. SlimBox Wall Plate or InvisiLight® EZ-Connect Module

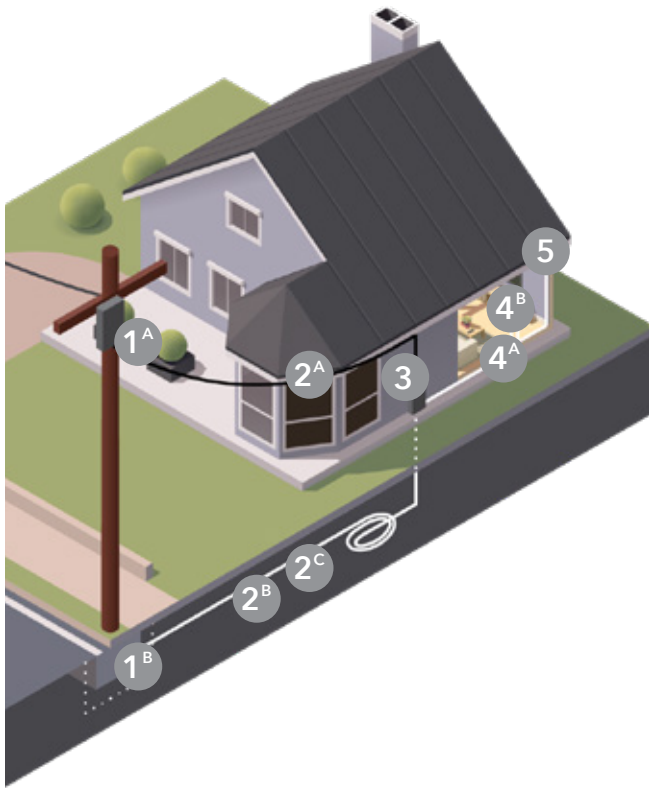
Brownfield Construction

Building Blocks for Indoor Solutions

SOLUTION DESIGN

The wide variety of building architectures encountered with existing homes can pose a challenge to network installers. In addition, home designs and construction materials can vary greatly from country to country and even within countries. OFS solutions are purposefully designed and optimized to suit a variety of homes globally and offer maximum flexibility to on-site installers.

Depending on the target market, a provider can choose the terminals and drop cables for an aerial, underground or hybrid solution. The solutions described are the most popular options and feature a variety of products as building block components. This modular product design approach allows service providers to also create custom solutions to meet the specific needs of their target markets.



BENEFITS

- Fast and easy installation
- Requires minimal technical skills
- Décor-friendly solution offers minimal tenant disruption
- Low visibility for high customer satisfaction
- Automatic slack management removes the need to measure cable lengths
- Factory pre-terminated - plug and play solution
- Flexibility for both wall-mounted and desktop ONTs
- Quick service turn up and time to revenue
- Safer for technicians (no need to enter attics)

SOLUTION OPTIONS

- 1A. SlimBox Drop Terminal (Aerial)
- 1B. SlimBox Underground Terminal (Underground)
- 2A. Mini LT Flat Drop Cable (Aerial)
- 2B. EZ-Bend Ruggedized Cable 4.8 mm (Direct Buried or In Duct)
- 2B. EZ-Bend Toneable Cable (Direct Buried or In Duct)
- 2C. EZ-Bend Ruggedized Cable 3.0 mm (In Duct)
3. SlimBox Customer Splice Point (CSP) Module
- 4A. InvisiLight® ILU or InvisiLight Drop Solution
- 4B. EZ-Bend Assembly and SlimBox Wall Plate
5. EZ-Bend Jumper to Optical Network Terminal (ONT)

Greenfield or Brownfield Construction

EZ-Bend® Drop Solution for Townhomes

SOLUTION DESIGN

Townhomes or Row Houses (as they are sometimes called) typically consist of five or more homes sharing a common wall.

In such a scenario, the drop cables from an aerial or underground terminal can be connected to a wall mount terminal, such as the SlimBox™ Outdoor 24-Fiber Terminal. This terminal would be installed on the same side of the building as other utilities (power, water meters and so forth). From that point, installers could run various lengths of EZ-Bend® Drop Assemblies to each of the townhomes through the building attics into the telecom closet where the ONT is installed. Alternatively, the EZ-Bend Drop Assemblies could be “wrapped” around the base of the building to reach each living unit.

BENEFITS

- Fast and easy installation
- Requires minimal technical skills
- Décor-friendly solution allows minimal tenant disruption
- Slack management removes the need to measure cable lengths
- Factory pre-terminated - plug and play solution
- Quick turn up of service and time to revenue



SOLUTION OPTIONS

- 1A. SlimBox Drop Terminal (Aerial)
- 1B. SlimBox Underground Terminal (Underground)
- 2A. Mini LT Flat Drop Cable (Aerial)
- 2B. EZ-Bend Ruggedized Cable 4.8 mm, 3.0 mm (Direct Buried or In Duct)
- 2B. EZ-Bend Toneable Cable (Direct Buried or In Duct)
- 2C. EZ-Bend Ruggedized Cable 3.0 mm (In Duct)
3. SlimBox Outdoor 24-Fiber Terminal
4. EZ-Bend Assemblies
5. Optical Network Terminal (ONT)
SlimBox Wall Plate (optional)
InvisiLight ILU Solution (optional)



Terminals

SlimBox™ Drop Terminal

PRODUCT DESCRIPTION

The SlimBox™ Drop Terminal provides a versatile solution from a single platform for making the FTTH connection to Multifamily Dwelling Unit (MDU) or Single Family Unit (SFU) subscribers. It can support up to 16 drop cable assemblies in a terminal enabling speedy plug and play connections to customers - with standard non-proprietary connectors all sealed inside a single enclosure. It may also be provided with either two 1x8 splitters or a single 1x16 splitter to support distributed or cascaded passive optical networks in addition to functioning as a drop terminal.

The terminal may be pole, pedestal or aerial mounted and meets GR-3120 for reliable performance. It is easily enterable and resealed through an innovative clamshell clamping system, and fusion splices are isolated in a separate chamber from the subscriber drop connections.

With multifunctional support using standard connectors, simplicity and versatility meet in the SlimBox Drop Terminal.

FEATURES

- Available with SC-APC adapters inside
- Standard SC-APC Connectors
- One terminal part number supports up to 16 drop connections with 1x16 or two 1x8 splitters for mid-span splicing into distribution cable
- OFS AllWave® FLEX+ Optical Fiber standard in all pigtail and tether assemblies
- Labeling on inside of door

BENEFITS

- Fast subscriber connections removing need for fusion splicers
- Connections protected inside terminal
- Non-proprietary connector system
- Easy cleaning with standard kits
- Reduced inventory
- Quick learning process
- Splitter and drop cables in single terminal remove the need for additional closure
- Lower cost
- Low bending loss for improved system performance and/or increased safety margins
- Easy maintainable subscriber identification

SlimBox™ Drop Terminal *Continued*

Ordering Information		
Part Number	Product Code	Product Description
301091021	SLIMBOX,DROP TERMINAL-EMPTY	Drop Terminal including one splice tray
301091039	SLIMBOX,DROP TERMINAL-SPICE TRAY KIT	Splice tray only
301092599	SLIMBOX,DROP TERMINAL-ADAPTER TRAY SC SC	Connector tray only
301091054	SLIMBOX,DROP TERMINAL-FLAT GRIP/GROMMET	8 Flat grip and grommets
301091062	SLIMBOX,DROP TERMINAL-RND GRIP/GROMMET	8 Round grip and grommets
301091070	SLIMBOX,DROP TERMINAL-W/4 SPLICE TRAYS	Drop Terminal including 4 splice trays
301091088	WSE1S-016-SDT0-BLK-SA8UNC-F	Splice version 16 SC APC shuttered adapters Single Fusion Grip and Grommet
301091096	WSE1W-016-SDT0-BLK-SCAUNC-F-PT	Splice version 16 SC APC adapters w/ Pigtails Single Fusion Grip and Grommets
301091104	WSE1S-016-SDT0-BLK-SCAUNC-F	Splice version 16 SC APC adapters Single Fusion Grip and Grommets
301091146	WSE1W-016-SDT0-BLK-SCAUNC-F-PT	Splice version 16 SC APC pigtails and adapters Single Fusion Grip and Grommets
301091161	WSE1W-016-SDT0-BLK-LCAUNC-F-PT	Splice version 16 LC APC pigtails and adapters Single Fusion Grip and Grommets
301091195	WSE1W-017-SDT0-BLK-UNCSCA-F-P1-1X16-BAL	Splitter version 16 adapters Flat & Round (splitter input is unconnectorized)
301091203	WSE1W-009-SDT0-BLK-UNCSCA-F-P1-1X08-BAL	Splitter version 8 adapters Flat & Round (splitter input is unconnectorized)

Terminals

SlimBox™ Underground Terminal



PRODUCT DESCRIPTION

The SlimBox Underground Terminal enables quick and easy connections through plug-and-play connectorized drop cables, fusion splicing, splice on connectors or mechanical connectors.

The terminal has one area for storage and splicing, and a separate area for the management and activation of subscribers. The mechanical sealing system makes the terminal ideal for both underground and aerial applications.

FEATURES

- Available with SC-APC adapters inside
- Standard SC-APC Connectors and adapters
- One terminal part number supports up to 16 drop connections
- OFS AllWave® FLEX+ Optical Fiber standard in all pigtail and tether assemblies
- 1x16 or two 1x8 splitters available either factory installed or installable in terminal
- Hand activated clips to open and close terminal
- Splicing and fiber management area isolated from subscriber connection area

BENEFITS

- Fast subscriber connections remove the need for fusion splicers
- Connections protected inside terminal
- Non-proprietary connector system
- Easy cleaning with standard kits
- Reduced inventory
- Lower cost
- Low bending loss for improved system performance and/or increased safety margins
- Splitter and drop cables in single terminal remove the need for additional closure
- Reduced fusion splicing if factory installed
- Safe, quick and easy access
- Avoids risk of subscriber drop technicians disturbing splices or fibers

SlimBox™ Underground Terminal *Continued*

Ordering Information		
Part Number	Product Code	Material Description
301126322	SLIMBOX-UNDERGROUND-TERMINAL, 16-EMPTY	Underground Terminal empty
301126330	SLIMBOX-NDRGRND-TERM, 16-1SPL-SCA-P1-1X08	Splitter version 8 SCA adapters (splitter input is unconnectorized)
301126348	SLIMBOX-NDRGRND-TERM,16-1SPL-SCA-P1-1X16	Splitter version 16 SCA adapters (splitter input is unconnectorized)
301126355	SLIMBOX-NDRGRND-TERM,16-2SPL-UNC-P1-1X16	Splitter version 16 SCA adapters (splitter input and output are unconnectorized)
301126363	SLIMBOX-NDRGRND-TERM,16-1SPL-SA8-P1-1X08	Splitter version 8 SCA shutter adapters (splitter input is unconnectorized)
301126371	SLIMBOX-NDRGRND-TERM,16-1SPL-SA8-P2-1X08	2 splitter version 8 SCA shutter adapters (splitter inputs are unconnectorized)
301126389	SLIMBOX-NDRGRND-TERM,16-1SPL-SA8-P1-1X16	Splitter version 16 SCA adapters (splitter input is unconnectorized)

EZ-Bend® Cable (Reel-in-a-Box)



FEATURES AND BENEFITS

- Best in class EZ-Bend 2.5 mm bend radius rated fiber, in a robust cord that can withstand sharp corners and up to 100 lbs. (45 KG) of pulling tension
- Lighter and easier to transport and use than standard fiber reel packages
- Helps save time and money on installation, equipment, setup and storage
- Provides greater cable protection
- Design prevents cable from spinning over the reel flange and helps eliminate twisting and tangling
- Supports multiple simultaneous cable pulls
- Direct cable access through the box top for easy management of excess cable
- Outdoor version for underground applications

SUMMARY

The OFS Reel-in-a-Box Cabling Solution offers installers lightweight, easy-to-use cable packaging for true “out of the box” disbursement of fiber optic cable. This readily recyclable cable package helps save time and money on set up and installation.

Ordering Information		
Part Number	Product Code	Material Description
PR1-001-346-0273	IR30-001C-DRK-4-WPVC-RIB-1500FT	EZ-Bend 3.0mm Riser Cable - Black - RIB - 1500FT
PR1-001-347-0273	IR30-001C-DRW-4-WPVC-RIB-1500FT	EZ-Bend 3.0mm Riser Cable - White - RIB - 1500FT
PR1-001-229-0273	IR30-001C-DRK-4-WPVC-RIB-4500FT	EZ-Bend 3.0mm Riser Cable - Black - RIB - 4500FT
PR1-001-579-0273	IR30-001C-DRW-4-WPVC-RIB-4500FT	EZ-Bend 3.0mm Riser Cable - White - RIB - 4500FT
PR1-001-348-0273	IO48-001D-DRK-4-WPVC-RIB-1500FT	EZ-Bend 4.8mm Riser and Indoor/Outdoor Cable - Black - RIB - 1500FT
PR1-001-349-0273	IO48-001D-DRW-4-WPVC-RIB-1500FT	EZ-Bend 4.8mm Riser and Indoor/Outdoor Cable - White - RIB - 1500FT

Cables

EZ-Bend® 4.8 Toneable Cable

PRODUCT DESCRIPTION

With the EZ-Bend 4.8 mm Toneable Indoor/Outdoor Cable, users have yet another option for MDU, in-home wiring and aggressive, space-constrained routing environments. This toneable, riser-rated cable was specifically designed with the durability to be buried and then installed in one continuous run from the street into the home. In this way the EZ-Bend Toneable Cable eliminates the need for transition boxes and hardware on the outside of the living unit while also facilitating fast cable location along with cable bonding and grounding.



FEATURES

- 4.8 mm diameter ruggedized toneable indoor/outdoor cordage
- Less than 0.1 dB macrobending attenuation at 1550 nm for 1 turn at 5 mm fiber bend radius
- Less than 0.3 dB macrobending attenuation at 1550 nm when subjected to MDU Simulation Test called out by ICEA S-115-730
- Solid construction fiber complies with ITU G.657. B3 requirements for macrobending performance
- Backward compatible with installed G.652.D fibers
- Conforms to UL® CL2R-OF fire rating
- Compliant with Telcordia 409 & ICEA S-83-596 and S-104-696 requirements
- Dry water-blocked core to protect against water ingress
- Reinforced solid jacket construction naturally limits cable bending to control macrobending attenuation and protect fiber reliability

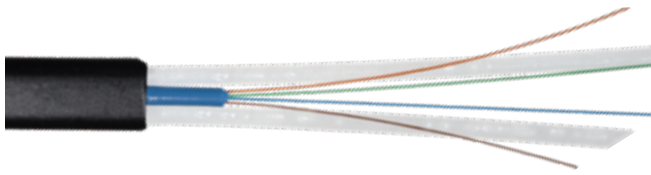
BENEFITS

- **Integrated toning wire:** Helps reduce installation cost (no hardware/transition box or separate locating tape/wire needed)
- **Faster, easier handling:** Toning wire easily separated from cable by hand with no special tools needed
- **Compact installation and storage:** Flexible design for easy slack storage in small spaces
- **Color options:** Choice of optically visible orange, black or white jackets
- **Streamlined slack storage:** Simply coil and bury extra slack in the ground, thereby eliminating a slack box
- **Fast, easy, low loss splicing:** Splice to G.652.D fiber with existing core and clad aligned splice equipment
- **Familiar, standard connector termination:** Standard industry SCA connectors are available

Ordering Information available on Page 18.

Cables

Mini LT Flat Drop Cable



PRODUCT DESCRIPTION

The Mini LT Flat Drop Cable offers a compact and lightweight yet durable, self-supporting fiber optic design in an easily accessible construction.

To construct the cable, up to 12 optical fibers are placed in a 2.0 mm gel-filled buffer tube to create a flexible and easy-to-access core. Next, two fiberglass rods are placed diametrically opposite on either side of the fiber core, providing excellent crush resistance and tensile strength during installation and over the lifetime of the cable. The strength member rods and fiber core are then encapsulated in a durable polyethylene (PE) jacket to create a flat cable cross-section and provide added protection to the cable core.

FEATURES AND BENEFITS

- Compact, easy-to-access design allows for streamlined installation and handling
- Suitable for self-supporting aerial, direct buried and duct FTTx drop installations
- Compatible with industry-standard wedge clamps and closure strain reliefs
- Excellent tensile strength and crush resistance
- Optimized for fiber counts of 1, 2, 4, 6 and 12 for minimizing deployment costs
- All-dielectric construction eliminates the need for bonding or grounding
- 300 pound Maximum Rated Cable Load (MRCL)
- Standard availability with AllWave® Zero Water Peak (ZWP) Single-Mode Optical Fiber (AllWave FLEX ZWP Optical Fiber available as an option)
- RDUP (formerly RUS) listed and compliant with ANSI/ICEA, Telcordia and IEC specifications for reliable performance

Ordering Information available on Page18.

EZ-Bend® 4.8 Toneable Cable and Mini LT Flat Drop Cable *Continued*

Ordering Information for EZ-Bend® 4.8 Toneable Cable (Page 16)			
Description	Flame Rating	Code	Nominal Weight kg/km (lb/ 100 ft)
Indoor/Outdoor Cables			
4.8 Indoor/Outdoor Riser	(UL) CL2R-OF	IT48-001A-DRK-4-WPVC	23.9 kg/km (1.48 lb/100 ft)
4.8 Indoor/Outdoor Riser	(UL) CL2R-OF	IT48-001A-DRO-4-WPVC	23.9 kg/km (1.48 lb/100 ft)

NOTE: Standard color for indoor cables is a white jacket. Standard color for indoor/outdoor cables is a black jacket. Please note that optically visible orange is available.

Example of Standard Sheath Marking (Custom sheath marking available upon request)

Black-Jacketed Riser-Rated 4.8 mm Ruggedized Toneable Drop Cable with EZ-Bend Technology:

OFS INTERCONNECT EZ-BEND® G.657.B3 OPTICAL CABLE -C- IT48-001A-DRK-4-WPVC 9/125 C (UL) CL2R-OF {MM/YY} {LOT NUMBER} {LENGTH IN FEET}

Ordering Information for Mini LT Flat Drop Cable (Page 17)	
Example: AT-3BE8T7X-NNN	
Part Number: AT-S1 S2 SF S3 S4 S5 S6 - NNN	
S1 = Fiber Selection 3 = 1310/1550 nm (AllWave® ZWP Fiber) 5 = 1310/1550 nm (AllWave FLEX ZWP Fiber) 6 = 1550 nm (TrueWave® RS LWP Fiber) R = 850/1300 nm (Multimode Fiber)	S2 = Fiber Transmission Performance B = 0.35/0.31/0.27/0.25/0.27 dB/km @ 1310/1385/1490/ 1550/1625 nm (AllWave ZWP and AllWave FLEX ZWP) 2 = 0.25 dB/km @ 1550 nm (TrueWave RS LWP) U = 3.4/1.0 dB/km and 200/500 MHz-km @ 850/1300 nm (62.5 µm Multimode) K = 2.5/0.7 dB/km and 500/500 MHz-km @ 850/1300 nm (50 µm Multimode)
SF = Fiber Type E = AllWave ZWP and AllWave FLEX ZWP 6 = TrueWave RS LWP 9 = 62.5/125 µm Multimode 2 = 50/125 µm Multimode	S5 = Sheath Design 7 = Flat Drop
S3 = Sheath Construction 8 = All Central Core Products	S4 = Central Core Design T = Gel-Filled 2.0 mm Buffer Tube
S6 = Central Core - Oversheath X = No Oversheath	NNN = Fiber Count 1, 2, 4, 6 or 12

NOTE: Contact OFS Order Management for information on other cable variations, including additional fiber types, attenuation and custom cable print.

Part Number Shown is for Standard AllWave ZWP Attenuation and Standard Cable Print:

Maximum AllWave ZWP attenuation: 0.35/0.31/0.27/0.25/0.27 dB/km (1310/1385/1490/1550/1625 nm)

Standard Print, example for Mini LT Flat Drop Cable:

OFS OPTICAL CABLE AT-3BE8T7X-NNN {MM-YY} {HANDSET SYMBOL} {NNN} F {SERIAL #}

Outdoor Wall Mount Unit

SlimBox™ 24-Fiber Outdoor Terminal

PRODUCT DESCRIPTION

The SlimBox 24-Fiber Outdoor Terminal is a termination box used to connect distribution cables in the outside plant to FTTx drop cables. The applications include Fiber to the Home, Building or Cell site. It enables quick and easy connections of the drop cable through plug-and-play connectorized drops into the box or fusion splicing method. The internal connection is made through pre-terminated splitters or pre-connectorized pigtailed.

The drop cable connections and disconnections are performed exclusively inside the box without affecting any previously connected cable. The enclosure allows the installation of up to 24 assemblies using 3.0 mm or 16 assemblies using 4.8 mm round drop cables (available on request).

The termination box has one area for storage and splicing, and a separate area for the management and the connection of the pigtailed to the internal adapters. It can be opened and closed without disturbing service to customers. It supports up to 24 fusion splices.

The aerial terminal is designed for both poles and wall installations.



FEATURES AND BENEFITS

- Versatile multifunction enclosure: Internal adapters allow the use of pre-terminated drop cable
- Supports termination, splicing and storage functions
- Compact design with loop through capability

Ordering Information		
Part Number	Product Code	Material Description
301135851	SLIMBOX-V, OUTDOORMDU-24 FIBER-INSIDEADP	SlimBox outdoor wall mount unit for 24 internal SC adapters (no adapters)
301135869	WSE1W-024-SM21-GRY-SCUUNC-F	SlimBox outdoor wall mount unit with 24 internal SCU adapters
301135877	WSE1W-024-SM21-GRY-SCAUNC-F	SlimBox outdoor wall mount unit with 24 internal SCA adapters
301135885	WSE1W-024-SM21-GRY-LCUUNC-F	SlimBox outdoor wall mount unit with 24 internal LCU adapters
301135893	WSE1W-024-SM21-GRY-LCAUNC-F	SlimBox outdoor wall mount unit with 24 internal LCA adapters
301135901	WSE1W-024-SM21-GRY-SCUUNC-F-PT	SlimBox outdoor wall mount unit with 24 internal SCU adapters and 24 SM pigtailed
301135919	WSE1W-024-SM21-GRY-SCAUNC-F-PT	SlimBox outdoor wall mount unit with 24 internal SCA adapters and 24 SM pigtailed
301135927	WSE1W-024-SM21-GRY-LCUUNC-F-PT	SlimBox outdoor wall mount unit with 24 internal LCU adapters and 24 SM pigtailed

Indoor and Outdoor Wall Mount Units

SlimBox™ Customer Splice Point Module



PRODUCT DESCRIPTION

The SlimBox Customer Splice Point (CSP) Module can be used for a wide variety of applications including Fiber-to-the-Home (FTTH) and Fiber-to-the-Business (FTTB) deployments.

When used in conjunction with indoor Optical Network Terminals (ONT) and the wall-hugging capabilities of OFS EZ-Bend® Optical Cable, the SlimBox CSP Module enables the network operator to provide a very clean, professional installation at an attractive price point.

The SlimBox CSP Module can also be used as a simple, low-priced fiber distribution box for apartments or businesses for Multiple Dwelling Unit (MDU) or retail shopping plaza applications.

A separate splice tray holds up to four splice sleeves (40 mm sleeves only), and both versions accommodate up to four SC-APC connectors.

FEATURES AND BENEFITS

- Small and inconspicuous footprint
- Common installation methods and procedures for both indoor and outdoor units
- Versions as small as 6.5 in. (164.41 mm) length x 3.9 in. (99.1 mm) height x 1.23 in. (31.35 mm) depth
- Large space for slack storage
- Available in white (indoor) and gray (outdoor); outdoor version features a sealed cover
- Accommodates most common fiber optic drop cable sizes including 900 µm, 3.0 mm, 4.8 mm and flat drop cables

Ordering Information		
Part Number	Product Code	Material Description
301040556	SLIMBOX-H, INDOOR CSP-4 FIBER	SlimBox Indoor CSP Module 4-Fiber (adapters not included)
301040564	SLIMBOX-H, OUTDOOR CSP-4 FIBER	SlimBox Outdoor CSP Module 4-Fiber (adapters not included)
301099362	SLIMBOX-H, OUTDOOR CSP-2 FIBER INSIDE ADAPTER	SlimBox Outdoor CSP Module 2-Fiber Inside Adapter (adapters not included)
301098968	WSE4S-002-SBIO-GRY-SCAUNC-F	Internal adapter enclosure with duplex SC APC adapter
301079786	SLIMBOX-H, OUTDOOR CSP-2F-SM-SCA-PT	External adapter enclosure with single duplex SC APC adapter and pigtail
301117776	WSE4W-001-SCIO-GRY-SCAUNC-F-PT OUTDOOR SLIMBOX-H	Internal adapter with duplex SC APC adapter and a single pigtail
301117867	WSE4W-002-SCIO-GRY-SCAUNC-F-PT OUTDOOR SLIMBOX-H	Internal adapter with duplex SC APC adapter and two pigtails
301079794	SLIMBOX-H, OUTDOOR CSP-2F-SM-SCU-PT	External adapter enclosure with single duplex SC UPC adapter and pigtail

Indoor and Outdoor Wall Mount Units

InvisiLight® Indoor/Outdoor POE Module

PRODUCT DESCRIPTION

The InvisiLight Indoor/Outdoor POE Module is a facade mountable customer connection point used to connect feeder cables in the access network to drop cables reaching into the premises. The applications include Fiber to the Home, Building, or Apartment. It is compatible with the InvisiLight Facade 12 and 24 fiber optic cable cables and enables the InvisiLight ILU Plug-and-Play Solution. The internal connection between the InvisiLight ILU spool and the InvisiLight Facade fiber optic cable is made with a pigtail splice or field mounted connectors.

The module accepts one InvisiLight ILU spool up to 20 meters which eliminates the need for a wall mounted module inside the customer premises. The module has two split grommets at the bottom which enables quick and easy installation of the InvisiLight Facade 3.0 or 3.8 mm multifiber feeder cable.

The InvisiLight Outdoor Module can be wall mounted indoors or outdoors. Two basic configurations of the module are available:

- Stand alone with the InvisiLight spool
- The InvisiLight Facade 12-Fiber or 24-Fiber cable is supplied as a bulk cable
- Kit Version: The InvisiLight Facade 12-Fiber or 24-Fiber multifiber cable is pre-connectorized on the network end, and supplied with 12- or 24-Fiber outdoor modules; additional components like InvisiLight spools and pigtails may be included in the kit

The outdoor module can support InvisiLight Facade 3.0 or 3.8 mm fiber optic cable and a 3.0 or 4.8 mm drop grommet.

- Grommet for 3.0 mm feeder or drop cable
- Grommet for 3.8 mm feeder cable
- Grommet for 4.8 mm drop cable



FEATURES AND BENEFITS

- Compact for discrete installation (Daisy chain installation with InvisiLight Facade fiber optic cables)
- Compatible with the InvisiLight 1- or 2-Fiber ILU Solution
- Wall mounted
- Inline installation for indoor applications with the OFS HomeRun cable
- Generous amount of slack storage in compact space

Ordering Information for InvisiLight Indoor/Outdoor POE Module

Part #	Product Code	Material Description
301146841	NVSLGHTFIO-POE MODULE INSIDE ADAPTER	InvisiLight Indoor/Outdoor POE Module without adapter
301146858	NVSLGHTFIO-POE MODULE E/W LCA ADAPTER	InvisiLight Indoor/Outdoor POE Module with 1 LCA Duplex adapter
301146866	NVSLGHTFIO-POE MODULE E/W SCA ADAPTER	InvisiLight Indoor/Outdoor POE Module with 1 SCA Simplex adapter

Cable Assemblies

EZ-Bend® Ruggedized Cable Assemblies

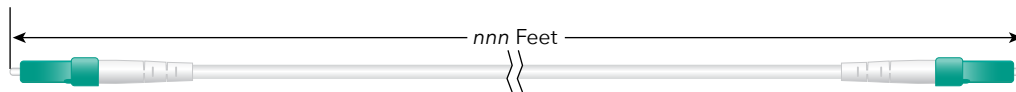
PRODUCT DESCRIPTION

EZ-Bend Ruggedized Assemblies utilize best in class EZ-Bend 2.5 mm bend radius rated fiber, in a robust cord that can withstand sharp corners and up to 100 lbs (45 KG) of pulling tension. With factory tuned and tested termination, and no bend loss issues, they help save time and money on installation. Their unique design can be stapled around sharp corners and moldings, and provides an ideal solution for in-home wiring applications.



FEATURES AND BENEFITS

- Available in 4.8 mm diameter cordage as indoor/outdoor, indoor/outdoor toneable riser, plenum, or low-smoke, zero-halogen construction
- Available in 3.0 mm diameter cordage as indoor/outdoor, riser construction
- **Faster, easier installation:** no extra steps to install bend limiters, conduits or raceways. Class leading 2.5 mm bend radius SM fiber.
- **Better bending than competing products:** both the EZ-Bend 4.8 mm and 3.0 mm cable can be stapled around sharp corners



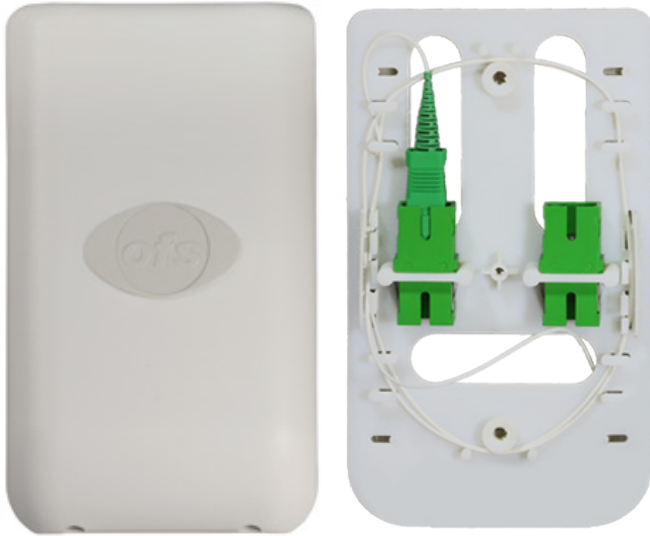
Ordering Information	
Code	Description
JR5DK001SCASCA nnn F	EZ-Bend 4.8 mm Riser Indoor/Outdoor Single Fiber SCA to SCA
JR5DK001SCAUNC nnn F	EZ-Bend 4.8 mm Riser Indoor/Outdoor Single Fiber SCA to Unconnectorized
JH5DK001SCAUNC nnn F	EZ-Bend 4.8 mm Low Halogen Black Indoor/Outdoor Black Single Fiber SCA to Unconnectorized
JR4DW001SCASCA nnn F	EZ-Bend 4.8 mm Riser White Single Fiber SCA to SCA
JR4DW001SCAUNC nnn F	EZ-Bend 4.8 mm Riser White Single Fiber SCA to Unconnectorized
JP4DW001SCAUNC nnn F	EZ-Bend 4.8 mm Plenum White Single Fiber SCA to Unconnectorized
JH4DW001SCAUNC nnn F	EZ-Bend 4.8 mm Low Halogen White Single Fiber SCA to Unconnectorized
JRVDW001SCASCA nnn F	EZ-Bend 3.0 mm Ruggedized Riser White Single Fiber SCA to SCA
JRVDW001SCAUNC nnn F	EZ-Bend 3.0 mm Ruggedized Riser White Single Fiber SCA to Unconnectorized

* **NOTES:** nnn = footage (Length in boxes up to 1,500 feet)
Length of jumper specified in feet (F) or meters (M)

Standard Packaging	
Lengths up to 150'	Coiled in bag
Lengths greater than 150'	Compact spool

Indoor Wall Mount Units

SlimBox™ Wall Plate



PRODUCT DESCRIPTION

The SlimBox Wall Plate serves as a termination point or a demarcation point for optical fiber in an indoor environment. An EZ-Bend® jumper would connect the SlimBox Wall Plate to a desktop ONT and the InvisiLight® ILU Solution or an EZ-Bend cable may be used to reach the wall plate.

FEATURES AND BENEFITS

- Supports factory terminated assemblies, field installed mechanical connectors or fusion spliced pigtails
- Accommodates up to two internal optical adapters (SC footprint)
- Flexible deployment with two access ports on the top, two on the bottom and three through the back of the module
- Compatible with electrical boxes
- Compact dimensions
- Discreet appearance
- Hidden cover screw for fast and secure cover attachment to the base
- Internal fiber guides for easy installation
- Can be installed on any vertical planar surface
- Plastic construction provides high mechanical protection and efficient design
- Accommodates two splice protectors (40 mm)

Ordering Information

Part Number	Product Code	Material Description
301122826	SLIMBOX-V, INDOOR WALL PLATE-SC	SlimBox Wall Plate SC
301122834	SLIMBOX-V, INDOOR WALL PLATE-1F-SM-SCA	SlimBox Wall Plate with one SC APC Adapter
301122842	SLIMBOX-V, INDOOR WALL PLATE-2F-SM-SCA	SlimBox Wall Plate with two SC APC Adapters

InvisiLight® Solutions

InvisiLight® ILU Solutions

**The InvisiLight ILU Solution is offered
as a complete kit consisting of:**

A wall-mounted interconnection module;

A spool that spins special tight buffered EZ-Bend® Optical Fiber
(InvisiLight fiber, factory terminated with SC-APC connectors)
out of the module to the exact length needed and manages slack;

6 corner protectors, 4 wall plugs and caps and one through-wall placement tool

Adhesive (in tubes)



80x80 Module



Plugs and Caps



Corner Protectors



Adhesive Dispensing Tool and
Adhesive (in tube)

ADVANTAGES

- Easy, quick install
- Simple and flexible versus traditional methods
- Paintable and blends into decor
- EZ-Bend Optical Fiber enables virtually unlimited number of bends
- No nails, staples or sawing
- Attaches to typical indoor surfaces
- Reliable and protected by its proximity
- Easy to reposition or remove

InvisiLight® ILU Solutions

InvisiLight 80x80 Wall Module

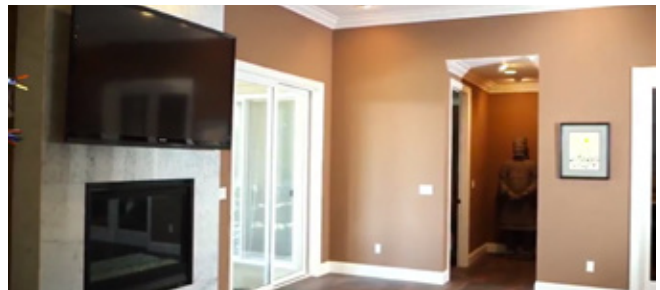
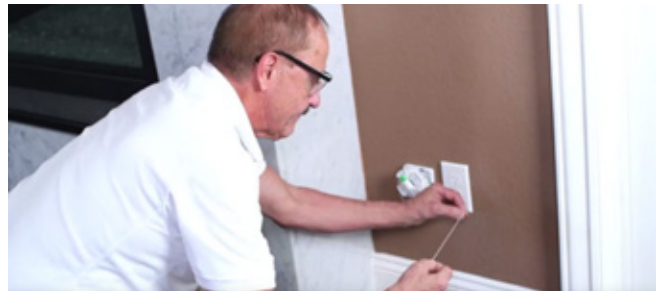
PRODUCT DESCRIPTION

The InvisiLight 80x80 Wall Module is provided with an SC APC external shuttered adapter. There are two ports of entry at the bottom of the module. The InvisiLight Fiber exits on the left-hand side and the patch cord is attached to the shuttered adapter on the right-hand side of the module. The SC APC shuttered simplex adapter snaps into the designated adapter port with the shutter on the outside and the hinged shutter to the top of the adapter port. The shutter provides dust protection when the patch cord is not engaged. The removable flanges allow longer lengths on the spool but must be removed prior to inserting the spool into the module.

Dimensions: 3.15" W x 3.15" H x .807" D

FEATURES AND BENEFITS

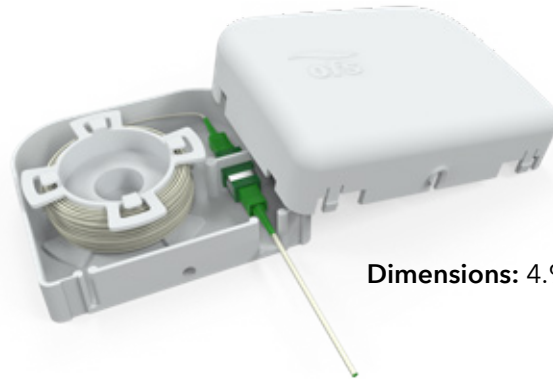
- Houses the compact InvisiLight spool with SCA connectors factory terminated and tested
- Removable flanges allows up to 40 m to be dispensed while storing <10 m of fiber
- Patented design in compact package
- IEC 60529 IP20, RoHS



InvisiLight® 80x80 Wall Module *Continued*

Ordering Information		
Part Number	Product Code	Material Description
301122107	NVSLGHTC-D-SCASCA-80x80 KIT-10M-EA	Connectorized 10-meter spool, six (6) inside and outside corner protectors, module e/w adapter, four (4) wall plugs and caps, one (1) through-wall tool and instructions
301117271	NVSLGHTC-D-SCASCA-80x80 KIT-20M-EA	Connectorized 20-meter spool, six (6) inside and outside corner protectors, module e/w adapter, four (4) wall plugs and caps, one (1) through-wall tool and instructions
301117289	NVSLGHTC-D-SCASCA-80x80 KIT-30M-EA	Connectorized 30-meter spool, six (6) inside and outside corner protectors, module e/w adapter, four (4) wall plugs and caps, one (1) through-wall tool and instructions
301117297	NVSLGHTC-D-SCASCA-80x80 KIT-40M-EA	Connectorized 40-meter spool, six (6) inside and outside corner protectors, module e/w adapter, four (4) wall plugs and caps, one (1) through-wall tool and instructions
Other InvisiLight Accessories		
301079117	NVSLGHTC-TUBE, 30ML ADHESIVE 025/PK	25-pack of adhesive (in tubes) and application tips
301079125	NVSLGHTC-TUBE, 30ML ADHESIVE 050/PK	50-pack of adhesive (in tubes) and application tips
301079133	NVSLGHTC-TUBE, 30ML ADHESIVE 100/PK	100-pack of adhesive (in tubes) and application tips
301079109	NVSLGHTC-MINI DISPENSING TOOL	Dispensing tool for adhesive application
301115671	NVSLGHTC-POLE EXTENSION TOOL	InvisiLight pole extension tool

InvisiLight® Wall Module



Dimensions: 4.96" W x 4.53" H x 1.41" D

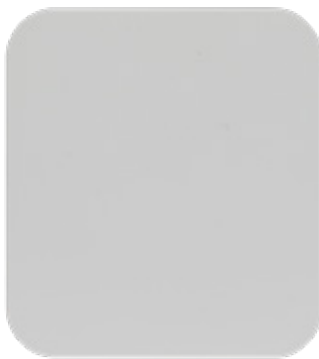
Same [Features and Benefits](#) as the InvisiLight 80x80 Wall Module.

Ordering Information		
Part No.	Product Code	Material Description
301099115	NVSLGHTC-D-SCASCA-MODULE KIT-20M-EA	Connectorized 20-meter spool, six (6) inside and outside corner protectors, module e/w adapter, four (4) wall plugs and caps, one (1) through-wall tool and instructions
301099123	NVSLGHTC-D-SCASCA-MODULE KIT-30M-EA	Connectorized 30-meter spool, six (6) inside and outside corner protectors, module e/w adapter, four (4) wall plugs and caps, one (1) through-wall tool and instructions
301099131	NVSLGHTC-D-SCASCA-MODULE KIT-40M-EA	Connectorized 40-meter spool, six (6) inside and outside corner protectors, module e/w adapter, four (4) wall plugs and caps, one (1) through-wall tool and instructions
Other InvisiLight Accessories (<i>Same as Page 27</i>)		
301079117	NVSLGHTC-TUBE, 30ML ADHESIVE 025/PK	25-pack of adhesive (in tubes) and application tips
301079125	NVSLGHTC-TUBE, 30ML ADHESIVE 050/PK	50-pack of adhesive (in tubes) and application tips
301079133	NVSLGHTC-TUBE, 30ML ADHESIVE 100/PK	100-pack of adhesive (in tubes) and application tips
301079109	NVSLGHTC-MINI DISPENSING TOOL	Dispensing tool for adhesive application
301115671	NVSLGHTC-POLE EXTENSION TOOL	InvisiLight pole extension tool

InvisiLight® EZ-Connect Module



Open with Spool



External View

PRODUCT DESCRIPTION

The InvisiLight EZ-Connect Module is provided with an integrated jumper to connect to the ONT. This jumper is available in two versions: 2 mm or 3 mm Outside Diameter with 2.5 and 1.5 meter lengths respectively. The InvisiLight tight buffer optical fiber exits on one of the four module corners. The module has an internal parking space for the inside SC connector end. The internal spool allows slack management of the tight buffer and jumper and may be locked in order to spool out by hand the desired length of jumper. The bottom layer of the spool supports up to 40 meters of InvisiLight tight buffer optical fiber.

FEATURES AND BENEFITS

- Handles 900 μm InvisiLight Optical Fiber and the slack management for tight buffer optical fiber and the ONT jumper
- Wall mounted compact module
- Allows up to 40 meters to be dispensed on the bottom layer and up to 2.5 meters of 2 mm cord on the top spool layer (up to 1.5 meters considering a 3 mm cord)
- Spool locking system to facilitate the jumper spooling out
- RoHS-compliant; free from heavy metals and environmentally friendly

Ordering Information for InvisiLight EZ-Connect Module

Part Number	Product Code	Material Description
301141818	NVSLGHTD-D-SCASCA-1-NAM-KIT 900-5.0M/40M	EZ-Connect module with 5.0 meters of 900 μm fiber on the top layer and 40 meters of 900 μm fiber on the bottom layer; pre-connectorized both ends with SCA connectors
301141826	NVSLGHTD-D-SCASCA-1-NAM-KIT 2MM-2.5M/40M	EZ-Connect module with 2.5 meters of 2.0 mm fiber on the top layer and 40 meters of 900 μm fiber on the bottom layer; pre-connectorized both ends with SCA connectors
301141834	NVSLGHTD-D-SCASCA-1-NAM-KIT 3MM-1.5M/40M	EZ-Connect module with 1.5 meters of 3.0 mm fiber on the top layer and 40 meters of 900 μm fiber on the bottom layer; pre-connectorized both ends with SCA connectors



For complete information on products shown in this guide,
please refer to the official data sheets for those products
on the OFS website at **www.ofsoptics.com**.

For additional information please contact your sales representative.
Call 1-888-FIBER-HELP (1-888-342-3743) from inside the USA
or +1-770-798-5555 from outside the USA.
EMEA Specific: +49 (0) 228 7489 201

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