

Apex® X-1 Sealed Splice Closure

The Apex X-1 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-1 is capable of up to 144* single fusion, 432 mass fusion with standard ribbon, or 864 mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to three splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with convenient multiple tie-down points with Velcro or tie wraps
- Four cable ports with up to three ground lugs
- Capable of up to 8 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

| Parameter | Value |
|---|--|
| Dimensions – L x D, in (cm) | 19.0 x 9.0 (48 x 23) |
| Weight, No Trays – lb (kg) | 10 lbs |
| Splice Capacity – Single, Mass (SWR), Mass (Standard) | 144*, 864, 432 |
| Splice Tray Capacity | 3 |
| Cable Diameter, Single Port, in (mm) | 0.40" – 1.10" (10.0 - 28.0) |
| Cable Diameter, Multi-Drop Kit, in (mm) | 0.20" – 0.39" (5.0 - 9.9) or flat drop |
| Application | Direct Bury, Handhole, Aerial, Pole/Wall |
| Operating Temperature | -40°F to 149°F (-40°C to 65°C) |
| Testing | 20 foot water head |

* When using AFL Single Fiber Slim Protection Sleeves

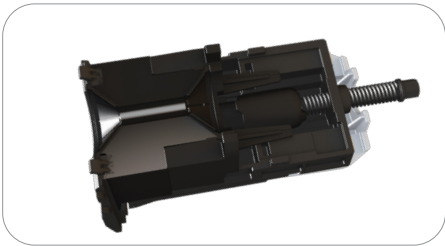


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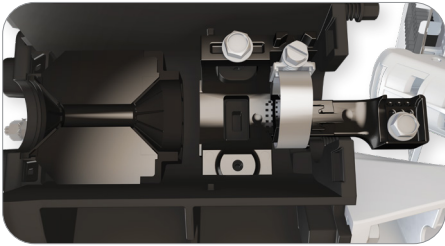
Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



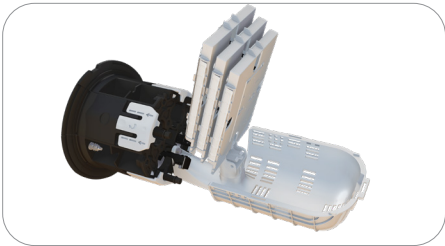
Cable Entry Ports and Strain Relief

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.1" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 4 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



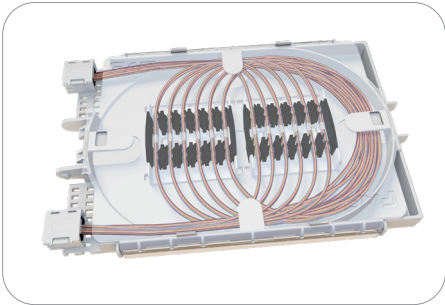
Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters and OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.



Ordering Information

| | | | | | | | | | | | | | | |
|---------------|---|--------------|---|----------------------|---|---|---|------------------|---|-----------------------------------|---|-----------------------|---|---------------------|
| AX | — | 1 | — | B | — | L | — | 0 | — | 2 | — | 1 | — | X |
| Apex Closures | | Closure Size | | Basket Type | | Tray Type | | Number of Trays | | Cable Strain Relief Hardware Kits | | Number of Ground Lugs | | Inner Basket |
| | | 1 = X-1 Size | | B = X-1 Sized Basket | | X = No preinstalled tray L = X-1 Tray Loaded with splice modules | | 0 1 2 3 | | 0 1 2 3 4 | | 0 1 3 | | X = No Inner Basket |

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Splice Trays and Splice Modules

Apex X-1 closures utilize X-2S size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For “rollable” type ribbon such as AFL’s SpiderWeb Ribbon®, trays can be fully loaded for 24 mass splices, or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for 6 mass splices single-stacked, or 72 fibers. Adapter kits available to install up to four FOSC® A optical trays.

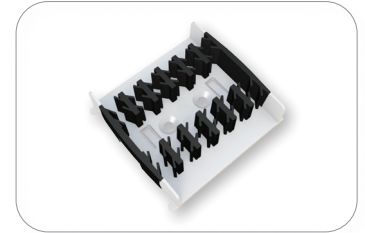
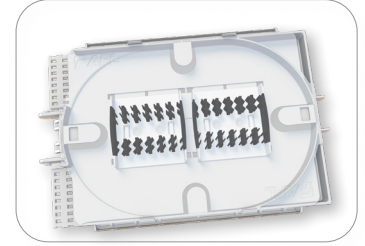
Ordering Information

| DESCRIPTION | Tray Capacity | | | AFL NO. |
|---|------------------------------------|------------|-----------------|----------------|
| | SINGLE | MASS (SWR) | MASS (Standard) | |
| X-2S Tray Loaded with One Splice Module | 18 triple stack 24 quad stack** | 144 | 144 | AX-TRAY-2S-1 |
| X-2S Tray Fully Loaded with Two Splice Modules (288 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR) | 36 triple stack 48 quad stack** | 288 | 144 | AX-TRAY-2S-2 |
| Additional splice module – Pack of 20 | 18 triple stack 24 quad stack** | 144 | 144 | AX-TRAY-MOD-20 |
| X-2S Tray Empty | — | — | — | AX-TRAY-2S-E |
| FP-40 40 mm Single Fiber Slim Protection Sleeve | — | — | — | S018262 |
| FP-60 60 mm Single Fiber Slim Protection Sleeve | — | — | — | S018263 |

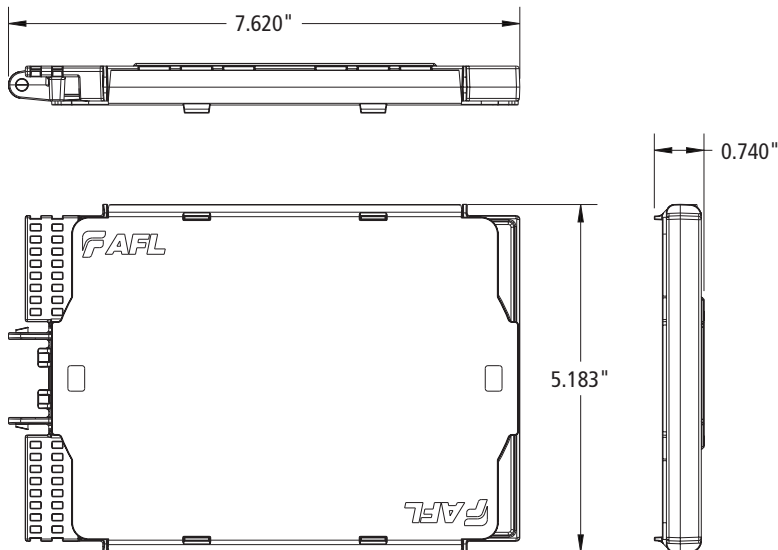
* 288 fibers per tray with mass fusion double-stacking (864 total closure capacity) only recommended for 200 µm type rollable ribbon.

For 250 µm, cut capacity in half with single-stacking.

** When using AFL’s Slim Protection Sleeves



Dimensions



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Installation Kits and Accessories

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.



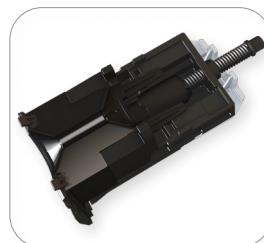
X-1 CAU Kit



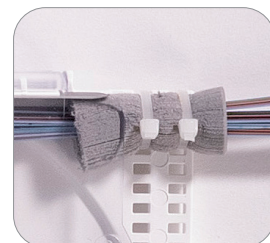
Ring Clamp Replacement Kit



O-Ring Grease Kit



X-1 Wedge Replacement Kit



Foam Retention

Ordering Information — Replacement Kits

| DESCRIPTION | AFL NO. |
|--|------------------|
| Replacement Kits | |
| X-1 Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit | AX-KIT-CBLSTRN-1 |
| X-1 Dome to Base O-Ring Replacement Kit | AX-KIT-ORING-1 |
| Apex O-Ring Grease, Pack of 10 | AX-KIT-GREASE-10 |
| X-1 Dome to Base Locking Ring Clamp Replacement Kit | AX-KIT-CLAMP-1 |
| X-1 Wedge Replacement Kit | AX-KIT-WEDGE-2 |
| X-1 Inner Base Gel Replacement Kit | AX-KIT-GEL-1 |
| X-1 Basket and Yoke Assembly Kit. Can be used in combination with the basket cover. | AX-KIT-BASKET-1 |
| X-1 Dome Replacement Kit | AX-KIT-DOME-1 |
| WTC-SWR Bundle Splice Tray Retention Kit – Includes 25 foam grommets for retaining SWR bundles to splice trays | HW000406 |
| Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket | FC001759 |



Apex Aerial Hanger Bracket



Apex Pole/Wall Mount



Adjustable Aerial Hanger Bracket



Universal Installation Stand



Multi-Drop Cable Entry Kit

Ordering Information — Accessories

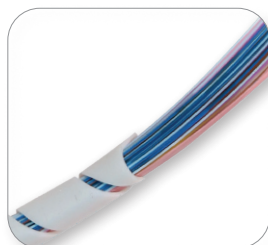
| DESCRIPTION | AFL NO. |
|--|--------------------|
| Accessories | |
| Aerial strand mount hanger kit | AX-KIT-AERIAL-1 |
| Pole/wall mount kit | AX-BR30 |
| Adjustable Aerial Strand Mount Hanger kit | AX-KIT-AERIAL-ADJ |
| ADSS Aerial hanger brackets | AX-KIT-AERIAL-ADSS |
| Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable) | AX-KIT-DROP-4-1 |
| Apex Universal Installation Stand | AX-KIT-U-STAND |

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Installation Accessories (cont.)



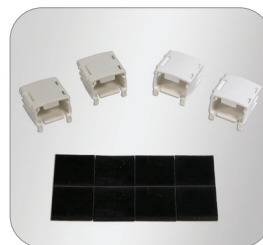
Mesh Transition Tubing



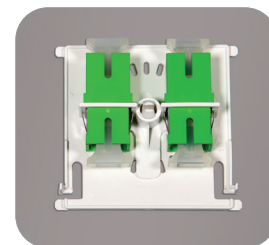
Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2



SC Bulkhead Adapter Kit

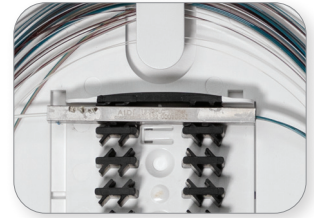
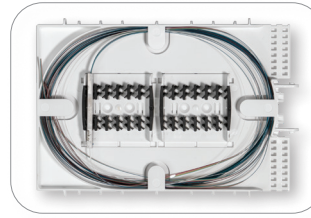
Ordering Information — Accessories (cont.)

| DESCRIPTION | AFL NO. |
|---|---------------------------|
| Accessories | |
| 1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ) | AX-KIT-TUBE-014-XX* |
| Silicone Spiral Wrap, 5.5 Foot Length | FC001657 |
| Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10 | AX-KIT-GROUND-10 |
| Apex Internal Multiple Ground Bonding Kit | AX-KIT-GNDLD-5 |
| Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.). | AX-KIT-AFRSRBN |
| Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads) | AX-KIT-AFRSLT |
| Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.) | AX-KIT-AFRSVC-120 |
| Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.) | AX-KIT-AFRSMESH-100FT |
| Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.) | AX-KIT-AFRSAH-10 |
| Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.) | AX-KIT-AFRSA-10 |
| Apex Restoration Kit, 1000' of 144F Non-Armored Wrapping Tube Cable (Apex X-2S is in Restoration Kit) | AX-2S-B-L-4-4-4-X-1R1000F |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit | AX-TRAY-ASC |
| Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit | AX-TRAY-USC |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit | AX-TRAY-ASC-6 |

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X-2S Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2S splice tray. PLCs can either be installed and spliced within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.



Ordering Information

| DESCRIPTION | SPLIT RATIO | AFL NO. |
|---|-------------|------------------|
| Splitter Modules for Splice Trays | | |
| X-2S Tray with Four Splice Modules, (1) 1x2 PLC Splitter | 1x2 | AX-TRAY-2S-12-1 |
| X-2S Tray with Two Splice Modules, (1) 1x4 PLC Splitter | 1x4 | AX-TRAY-2S-14-1 |
| X-2S Tray with Two Splice Modules, (1) 1x8 PLC Splitter | 1x8 | AX-TRAY-2S-18-1 |
| X-2S Tray with Two Splice Modules, (1) 1x16 PLC Splitter | 1x16 | AX-TRAY-2S-116-1 |
| X-2S Tray with Two Splice Modules, (1) 1x32 PLC Splitter | 1x32 | AX-TRAY-2S-132-1 |
| X-2S Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x2 | AX-TRAY-2S-12-2 |
| X-2S Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x4 | AX-TRAY-2S-14-2 |
| X-2S Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x8 | AX-TRAY-2S-18-2 |
| X-2S Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x16 | AX-TRAY-2S-116-2 |
| X-2S Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x32 | AX-TRAY-2S-132-2 |
| X-2S Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x2 | AX-TRAY-2S-12-3 |
| X-2S Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x4 | AX-TRAY-2S-14-3 |
| X-2S Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x8 | AX-TRAY-2S-18-3 |
| X-2S Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x16 | AX-TRAY-2S-116-3 |
| X-2S Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x32 | AX-TRAY-2S-132-3 |