



INSTALLATION INSTRUCTIONS

LIGHTLINK LL-500 OPTICAL SPLICING AND DISTRIBUTION ENCLOSURE



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GENERAL

The LightLink (LL) 500 Optic Splicing and Distribution Enclosure provides for organizing, splicing and interconnecting fibers in broadband, distribution and building entrance applications. The enclosure features a scratch and corrosion resistant powder paint coating base and a fully gasketed hinged cover. A unique self-sizing grommet design allows for express and pre-terminated cable installation.

SPECIFICATIONS

Parameter	Value
Material	Steel
Coating	Electrostatically Applied, Power Coat
Color	Beige
Dimensions - (LxWxD) in. (cm)	17.5 x 9.0 x 4.0 (44.45 x 22.86 x 10.16)
Weigh - lbs (kg)	6.5 (2.95)
Cable Ports	4 - 8
Cable Size (Max O.D. - Min O.D.)	Up to 4 with Single Grommet Kits 4 @ 0.30 - 0.77" Up to 8 with Dual Grommet Kits 4 @ 0.30 - 0.65" 4 @ 0.30 - 0.50"

PACKAGE CONTENT

LL-500 Enclosure Base



REQUIRED TOOLS

216 style Socket Tool
Wire Cutter for Strength Member
Splicers Scissors
Splice Equipment and Sleeves
Cable Stripper
Cable Splicer Knife
9" Lineman's Pliers

ADD-ON COMPONENTS

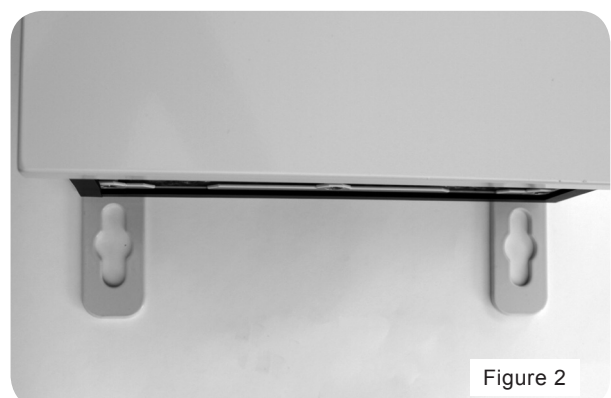
Interconnect Kit
LL-2450 Single Fusion Splice Tray
LL-4850 Mass Fusion Splice Tray
Adapter Plates
Dual Cable Expansion Kit
Multi-port Grommet Kit

ENCLOSURE MOUNTING – WALL

1. Determine the mounting position of the enclosure on the wall.
2. Mark the three mounting points to be pre-drilled for enclosure placement. **(Figure 1 & 2)**
3. Using local accepted practices and approved hardware, insert a lag screw into each of the three pre-drilled mounting holes. Screw the lag screws half-way into the wall.

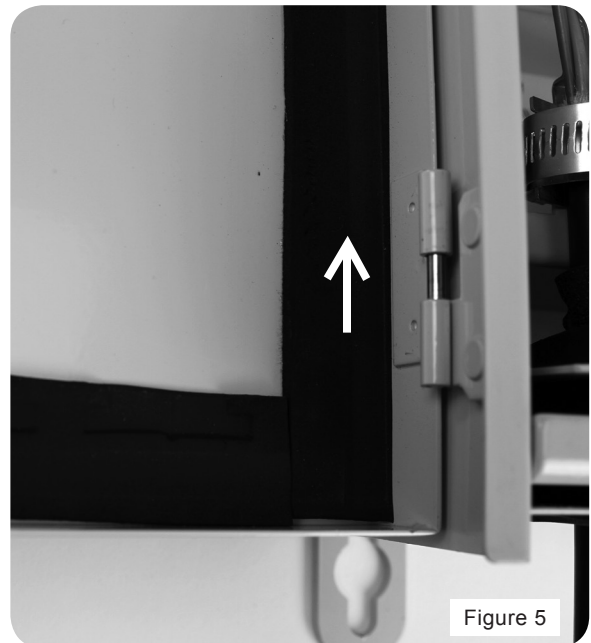
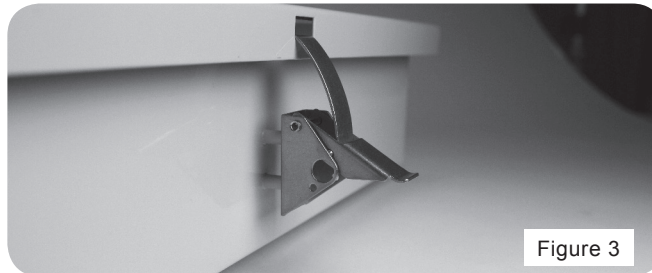
⊗ Note: For best practice, it is recommended that the lag screws hex head is wider than the key slots of the enclosure mounts. Also, ensure that the shaft of the screws is smaller than the actual mounting slots for ease of installation.

4. Mount the enclosure over the pre-installed lag screws.
5. Secure the enclosure to the wall by tightening the three lag screws. Before the lag screws are completely tightened a level may be used to ensure that the enclosure is in the desired position.



ENCLOSURE PREPARATION-DOOR REMOVAL

1. Lift up latch to release hook from door. **(Figure 3)**
2. Lift up on the enclosure door to release it from the hinge pins. **(Figure 4 & 5)**



ENCLOSURE PREPARATION – INTERCONNECT TRAY REMOVAL

1. To release the interconnect tray, pull up on the two nylatches located on the right side of the tray (**Figure 6**)
2. Slide the interconnect tray up to release the hinge pins located on the left side of the tray. (**Figure 7**)
3. Remove the interconnect tray from the enclosure base.

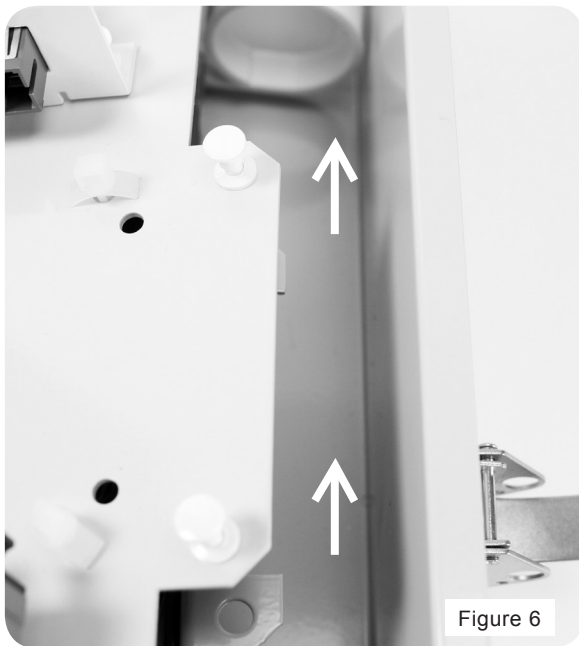


Figure 6

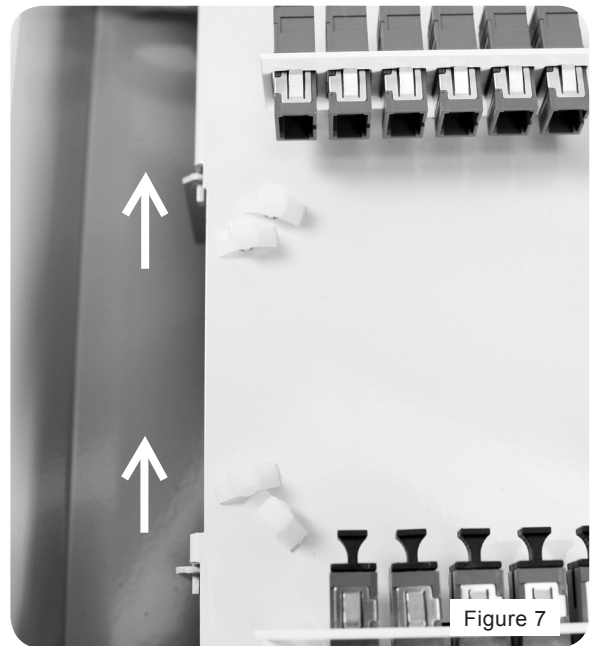
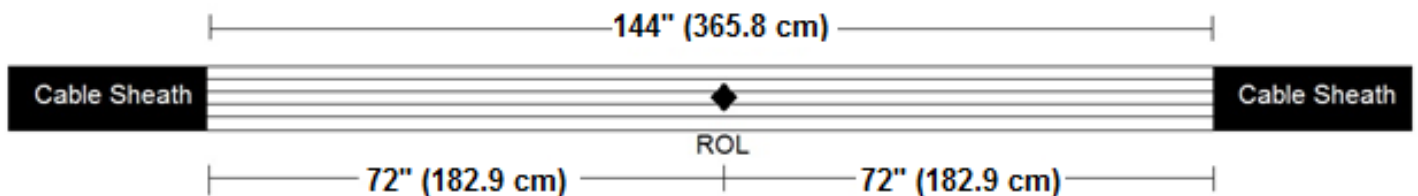


Figure 7

CABLE PREPARATION

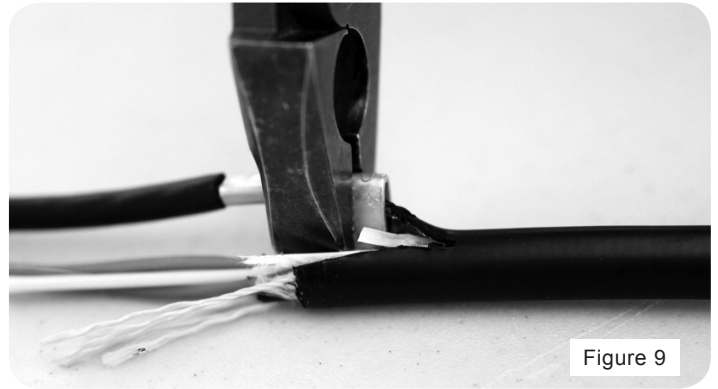
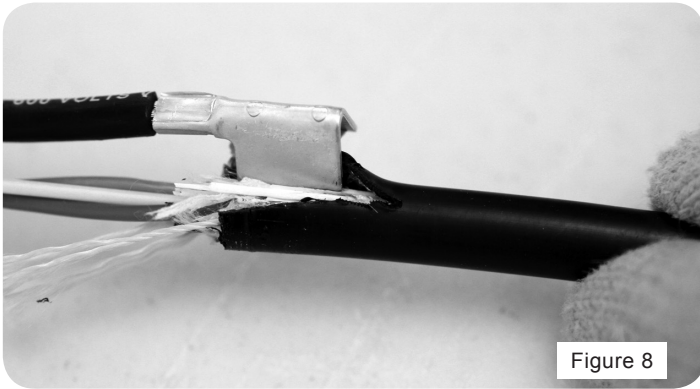
⚠ Caution: Fiber optic cable is susceptible to damage from excessive bending, pulling or crushing forces. At every stage of the installation process ensure that the loose buffer tubes or ribbon fibers are free from unintentional cuts, nick or bends to avoid potential fiber damage.

1. Mark the cable to have a 144" (365.8 cm) opening.
2. Use accepted local practice to remove the cable sheath.
3. Using wire cutters cut the central strength member to 1.75" (44.5 mm) from the cable sheath.



⊗ **Recommendation:** When opening loose tube cable, center the sheath opening on the cables reverse (ROL) or switchback oscillation point. This will eliminate loose tube crossovers and help with separating the individual loose buffer tubes. For best practice, mark the cable so that the opening is centered on the ROL with 72" (182.9 cm) in each direction.

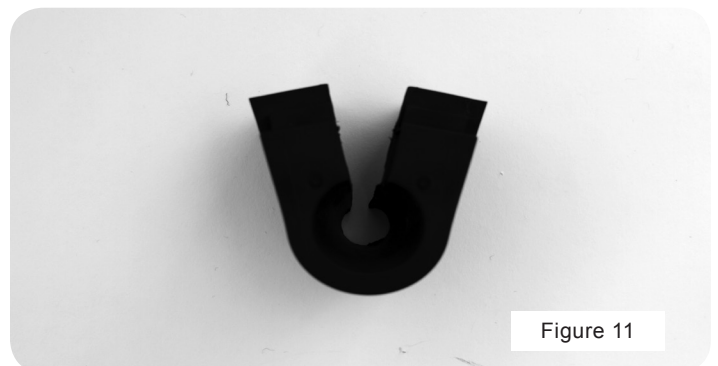
4. If grounding is required, use the rip cord to create a tab 1.5" (38.1 mm) past the edge of the cable sheath.
5. Using 9" Lineman's pliers attach the ground clamp to the tab ensuring that the bond strap is positioned with the spurs against the cable armor. **(Figure 8 & 9)**



CABLE INSTALLATION

1. Using a standard 216 style Socket Tool, or similar, remove the two nuts from the upper flahplate of the enclosure base. The flash-plate may be detached providing access to the grommets **(Figure 10)**
2. Slit the applicaton appropriate grommet. **(Figure 11)**
3. Align the grommet around the cable approximately 2" (50.8 mm) from the sheath opening, so that it is to the outside of the sheath opening.
4. Ensure that the cable is fitted properly into the grommet cone. If a gap exists place a 1/2" x 3/4" (11mm x 20 mm) piece of the included foam cable spacer on the top of the cable within the grommet to eliminate any gap.

⊗ **Note:** If the cable diameter is less than 0.3" (7.6 mm) one layer of the foam spacer may be wrapped around the cable sheath to ensure that cable is fitted properly into the grommet cone and no gap exists.



5. After the cable is properly positioned within the grommets, slide the grommet assembly into the enclosure housing, ensuring that the grommet is fully seated. **(Figure 12)**
6. Using the $\frac{7}{8}$ " (44.5 mm) hose clamp attach the express cable to the cable mounting bracket, as shown. Place the central strength member stop between the hose clamp and the cable sheath. The cable's central strength member must be positioned into the housing of the central strength member stop. Ensure that the spurs of the central strength member stop are pointed into the cable sheath and tighten the hose clamp completely. **(Figure 13)**
7. Repeat steps 2-8 for both the entry and exit ports of the express cable.
8. Once cable is installed, reattach the flash-plate to the bottom of the enclosure. Place the plate inside of the enclosure and slide around the grommets. Use a standard 216 style Socket Tool, or similar, to tighten the two nuts into the plate. **(Figure 14)**

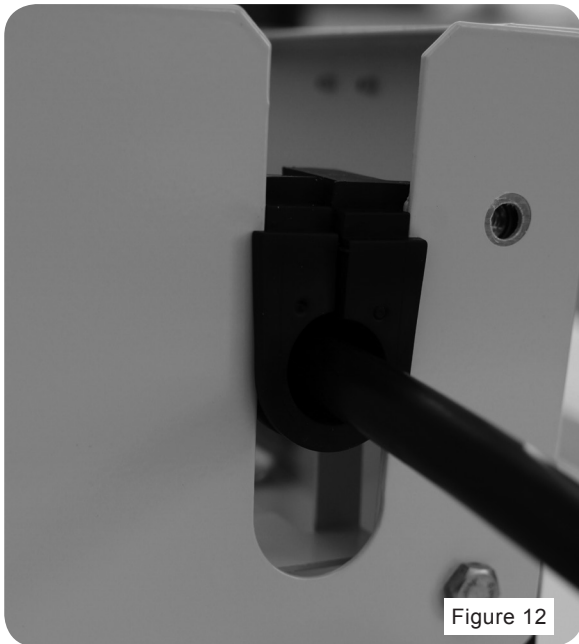


Figure 12



Figure 13



Figure 14

ENCLOSURE PREPARATION-FIBER ROUTING

⚠ Caution: In order to avoid micro bends or fiber damage **DO NOT** over tighten the tie wraps around the fiber bundles.

1. Using local engineering practices determine which fibers will be expressed and separate the bundles from the fibers that will be routed to the splice tray.
2. Route the expressed buffer tubes through the fiber management rings. **(Figure 15)**
3. When working with the ribbon cable, route the expressed ribbon fibers through the fiber management rings. A protective spiral wrap may be placed around the expressed ribbon bundle, but not required.
4. From the signal side, cut the buffer tubes or ribbon fiber to be spliced to approximately 132" (335.3 cm).
5. Route the cut buffer tubes through the fiber management rings before entering the splice tray.
6. When working with ribbon cable, install transportation tubing over any bare or ribbon fibers to be spliced and

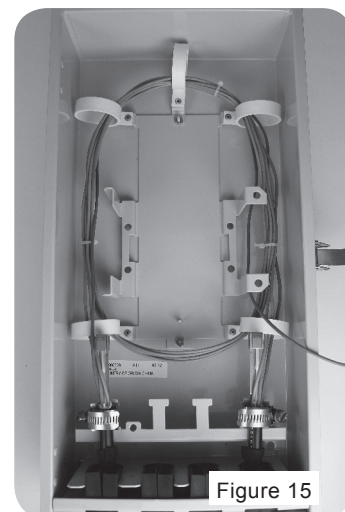


Figure 15

6(cont). route the cut ribbon fiber through the fiber management rings before entering the splice tray.

7. Mark the buffer tubes 1.0" (25.4 mm) past the splice tray retention point.

8. Use local accepted practice to expose and clean the 250 μ m fibers.

9. Place one wrap of foam spacer around the buffer tube at the 1.0" (25.4 mm) mark. Use two tie wraps to secure the buffer tube to the splice tray retention point. The foam spacer is not necessary when securing transportation spiral wrap to the splice tray.

(Figure16)

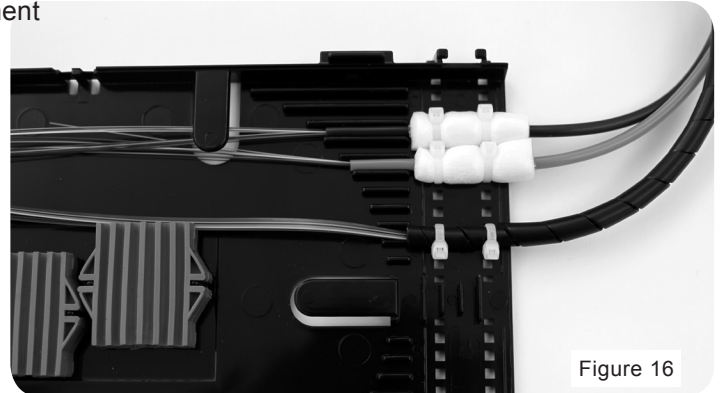


Figure 16

10. For best practice it is recommended that transportation tubing be placed over the pigtail fibers before routing to the splice tray.

11. Using the same technique as Step 9 secure the pigtail transportation tubing to the splice tray.

*** Note: For best practice it is recommended that all ribbon fiber to be spliced is mounted towards the center of the splice tray. (Figure 17) Also by placing the mass fusion splice chip in the center of the tray it will allow the loose tube bare fibers to be routed around the outside of the splice tray with minimal interference from the ribbon fiber.**

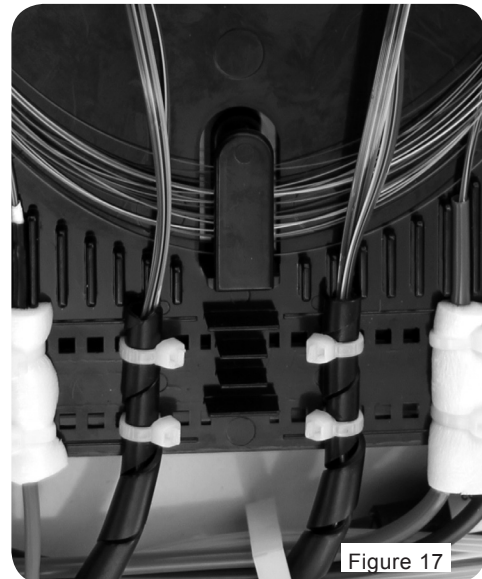


Figure 17

SPLICING

1. Prior to splicing, ensure that adequate slack for both the expressed fiber and the pigtail fiber is stored within the splice tray. Mark fibers for splicing.

2. Clean the individual fiber per accepted local practice using an approved fiber cleaner.

3. Follow accepted local practice for preparing and splicing express fibers and pigtail fibers.

4. Once all splicing is complete, route the exposed fibers inside the splice tray. **(Figure 18)**

*** Note: Thick foam pads may be used to help organize loose tube bare fibers within the splice tray.**

5. Replace the splice tray cover.

6. Secure the splice tray to the base of the enclosure with the hook and loop band.

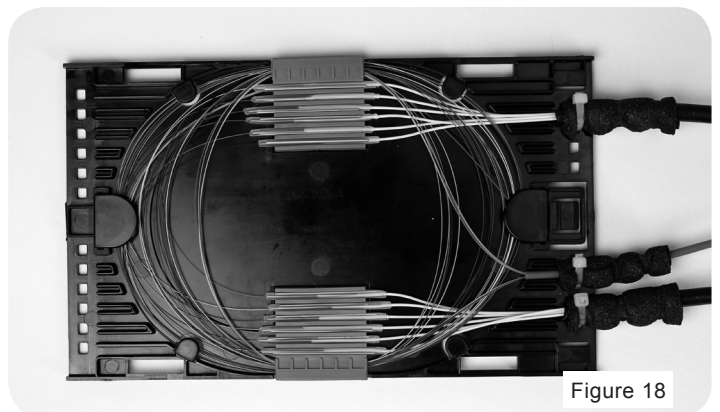


Figure 18

DROP CABLE INSTALLATION

1. Using a standard 216 style tool, or similar, remove the two screws from the upper flash-plate of the enclosure base assembly.
2. Remove the multi-port drop grommet from the base plate.
3. Mark the drop cable to have a 96" (243.8 cm) opening.
4. Use accepted local practice to remove the drop cable sheath to expose the buffer tube.
5. Slit the bottom port of the multi-port drop grommet to the conical in the rear of the grommet.



Figure 19

*** Note: For best practice it is recommended, that the drop cable be added to the bottom port of the multi-port drop grommet first working up with each additional drop cable. (Figure 19)**

6. Slide the drop cable through the slit in the multi-port grommet approximately 5" (12.7 cm) back from the sheath opening. Once the drop cable is seated in the grommet give the cable a slight twist to ensure that the grommet webbing completely overlaps the drop cable.
7. After the cable is properly positioned within the grommet, slide the grommet assembly into the enclosure housing, ensuring that the grommet is fully seated.
8. Using two tie wraps secure the drop cable to the retention bracket.
9. Route the drop cable buffer tubes through the fiber management **Áá * •** before entering the splice tray.
10. Mark the buffer tubes 1.0" (25.4 mm) past the splice tray retention point.
11. Use local accepted practice to expose and clean the 250 µm fibers.
12. Place one wrap of foam spacer around the buffer tube at the 1.0" (25.4 mm) mark. Use two tie wraps to secure the buffer tube to the splice tray retention point. The foam spacer is not necessary when securing transportation spiral wrap the splice tray. **Áá [i fY% Ł**

SECURE ENCLOSURE – RE-INSTALL INTERCONNECT TRAY

1. Install interconnect tray by placing both hinges into the holes on mounting bracket and sliding the tray down. **(Figure 20)**
2. **Úá cãÁá^! • Á á]Á** Enter the interconnect tray by routing the spiral wrapped fiber **• c@ ~ * @** the bottom fiber routing rings.
3. Plug 900 µm pigtails into designated adapters and label per local engineering practices.



Figure 20

4. Route the remaining fiber bundles through the fiber management rings for storage. **(Figure 21)**
5. To secure interconnect tray align nylatches with the mounting bracket holes and press in nylatches to fully secure. **(Figure 22)**



SECURE ENCLOSURE – RE-INSTALL DOOR

1. Install the enclosure door over the appropriate hinge pins. Slide the door down into place. **(Figure 23 & 24)**
2. Hook latch into door and press down to secure. **(Figure 25)**

*** Note: A pad lock, not provided, may be utilized if additional security is desired**

