

LightSpeed® Underground Splice Box

Model: USB-100

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1. OVERVIEW

Engenuity's LOC-DROP Model LOCDROP-EN enclosure (Figures 1 and 2) is a rugged plastic enclosure optimized for splicing and demarcation points for fiber optic subscriber services. Inside, there are slots to hold a splice chip and an area to hold a coupler, an internal fiber spool, and strength member tie-downs. A trace wire tie-down is provided on the exterior of the enclosure. This compact enclosure may be directly buried or mounted to a pole or wall. With optional brackets, it may also be hung from a strand.

Document Status

This document has been reissued to update Figure 5.

Product Features

- Weather-tight
- Compact, rugged design
- Integrated fiber spool
- Integrated splice chip holder
- SC/APC coupler
- Optional strand mount brackets and fiber spool

2. APPLICATIONS

The LOC-DROP enclosure is ideal for protecting splices. It may also be used to provide connection points for green-field fiber optic installations.

The LOCDROP-EN is rugged enough for direct burial, but also provides integral ears for wall or pole mounting.

Additionally, optional brackets allow the LOCDROP-EN to be hung from a strand.

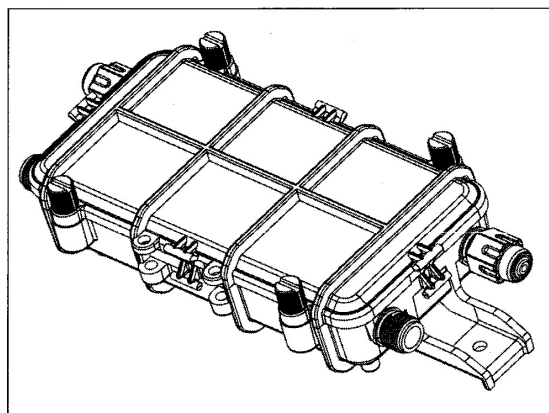


Figure 1. LOCDROP-EN exterior

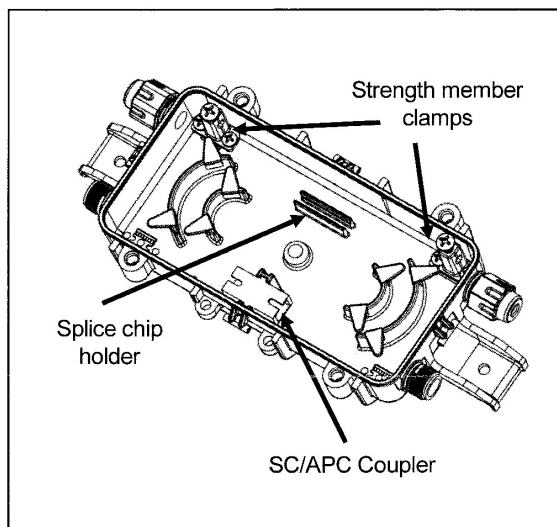


Figure 2. LOCDROP-EN interior

3. DESCRIPTION

The LOCDROP-EN enclosure features two ingress/egress ports. Strength member clamps are located at opposite ends from the ingress/egress points to allow for easy access. There are two internal fiber spools. The inner spool supports and protects 900 micron fiber.

An integrated splice chip holder and an SC/APC fiber coupler provide flexibility for splicing or connection. A trace wire tie down is located on the exterior of the enclosure, and an optional fiber spool may be added to the exterior of the enclosure as well. The LOCDROP-EN is held tightly closed with four captive thumb screws.

The LOC-DROP family of products includes:

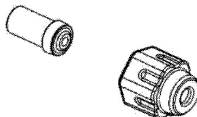
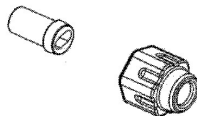
- LOCDROP-EN – the basic enclosure described in this practice
- LOCDROP-2SCAPC – a pair of LOC-DROP enclosures connected by pre-installed micro-armored cable on a fiber spool (51.5 ft). The strength members come tied in place, and each end of the fiber is terminated with an SC/APC connector inserted into an SC/APC coupler.
- LOCDROP-SM – a pair of strand mount brackets and associated hardware for strand mounting a LOC-DROP enclosure.
- LOCDROP-SPL – a fiber spool and associated hardware for mounting onto the back of a LOC-DROP enclosure.

4. INSTALLATION

Fiber Installation

- ① Detach the top cover by unscrewing the four thumb screws.
 - ② If the cable being used includes a trace or toner wire, mark the cable 24 inches from the end and separate the trace wire from the fiber optic cable. Place some sleeving or electrical tape around the cable to keep the trace wire from continuing to separate.
- NOTE: Do not install a connector onto the fiber until fiber has been fed inside the LOCDROP-EN.**
- ③ Select the grommet from the parts bag that most closely matches the fiber cable shape. Pair the grommet with the appropriate port nut as shown in Table 1. Feed the fiber through the nut and grommet as shown in Figure 3. Be sure the nut and grommet are facing in the correct direction.
 - ④ Feed the fiber through the ingress port up to the grommet. Push the grommet into the port. Ensure the grommet is fully seated by pulling the fiber from the inside of the enclosure while pushing the grommet into the port. Tighten the nut.

Table 1. Grommet and Port Nut Combinations

Grommet	Port Nut	Picture
Round opening	Small hole	
Oval opening	Large hole	

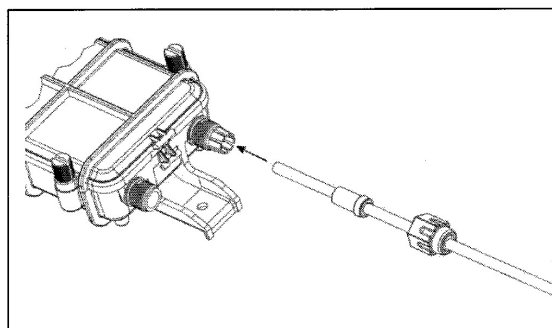


Figure 3. Fiber installation at ingress/egress port

- ⑤ Remove the fiber cable sheath leaving approximately 2 inches of sheathing inside the enclosure.
 - ⑥ Separate the aramid yarn/strength member. Locate the Strength Member Clamp opposite from the ingress port. Feed the strength member through the opening in the Strength Member Clamp as shown in Figure 4 and tighten the screw.
 - ⑦ Wrap fiber around the fiber spool. Inner spool supports and protects 900 micron fiber.
- Repeat steps 2-7 for the connecting fiber using the open port.
- ⑧ Splice or terminate the cable as needed.
 - ⑨ Replace cover and tighten thumb screws.

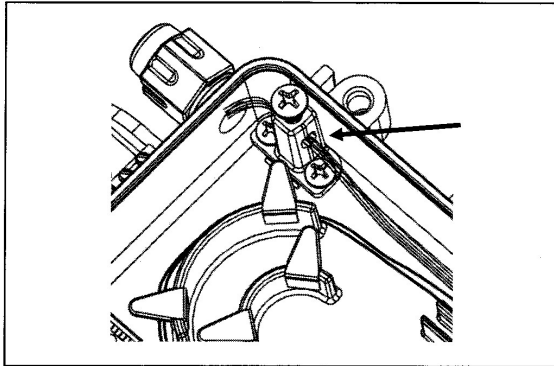


Figure 4. Strength member clamp

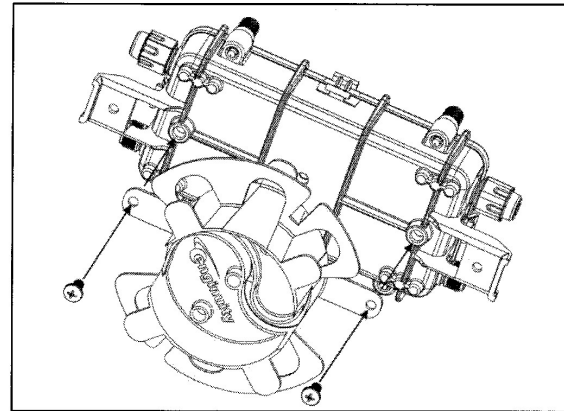


Figure 6. Fiber spool installation

Trace Wire Attachment

- ① Loosen the screw for the trace wire located on the bottom side of the LOC-DROP enclosure.
- ② Cut the trace wire to length so that it reaches the screw + 2 inches. Strip the insulation so that approximately 0.75 inches of copper is exposed. Loop the wire around the screw as shown in Figure 5.
- ③ Tighten the screw.

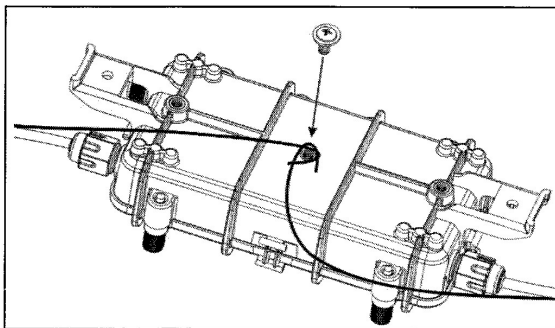


Figure 5. Trace wire attachment

Fiber Spool Installation

The optional fiber spool may be mounted to the back of the LOCDROP-EN enclosure as shown in Figure 6. For direct burial applications, the spool may be placed in-line with the enclosure.

Strand Mounting Brackets Installation

The optional LOCDROP-SM kit includes two brackets and the hardware needed hang the enclosure from a strand.

- ① Attach the brackets to the enclosure as shown in Figure 7.
- ② Place brackets over the strand and tighten bolts using a 216 tool as shown in Figure 8.

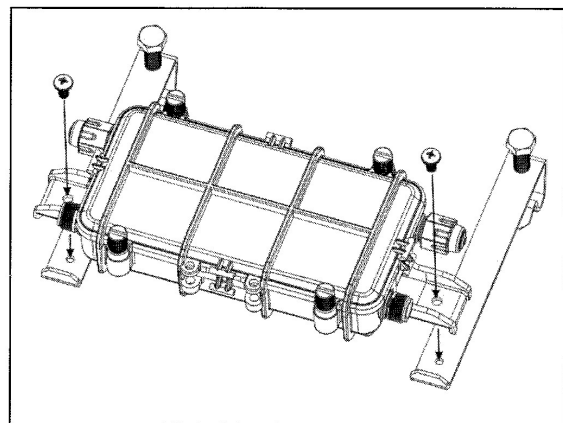


Figure 7. Strand mount kit installation

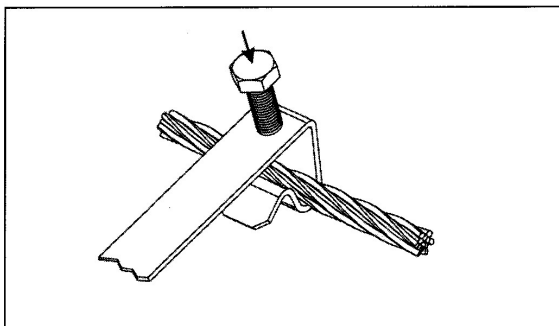


Figure 8. Securing to a strand

Adding A Tag and Other Options

The LOCDROP enclosure provides two sets of rings (Figure 9). These rings may be used to attach a locator tag or ID label.

For aerial applications, it is recommended that one or two cable ties (user provided) be used in these rings to tether the top of the enclosure to the base when opening.

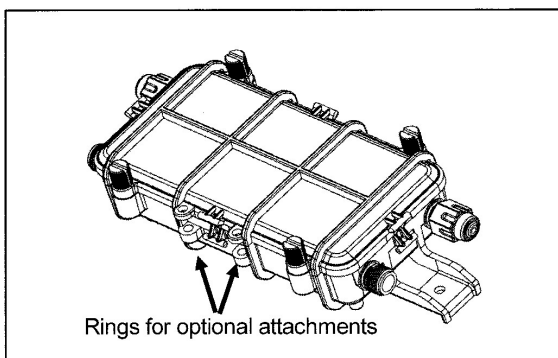


Figure 9. Rings for Optional Attachments

Enginuity Communications

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St. Charles, IL 60174

6. WARRANTY & REPAIRS

Warranty

Enginuity warrants this product for one (1) year from date of purchase. Any attempt to repair or modify the equipment by anyone other than an authorized Enginuity representative will void the warranty.

This limited warranty does not cover any losses or damages resulting from shipment to or from the customer, or from improper installation, abuse, modifications, or unauthorized repair by other than Enginuity personnel.

7. SPECIFICATIONS

Enclosure

Part Number	LOCDROP-EN
Description	Enclosure
Length	8.75 inches
Width	3.88 inches
Height	2.18 inches
Weight	0.6 pounds
Operating Temperature	-40 to 85°C

Optional Strand Mount Kit

Part Number	LOCDROP-SM (pair of brackets) LOCDROP-SM-10 (10 pairs of brackets)
Description	Strand mounting kit for the LOC-DROP enclosure
Length per bracket	5.85 inches When installed the LOC-DROP enclosure sits approximately 4 inches below the strand.
Width per bracket	0.75 inches
Depth per bracket	1.4 inches
Weight (2 brackets plus hardware)	0.32 pounds

Optional Fiber Spool

Part Number	LOCDROP-SPL-10
Description	Fiber spool for LOC-DROP enclosure, 10 pack
Width per spool	5.4 inches
Height per spool	1.3 inches
Weight per spool	0.1 pounds

Available from:
Future Ready Solutions
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