Fiber Drop and Installation Standards

May 1, 2024

Ver. 1

Overhead Outside Drop Install (Aerial)

1. Always Park van in direction of flow of traffic.
    a. Place cones, one in front and one behind van.
2. Wear PPE – safety vest, hard hat, safety glasses, harness when more than 4' off ground.
3. Knock on door to make customer contact if possible.
4. Always check meter number against meter number on work order to ensure you are at the right house.
5. Perform a visual inspection of jobsite and take note of any potential obstacles and what tools you will need to overcome them.
6. Always measure drop to confirm length and select the appropriate drop cable.
7. Set up cable caddy at side of house and pull line out to the appropriate splice point.
    a. DO NOT lay cable across the road.
8. Attach fiber to pole using, J-hooks, drop hangers, and zip ties where applicable.
    a. NEVER attach a drop to the mainline cable. This is never an acceptable option.
    b. Use 1 J-hook on straight-line poles and 2 J-hooks when making sharp turns.
        i. Maximum of 4 drops/MST tails per J-hook.
    c. Drip loops on bump poles should have a 10" diameter.
    d. All attachment points should be as high as the pole will allow in comm space.
9. Continue drop run following power and attaching to each pole until you reach the house following the neutral side of the pole.
    a. Drop shall have slack at takeoff pole, around every 3rd pole, and at the last pole drop hits. For example, on a 6 span drop run the drop will have 3 slack loops placed.
10. Attach drop to house using mast clamps with ram's head for mast attachments and P-hook for eve attachments.
    a. Do not attach to other utility mast clamps.
    b. P-hooks should not be attached to facia boards only, drop weight will damage facia.
    c. P-hooks should be placed on eves were fascia boards attach to beams.
11. Use screw clips to run the drop down the exterior of the house to where NID will be mounted.
    a. NEVER attach drop to soffit.
    b. For eve, attach P-hooks.
    c. Lines attached to power mast are tie wrapped down power mast.
12. Mount NID
    a. Preferred NID mounting point should be near the power meter, lining up the top of the NID with the bottom of the meter.
        i. If this position is not available, installer should use their best judgement as to the best mounting location that meets building owner's preference and protects drop and NID appropriately.
13. Bring fiber drop into the NID leaving a 10" drip loop before entry point.
14. Strip fiber drop jacket back using your T-handle strippers and leaving 1" of cable jacket in the NID. Always leave 5 feet of buffer tube coiled up in NID.

15. Cut both white strength members to a length of 3" to use to secure drop into NID with zip ties.
    a. Be careful not to cut or break the buffer tube.
    b. Some NIDs have tie wrap spot to secure drop via jacket, not strength member lug.
16. Strip back buffer tube and splice primary fiber to pigtail and verify light reading.
17. Close and secure NID.
    a. Always write light reading and initials inside NID.
18. Do final walk around job site to ensure all garbage is picked up and tools are put away. Leave area better than you found it.

Underground Outside Drop Install with MST (Partial)

1. Always Park van in direction of flow of traffic.
    a. Place cones, one in front and one behind van.
2. Wear PPE – safety vest, hard hat, safety glasses, harness when more than 4' off ground.
3. Knock on door to make customer contact if possible.
4. Always check meter number against meter number on work order to ensure you are at the right house.
5. Perform a visual inspection of jobsite and take note of any potential obstacles and what tools you will need to overcome them.
    a. Discuss with customer to see if there are any facilities that couldn't be located before digging.
6. Always measure the drop to confirm correct length and select the correct drop cable.
7. Drop will come out of MST (drop slack will be left with MST slack on the pole) and run straight down the pole through screw clips.
    a. They are allowed to tie wrap up to 3 drops to original drop. Use additional clips for 4th drop.
    b. Drop should be attached with clips and not attached to the power conduit down the pole.
    c. Tech should mark the drop going out of the MST port with house number using a tag or label maker, to allow for fast troubleshooting if required in the future.
8. Riser Cane / U-guard should be placed at the pole where drop goes underground.
    a. Minimum of 3ft above ground up to 10ft.
9. Drop should be installed into CUA owned conduit when available to customer's house.
10. When existing conduit is not available, drop should be plowed underground close to where the power is located at the house.
    a. If customer requests running a different route, Tech should listen and assess their reason. If nothing is preventing the drop being installed as designed, Tech should explain to customer why we follow power. If Tech can see a different route is required due to obstacles unknown before arrival, Tech should run drop as required.
    b. If drop is rerouted and/or material has changed, Tech will simply add a detailed note in Virtuoso on the drop record.

11. Riser Cane / U-guard should be placed on the house to transition from underground up the house to NID. The riser cane should reach from ground to the bottom of the NID.
12. Drop does not have to come out of MST up to a J-hook.
    a. Slack can be placed with MST slack and then ran down the pole if underground should never go up pole.
13. 20 feet of slack should be left for the NID install.
14. Mount NID.
    a. Preferred NID mounting point will be right next to the power meter, lining up the bottom of the NID with the meter.
        i. If position is not available, use your best judgement.
15. Bring fiber drop into the NID leaving a 10" drip loop before entry point.
16. Strip fiber drop jacket back using your T-handle strippers and leaving 1" of cable jacket in the NID. Always leave 5 feet of buffer tube coiled up in NID.
17. Cut both white strength members to a length of 3" to use to secure drop into NID with zip ties.
    a. Be careful not to cut or break the buffer tube.
    b. Some NIDs have tie wrap spot to secure drop via jacket, not strength member lug.
18. Strip back buffer tube and splice primary fiber to pigtail and verify light reading.
19. Close and secure NID.
    a. Always write light reading and initials inside NID.
20. Do final walk around job site to ensure all garbage is picked up and tools are put away. Leave area better than how it was found.

Underground Outside Drop Install without MST (Bury)

1. Always Park van in direction of flow of traffic.
    a. Place cones, one in front and one behind van.
2. Wear PPE – safety vest, hard hat, safety glasses, harness when more than 4' off ground.
3. Knock on door to make customer contact if possible.
4. Always check meter number against meter number on work order to ensure you are at the right house.
5. Perform a visual inspection of jobsite and take note of any potential obstacles and what tools you will need to overcome them.
    a. Discuss with customer to see if there are any facilities that couldn't be located before digging.
6. Always measure the drop to confirm correct length and select the correct drop cable.
7. Drop will be installed into a closure, usually in a handhole, and fusion spliced to the assigned distribution/mainline fiber or appropriate output pigtail of a splitter.

   a. Tech should mark the drop going out of the closure with house number using a tag or label maker, to allow for fast troubleshooting if required in the future.
8. Drop should be installed into CUA owned conduit when available to customer's house.
9. When existing conduit is not available, drop should be plowed underground close to where the power is located at the house.
   a. If customer requests running a different route, Tech should listen and assess their reason. If nothing is preventing the drop being installed as designed, Tech should explain to customer why we follow power. If Tech can see a different route is required due to obstacles unknown before arrival, Tech should run drop as required.
   b. If drop is rerouted and/or material has changed, Tech will simply add a detailed note in Virtuoso on the drop record.
10. Riser Cane / U-guard should be placed on the house to transition from underground up the house to NID.
   a. The minimum height should be 36".
11. 20 feet of slack should be left for the NID install.
12. Mount NID
   a. Preferred NID mounting point should be near the power meter, lining up the top of the NID with the bottom of the meter.
      i. If this position is not available, installer should use their best judgement as to the best mounting location that meets building owner's preference and protects drop and NID appropriately.
13. Bring fiber drop into the NID leaving a 10" drip loop before entry point.
14. Strip fiber drop jacket back using your T-handle strippers and leaving 1" of cable jacket in the NID. Always leave 5 feet of buffer tube coiled up in NID.
15. Cut both white strength members to a length of 3" to use to secure drop into NID with zip ties.
   a. Be careful not to cut or break the buffer tube.
   b. Some NIDs have tie wrap spot to secure drop via jacket, not strength member lug.
16. Strip back buffer tube and splice primary fiber to pigtail and verify light reading.
17. Close and secure NID.
   a. Always write light reading and initials inside NID.
18. Do final walk around job site to ensure all garbage is picked up and tools are put away. Leave area better than how it was found.

Trailer/ Mobile Home Installs

1. Use trailer stake if power pole is too far from the trailer.
2. Install stake as close as you can to the trailer (do not put stake under trailer).
3. Run fiber in from stake to trailer keeping the wire off the ground. (Do not install a fiber on top of ground.)
4. Never put a hole on the side of a mobile home, entrance should be from underside.
5. Repair underside insulation and barrier post drill & fiber pull. Make sure we leave underside of cable entrance as good or better than prior to work.

Home Install

1. Wear boot covers while inside customer's home.
2. Should always have ID badge on your person.
3. Install wallfish from NID.
    a. Do not run inside cable at eye level on outside of home. It should be at a lower level out of eye site if possible.
4. ONT and RG should be centrally located in home.
5. Customer Education
    a. Educate customer on placement of equipment.
    b. Ensure any areas with weak signal are identified with customer.
        i. Offer Extender if required – inform of pricing.
        ii. Install if customer agrees to pay price.
    c. Explain cable routing and reasons for routing cables the way we do and the limitations bending fiber causes.
    d. Show customer speeds that they are receiving.
    e. Leave customer with information pamphlet.
6. Clean up dust and trash after install. Leave home better than how it was found.
7. Photos of the NID, ONT, RG and Extender if installed and the entry point (interior and exterior) of the fiber into the building will be required. Other photos may be required as well, depending on the installation site.
8. Light levels at the NID will be taken and a photo will be required.
9. A speed test and a photo of the speed test will be required.

Troubleshooting during in Home Install

1. Verify light levels at ONT prior to escalating.
2. Isolate customer wiring if a phone install prior to escalating.

Escalations

Escalation procedure during home install or during onsite trouble call:

- To be determined after contractor is selected.

Escalation procedure after home install:

- To be determined after contractor is selected.

Contacts:

1. CSA - 662-842-5962
2. CSA - David Williams 256-714-5291
3. CSA - Milt Johnson 952-693-6609
4. CUA/FR Tier 2 distro - TBD@TBD.com
5. FR NetEng Triage - 256-414-0231 (during business hours 9a-6p EDT)
6. Adtran - 888-423-8726, Adtran.com

Contractor Verbiage

If drop installer is approached by customer:
If Bury drop – they can inform customer a splicer will be out to splice the drop and thereafter, customer will be contacted by CUA to schedule the next phase of the install which is the home install.
If Partial drop and aerial crew is asked – they can inform the customer that another crew will be out to bury the drop and thereafter, customer will be contacted by CUA to schedule the next phase of the install which is the home install.
If Partial drop and bury crew is asked – they can tell customer, they will be contacted by CUA to schedule the next phase of the install which is the home install.
If Aerial drop – they can tell customer, they will be contacted by CUA to schedule the next phase of the install which is the home install.
If all stages of the drop are complete when the customer inquires, let them know they will be contacted by CUA to schedule the next phase of the install which is the home install.

*If customer wants to know what home install entails, contractor can inform them that a technician will arrive on the scheduled install date, and they will put a little hole in the side of the house to run the internet cable inside and then will set up equipment inside the home. They will make sure the internet is working and performing before exiting the premise.

Home Install Equipment

Network Interface Device

The Network Interface Device (NID) is where the drop cable terminates. It contains a bulkhead to connect the fiber drop to the Outdoor Ruggedized jumper that runs into the customer premise.

Outdoor Ruggedized Cable

The Outdoor Ruggedized cable connects the NID to the Optical Network Terminal (ONT) and will be routed, usually under the customer premise, to the designated ONT installation location. These cables are normally provided to the technician in multiple lengths, are pre-terminated, and individually packaged. These cables are typically equipped with SC APC connectors on both ends to connect the bulkhead at the NID and the optical port of the ONT.

Optical Network Terminal

The Optical Network Terminal (ONT) is the equipment that converts the signal from the light that travels through the fiber network to a signal that can be recognized by the Residential Gateway (RG) and other devices inside the home or business.

Types of ONTs: Voice, Non-Voice, and Outdoor. The Voice ONT has port to receive an RJ11 connector for voice applications.

CUA will be using: ADTRAN ONT 622v (LINK) - Voice and ADTRAN 631q ONT (LINK) - Outdoor

Cables

The RJ45 cable is used to connect the ONT to the RG via the port labeled “WAN”. This is also the cable used to connect devices to the RG via the ports labeled “ethernet”.

The RJ11 cable is what connects the ONT to the home telephone with voice packages. Note: This application requires a different ONT than standard data packages which do not include voice ports.

Both cables are available pre-terminated in multiple lengths, but some installations may require custom length cables to be made onsite.

Residential Gateway

This is an example of a Residential Gateway (RG), also known as a modem/router. This is not only what provides the Wi-Fi connection to the internet but also has multiple ports labeled “ethernet” used to connect devices directly via RJ45 cables.

CUA will be using: ADTRAN SDG RG 8612 (LINK) and ADTRAN SDG 8632 RG (LINK)

SDG 8612

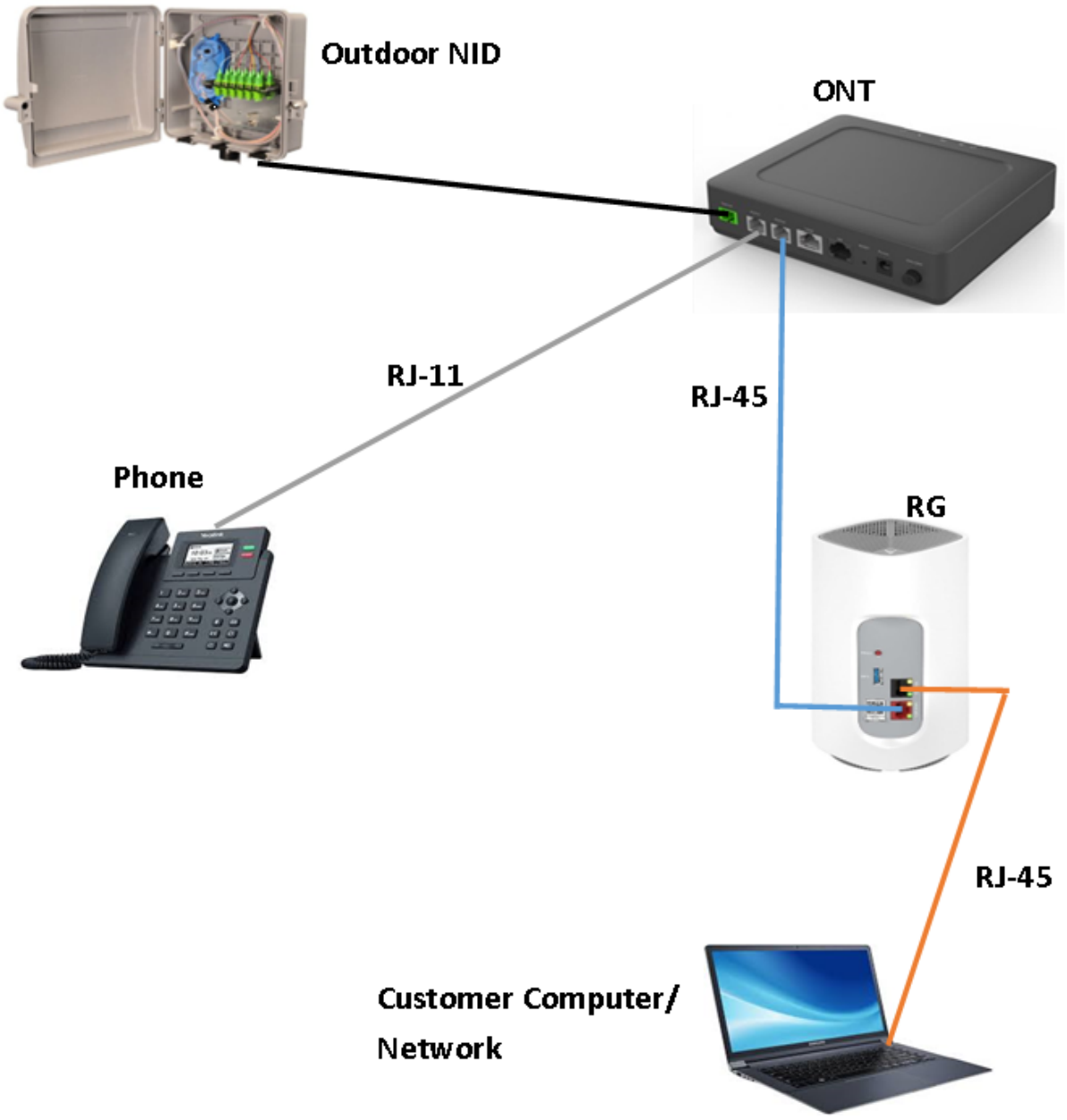
SDG 8632

Generally, the ONT and the RG will be installed close to one another in a centralized location at the customer premise to ensure the highest quality wireless coverage. Both pieces of equipment will require a power supply, which should be considered when choosing a location. Another thing to take into consideration is that the ONT has tabs that allow it to be mounted to the wall, while the RG will need to be placed on a solid surface with proper ventilation for cooling purposes.

Extenders

Wi-fi Extenders are also known as repeaters or satellites. Extenders are used to expand the reach of the network. They can be wireless (meshed) or hard lined via Cat6. Hard lined will always provide the best, most consistent results and speeds. If the extender is wireless (meshed) placement is crucial for the best customer experience. They are typically installed in houses with multiple stories, long/wide houses, older houses with hardwoods/sheetrock on top of wood walls, or houses with difficult installs and lots of interference (See Obstruction Table in Common Troubleshooting Tips). It is the install technician’s duty to verify speeds from a meshed extender and confirm RSSI less than -70 for best results. Most extenders are tri-band, but one of those bands is typically designated for back-haul to the RG. The extender will have an RJ-45 ethernet port available to hard-line customer equipment such as X-box, PS5, Computers, or TVs.

Connection Diagram



Common Troubleshooting Tips

If customer has BIP errors that keep increasing, then a technician will need to roll out to resplice or verify there are no excessive bends within the NID.

If customer has mesh extenders (not hard-lined) and is reporting issues on that side of the house, then verify RSSI. Typically, you can view RSSI in the station or steering status of the RG. If the RSSI is above -70 then speeds may lack, and issues may be more prominent. Resolve by selling customer a hard line or advising to move closer to main RG.

Sometimes a customer may complain about dropping off the network with an extender. Depending on their location with respect to the extender and main RG, they could be in the middle of the handoff. The handoff is when you move from the area with the RG to be closer to the extender. Sometimes if a customer is right in the middle, it may drop and come back then drop and come back again. This causes confusion and issues for the customer.

If a customer is reporting internet issues and they are pulling an IP address in the range 169.254.X.X then the device is not connecting to the network. This is called an Automatic Private IP address.

If a customer is working off a hard line and is reporting speeds no greater that 100 mbps then there is a problem with the ethernet. Typically, this is due to a crimping issue or crossed pair and will be resolved by remaking the tips.

If a customer is complaining about speed, then check the devices 802.11 protocol. If the device is 802.11n then typical speeds will range from 200-400mbps. If the device is 802.11ac then it will see speeds from 600-900mbps. It is important for Tier 1 to evaluate the age of the device and its location with respect to RG's and extenders.

If a customer is reporting speed issues in certain areas of their house it is good to know/ask about certain obstacles.

OBSTRUCTION	OBSTACLE SEVERITY	EXAMPLE
Wood/wood paneling	Low – medium	Walls/ Doors
Drywall	Low	Walls
Clear Glass	Low	Windows
Double/Triple Pane Glass	Medium – High	New windows
Ceramic Tile	Medium	Bathroom/ Wall tile
Concrete Blocks	Medium – High	Outer wall/ basement
Mirrors	High	Any mirror
Metals	High	Metal buildings, doors, etc.
Water	High	Water heaters, aquariums

It is common for a customer to be using an illegitimate streaming service. Examples include USTVGO.com, CouchPotato, CityLights, PixelTV, and Max Reloaded. These mostly use P2P sharing and are not supported. Most of the time this is on jailbroken Firesticks. Customer should be advised to use a source such as Hulu, Netflix, etc.

Common Phone/ VOIP Issues

Static

Static could be from loose connections, a pierced wire or even if the wiring has been wet. Check all connections carefully.

If static is present on the line, it's possible that there's a hole somewhere in the wire insulation which is letting in moisture and causing a short. Follow the wire from the network interface device to the jack and look for holes. For example, if staples were used to fasten the wire to the wall, check for a staple puncturing the insulation.

Dead Air

This is usually from a short in the phone wiring. Maybe too much of the casing was stripped off and the copper from different colored wires is touching. Again, check all connections carefully.

Buzzing Sound

If a buzzing sound is present, the phone wire may be too close to a power wire or touching some metal. Check that all the colors are matched properly.

Tips

Short will have voltage.

Open will have none.

Ground is touching some other object (voltage is higher than normal = it may be touching another open wire/ If voltage is halved = it is touching metal, etc.)

Ground-fault occurs when electricity finds an unintentional pathway to earth. A short circuit happens when electricity finds a low-resistance pathway through the circuit itself.

FiberRise
An ENTRUST Solutions Group Company

LEGEND

- Drop From MST
- Outdoor Ruggedized Fiber Cable
- Ethernet / Cat 6 (RJ-45 Termination)
- Phone (RJ-11 Termination)

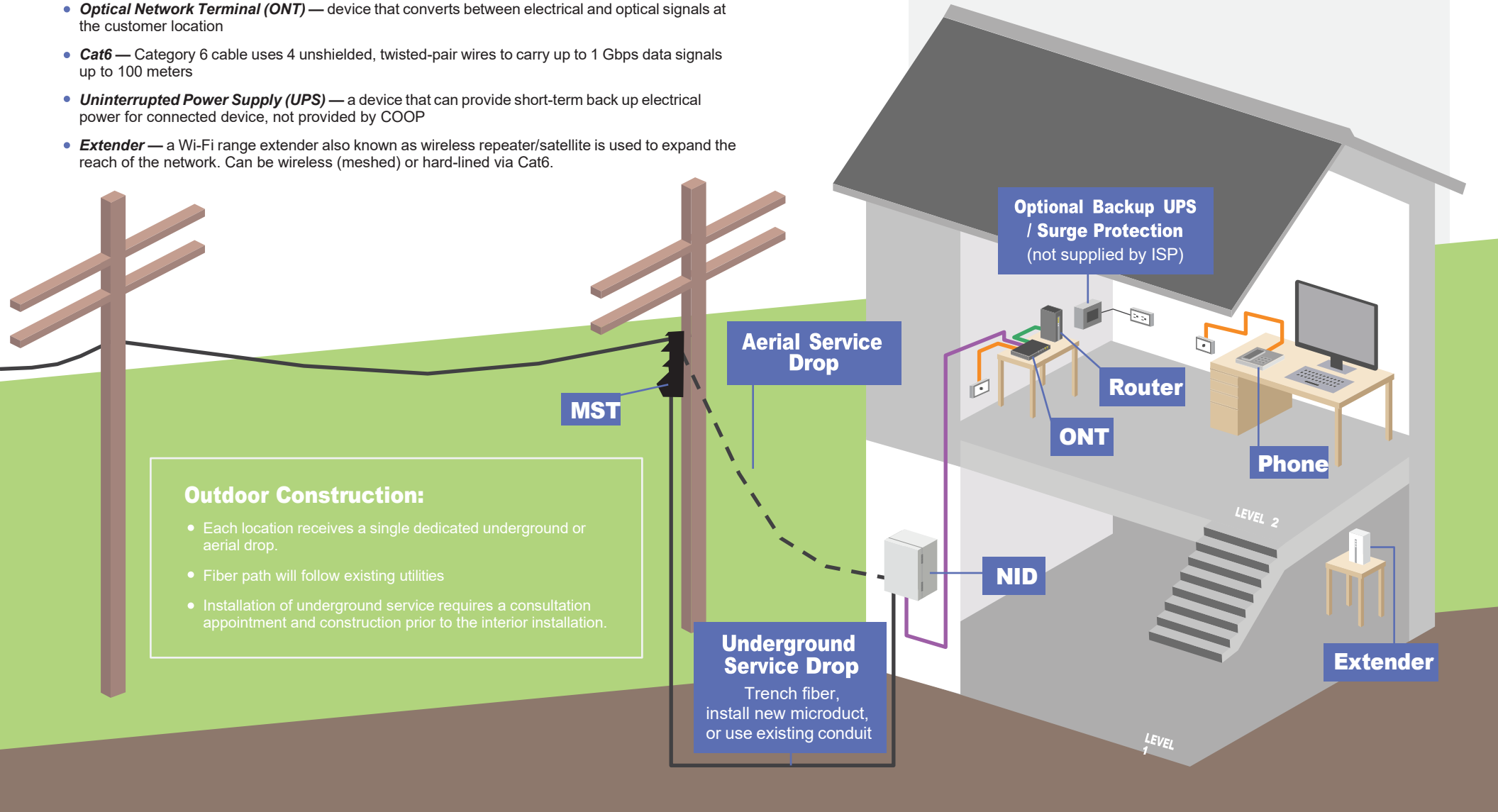
STANDARD SERVICE DROP

Glossary

- ***Multiport Service Terminal (MST)*** **—** provides multiple fiber ports for service connections
- ***Network Interface Device (NID)*** **—** junction box usually installed outdoors for conversion from outdoor to indoor connection
- ***Optical Network Terminal (ONT)*** **—** device that converts between electrical and optical signals at the customer location
- ***Cat6*** **—** Category 6 cable uses 4 unshielded, twisted-pair wires to carry up to 1 Gbps data signals up to 100 meters
- ***Uninterrupted Power Supply (UPS)*** **—** a device that can provide short-term back up electrical power for connected device, not provided by COOP
- ***Extender*** **—** a Wi-Fi range extender also known as wireless repeater/satellite is used to expand the reach of the network. Can be wireless (meshed) or hard-lined via Cat6.

Indoor Installation:

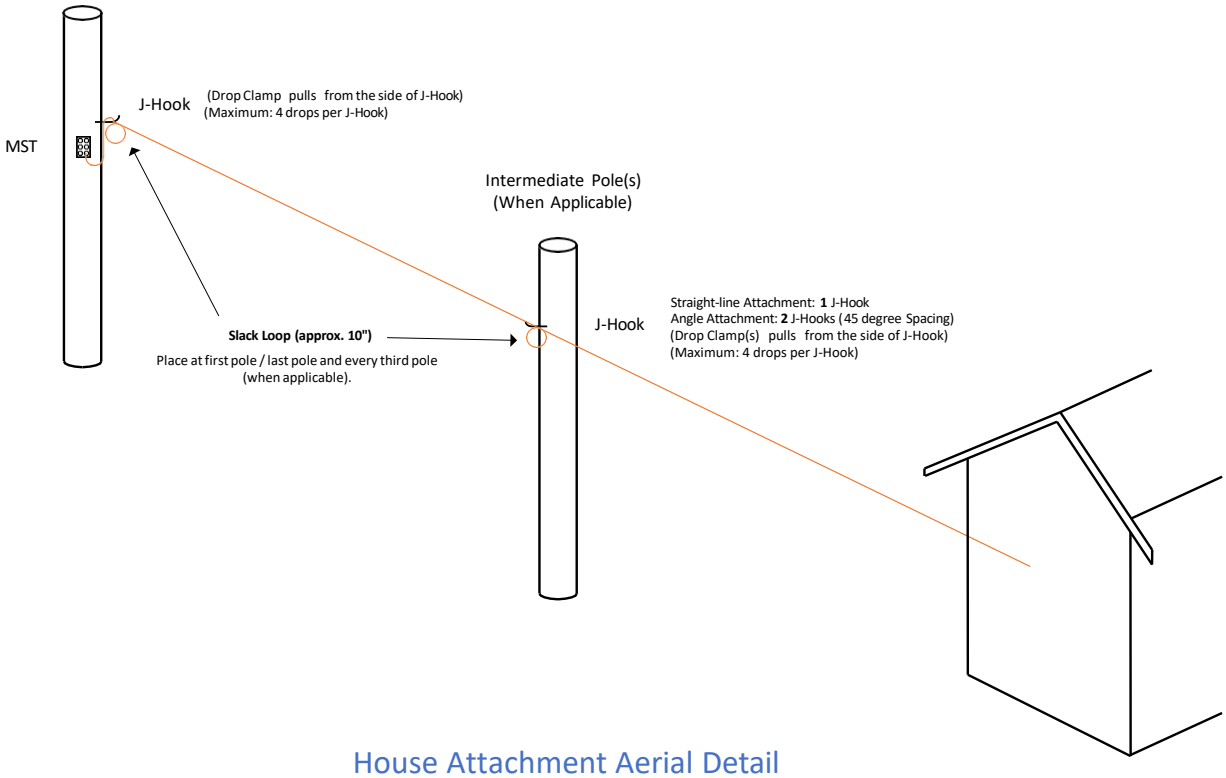
- A standard installation includes the ONT and Wi-Fi router, preferably installed in the center and the highest point of the home.
- Custom installations may incur additional charges based on labor and material.
- In the event of a power outage, the ONT and router will need to be powered by a generator or UPS to continue service.



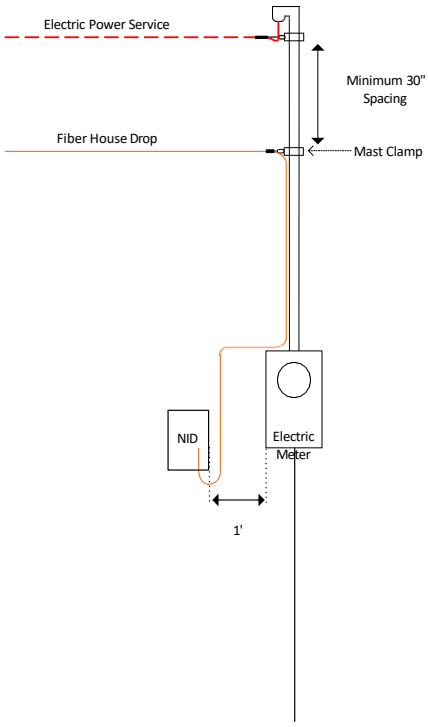
Outdoor Construction:

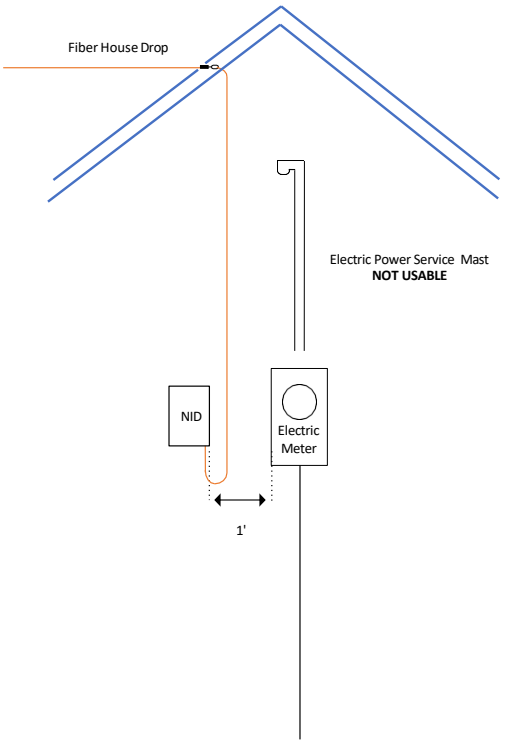
- Each location receives a single dedicated underground or aerial drop.
- Fiber path will follow existing utilities
- Installation of underground service requires a consultation appointment and construction prior to the interior installation.

House Drop: Aerial

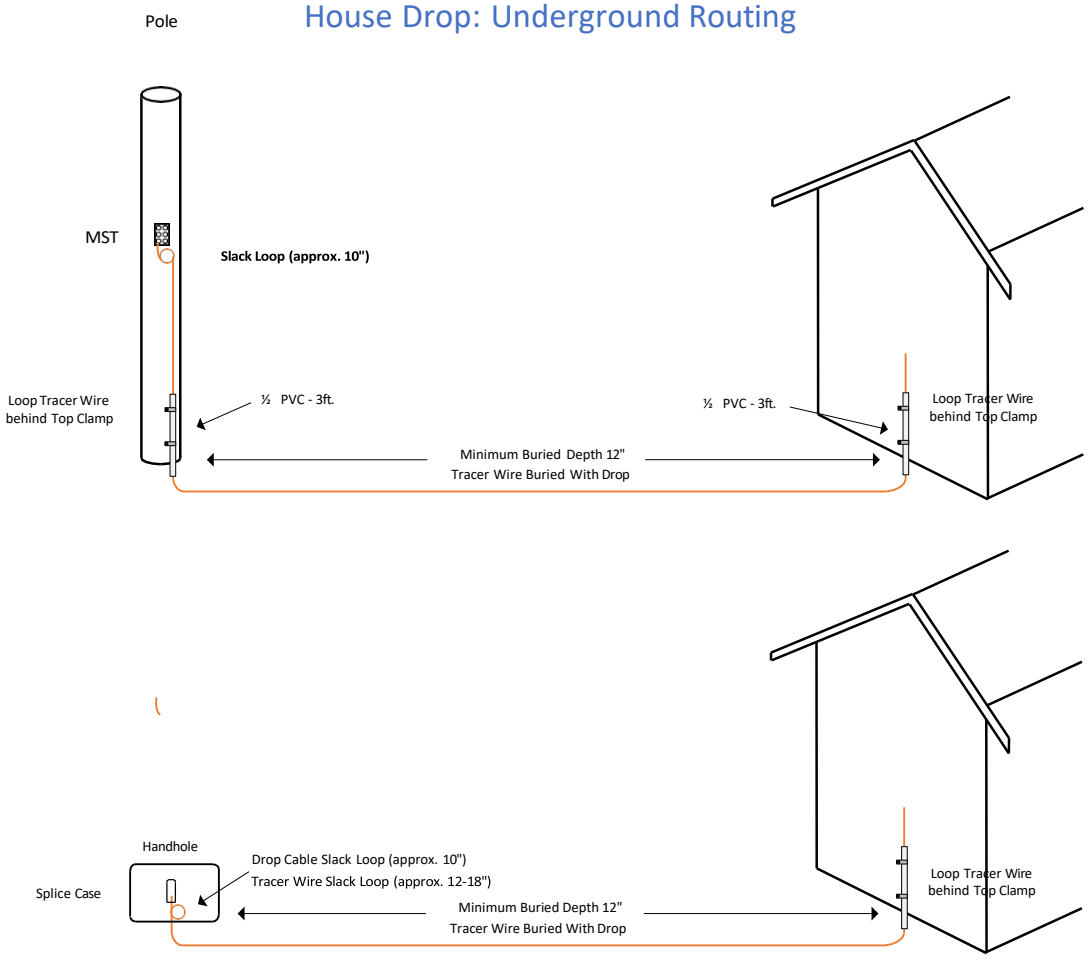


House Attachment Aerial Detail

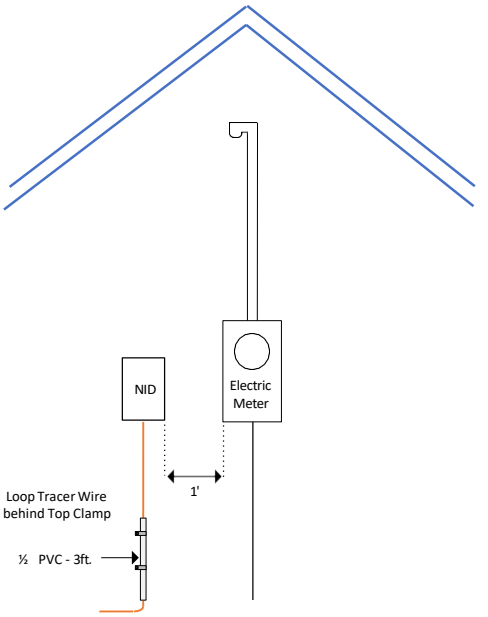




House Drop: Underground Routing



House Attachment: Underground Detail



AFL

Optical Connectivity

AFL TRIDENT® Hardened Drop Cables

AFL TRIDENT factory-terminated drop cables are the final piece of the AFL TITAN RTD® FTTx System. The quarter-turn latching and sealing mechanism of the AFL TRIDENT connector provides quick and easy "plug and play" connections to AFL TITAN RTD multiport terminals, enabling lighting fast service subscriber connections with outstanding long term reliability. The connector/adapter interface is keyed to ensure proper alignment of the 2.5 mm APC ferrule. Once the connector is keyed and inserted, locking and sealing is provided with a "BNC-like" quarter-turn of the connector coupling. Drops are available with one or both ends terminated (either both ends AFL TRIDENT or hybrid—one end AFL TRIDENT and one end standard SC). Drop cables are available in one, two, or four fibers (flat drop only).

Features

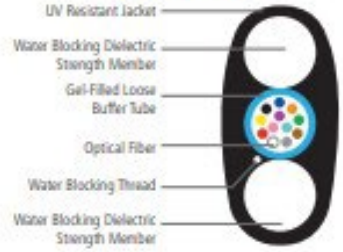
- AFL TRIDENT Hardened Connector ports for speedy customer connections
- Factory terminated on:
  - 250 µm outdoor or 900 µm indoor/outdoor flat drop cable
  - 250 µm armored drop
  - 900 µm pushable/air-jettable MicroDrop
- Flat drop is aerial self-support capable

Qualifications

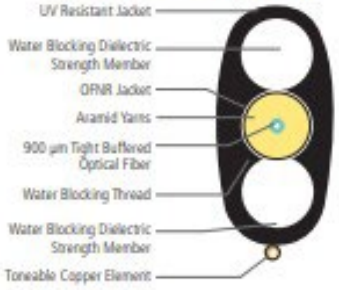
GOVERNING BODY	STANDARD CODE
Telcordia	GR-3120

Cable Components

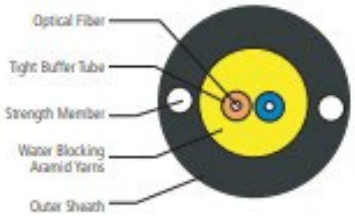
Dielectric OSP



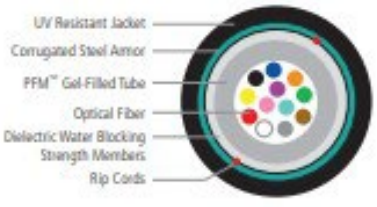
Toneable Indoor/Outdoor



MicroDrop



Armored Drop



AFL

Optical Connectivity

AFL TRIDENT® Hardened Drop Cables

Cable Specifications (Flat Drop Cable Only)

Max Span Length at 1% Sag	
NESC Light	550 ft (168 m)
NESC Medium	275 ft (84 m)
NESC Heavy	150 ft (46 m)

AFL TRIDENT Hardened Connector Specifications

PARAMETER	VALUE
Insertion Loss, Maximum	0.50 dB
Insertion Loss, Typical	0.15 dB
Reflection	≤ -65 dB
Operating Temperature	-40°C to +75°C
Retention Force	25 lbs (111 N)
Dust Cap Pulling Eye Tension	100 lbs (444 N)*

*One fiber only. Two or four fiber drops should not be pulled by the dust cap pulling eye.

Ordering Information

TASC	XXX	TD	001	Q	0100	F
Outside End Connector	**Inside End Connector**	**Cable Type**	**Fiber Count**	**Fiber Type**	**Cable Length**	**UOM**
XXX = No connector TASC = Trident ASC = Angle SC	XXX = No connector TASC = Trident ASC = Angle SC	DD = Dielectric Flat Drop TD = Toneable Flat Drop KTD = Toneable Indoor/Outdoor Flat Drop KDD = Dielectric Indoor/Outdoor Flat Drop AN = Armored Drop PD = Pushable MicroDrop	001 002 004	Q = Single-mode ITU-T G.652.D Z = Single-mode ITU-T G.657.A2 BIF (for I/O flat drop)	*4 digits Example: 0100F for 100 feet	F = Feet M = Meter

8108198/DB | 0-002-DF-HY-F02NS/8W002/1X24AWG

LightScope ZWP® Fiber + Tone Wire Outdoor Drop Cable, 1–12 fiber Arid Core construction, central loose tube

Product Classification

Regional Availability	Asia | Australia/New Zealand | EMEA | Latin America | North America
Portfolio	CommScope®
Product Type	Hybrid cable, fiber and tone-wire
Product Brand	LightScope ZWP®

General Specifications

Cable Type	Central loose tube
Construction Type	Non-armored
Fiber Type, quantity	2
Fibers per Subunit, quantity	2
Jacket Color	Black
Subunit Type	Gel-filled
Subunit, quantity	1
Tone Wire, quantity	1
Total Fiber Count	2

Dimensions

Height Over Jacket	4.318 mm | 0.17 in
Buffer Tube/Subunit Diameter	3.048 mm | 0.12 in
Diameter Over Jacket	9.906 mm | 0.39 in
Diameter Over Messenger Jacket	2.032 mm | 0.08 in
Tone Wire Gauge	24 AWG

Representative Image

Drop Hardware

Drop Wire Clamp 23-44441, 23-44444, 23-44445, 23-82350, , 23-82351

PPC
Innovate. Connect.
A BELDEN BRAND

The Diamond® Difference™

Does Your Hardware Pass the Test of Time?

The unique, proprietary approach that we have to mechanical galvanizing, and the standards that we insist on for our raw materials, ensure that Diamond parts can withstand corrosive environments for decades, a factor that is important today since replacement costs are so high.

Diamond® Products Stand the Test of Time.

Application

The Diamond Drop Wire Clamp is used to support both ends of an aerial service drop span at the messenger strand and building.

Specifications

- Shell, shim and wedge made of high grade aluminum alloy.
- Tail wire made of high grade stainless steel.
- Used as a standard by major telephone companies and throughout the Telecommunications Industry.
- Mechanical strength of 555 LBS. exceeds break-strength of drop wire.
- Suitable for most one and two pair aerial service wires. (.200" max. height and .410" max. width).
- Available with standard Bell type shim (perforated with projections) or a new flat shim with holes only. (No projections).
- Packaging available to Bell specifications.
- R.E.A. accepted.

23-44441

Part Numbers	Pair	Box QTY	Carton QTY	Weight per 100 PCS	Min Order QTY	Order Multiples
23-44441	1-2	-	500	6 LBS.	?	?
23-44444	1-2	25	500	6 LBS.	?	?
23-44445	1-2	-	250	6 LBS.	?	?
23-82350	6			6 LBS.	?	?
23-82351	6			6 LBS.	?	?
Stainless Steel						
23-88881	1-2	25	500	13 LBS.	?	?
23-88885	1-2	2	250	13 LBS.	?	?

Rev 1

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www.alliedboltinc.com
P: 516-512-7600 F: 516-512-7611
September 15, 2022

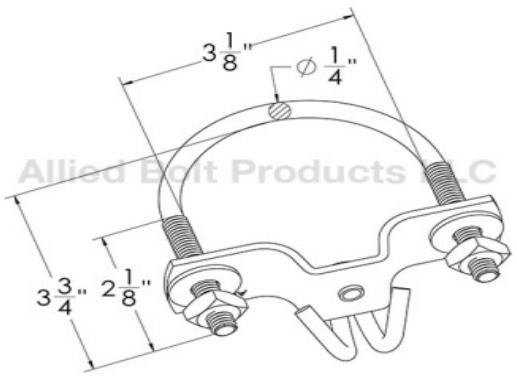
PRODUCT DETAIL SHEET

DROP WIRE MAST BRACKET

#7022

- Used as an attachment to steel masts for accepting the bail of drop wire clamps.
- All components formed from AISI 1008 Steel.
- Drop wire hook can accept multiple drops.
- Bracket can accommodate masts ranging from 2" to 3" in diameter.
- All components are mechanically galvanized to meet ASTM Specification B695.

DROP ATTACHMENTS



PART #	DESCRIPTION	PACKAGE QTY.	CARTON QTY.	CARTON WT.
7022	DROP WIRE MAST BRACKET	50	1	25

www.alliedboltinc.com

RAM'S HORN HOOK

By CHANCE Utility

Catalog ID: CRHH

Ram's Horn Hook attaches at the home or building with 1/4" hardware (not provided). Drop wire bail is looped over ram's horn hook.

- Mounting hole is .36" dia.
- Galvanized steel
- In compliance with Bellcor CAO6530

Telecrafter Products

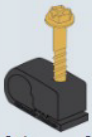
Designing, manufacturing, and delivering quality drop supplies

800-257-2448
mail@telecrafter.com

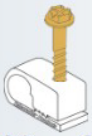
Flex Clip™ Cable Attachment Devices

for Series 6 Cable, 6 Tri-Shield, and Cat 6

Durable and long lasting
Flexible material won't damage cable
UV-stabilized for use indoors or out
Combo hex-head screw for use with a flat bladed or phillips screwdriver



Code	Color
S4BK	Black



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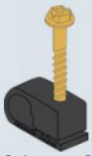
S4WH	White



Code	Color
S7BK	Black

Code	Color
S7WH	White

Accommodates:	.220 - .280" cable	**Screw Type:**	Standard
Materials:	Housing: UV-stabilized flexible polyethylene		Other screw options available
	Screws: Type A steel, #8, with yellow zinc coating	**Screw-in Depth:**	S4: 1/2"
			S7: 7/8"
			S9: 1-1/8"
		Packaging:	100/bag

USA Quality

AFL

Optical Connectivity

OptiNID® 500 Optical Demarcation Closure

The OptiNID (OPN) 500 is an optical demarcation closure designed for use in either indoor or outdoor environments. Small form factor for FTTH demarcation applications, the closure is capable of housing up to six bulkhead adapters in one 118 LGX® compatible adapter plate, and is equipped with an integrated splice tray, which holds up to six single fusion splices. The OPN-500 can be either wall or pole-mounted.

Features

- Weather-resistant thermoplastic alloy
- Self-latching, hinged cover design allows easy access without loose parts
- Capacity for one 118 LGX compatible adapter plate
- Provider override for customer lock
- 3/4" NPT conduit fitting, compression cable fittings or grommeted entry ports

Specifications

PARAMETER	VALUES
Dielectric Strength	Minimum 2500 Vrms for 1 minute
Impact Test	-40°F (-40°C), 5 ft-lbs on all external surfaces
Drop Test	-40°F (-40°C), 5 ft onto concrete surface four times
Rain	24 hours at 10 psi
UV Resistance (Days Exposed)	60 per ASTM-G26-84
Salt Fog (Days Exposed)	60 per ASTM-BLL7-90
Flammability	UL94-5V
Chemical Resistance 30 Days at 100°F and 95% RH	Resists chipping and/or cracking when subject to house paint, wasp spray, sulfuric acid, kerosene and sodium hydroxide
Material	UL® listed flame retardant thermoplastic alloy
Dimensions (H x W x D) in. (cm)	6.3 x 7.8 x 2.0 (15.7 x 19.7 x 5.0)
Cable Entrance in. (cm) diameter - Input	1 x 3/4" NPT (1.130"), 2 x 1/2" NPT (0.875")
Covers	Standard, molded-in snap finger and "F" termination
Operating Temperature Range – °F (°C)	-40 to 140 (-40 to 60)

Ordering Information

DESCRIPTION	AFL NO.
BASE PRODUCT [1,2]	
OptiNID OPN-500, No Adapters	DM001021
OptiNID OPN-500, 1 x SC/UPC Adapter	DM000550
OptiNID OPN-500, 1 x SC/APC Adapter	DM000766
OptiNID OPN-500, 6 x SC/UPC Adapters	DM000871
OptiNID OPN-500, 6 x SC/UPC Adapters, 6 x 1 m 900 µm Pigtails	DM001109
ACCESSORIES [3]	
Heyco M3234 Compression Fitting, 18 mm to 11 mm Grip (includes 4) – Left Port Only	DM001171
Kit, Six-Position Splice Chip, (includes 10)	DM000870

Notes:
1. All standard OPN-500 configurations come equipped with a ¾" NPT fitting, rubber grommet and Heyco 3231 compression fitting, along with a splice chip for six single fusion splices.
2. Contact AFL customer service for additional configurations.
3. See OptiNID Accessory Page for additional kits.

Drop and Installation Techs need to utilize the “Timestamp Camera Enterprise” App available in the Apple App and Google Play stores. It’s a free App and produces the below:

App Store Preview

This app is available only on 1he App Store for iPhone and iPad.

Timestamp Camera Enterprise

Add time that can't be forged

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Timestamp Camera Enterprise

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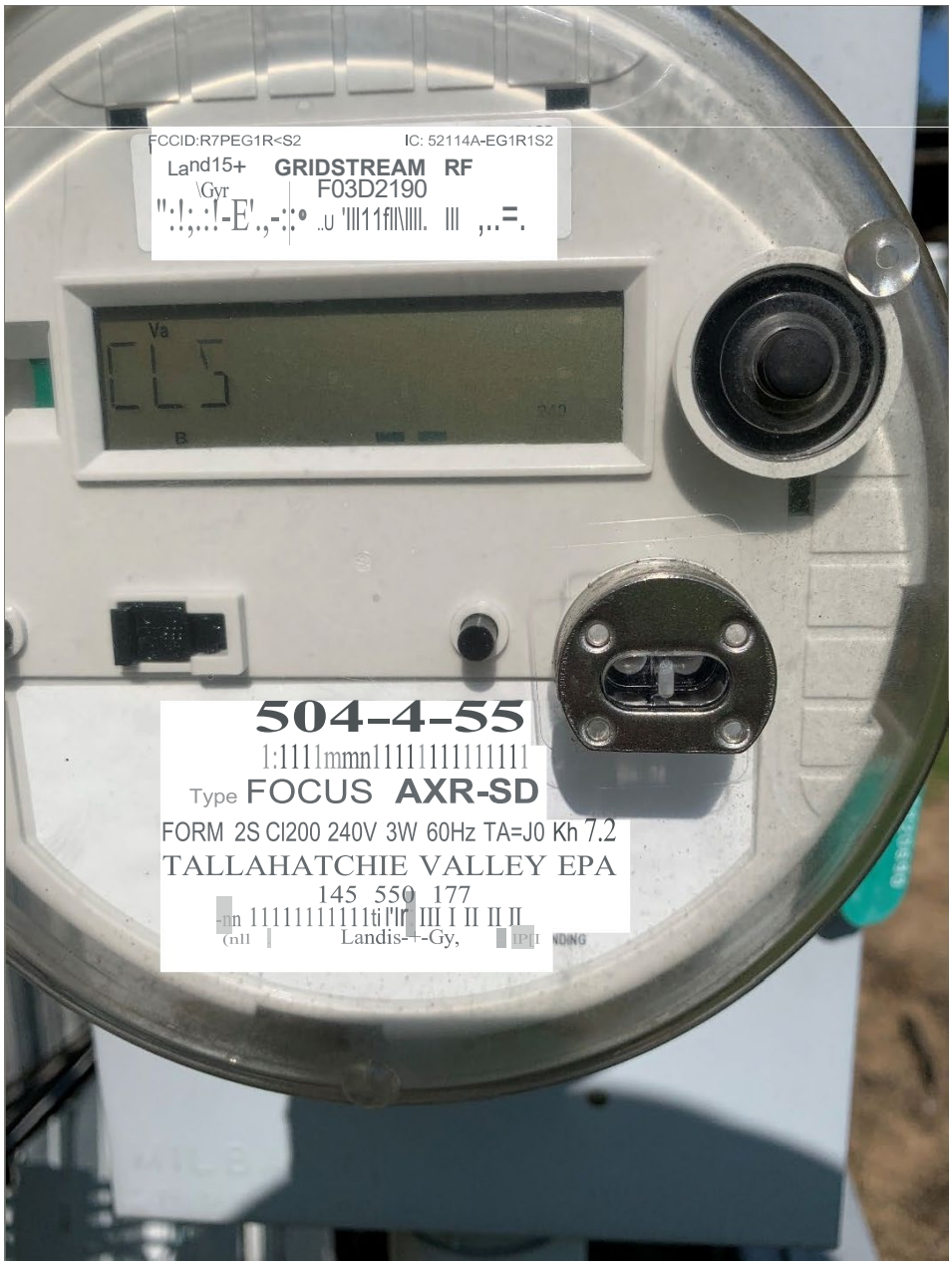
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