Technical Publication

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Installation Guidelines – HELIAX® Solutions

FT-24CGAHBN series cable, jumpers and junction box HFDC-24FIBER-P24S

Section 1: General Specifications HELIAX Modular Fiber Cable assembly

Part Number	FT-24CGAHBN
Interface, connector End 1	HMFOC
Interface, connector End 2	Dual LC (Gen 1.5 push-pull)
Total Fiber Quantity	24
Cable / Fiber Type	LSZH / G.657.A2
Shielding Type	Anti-rodent with E-Glass Protection

Dimensions

Cable Weight	0.086 KG/M
Diameter Over Jacket	8.9 mm
Breakout Length, Fiber, end 1	620 mm
Breakout Length, Fiber, end 2	1000 mm

Physical Specifications

Minimum Bend Radius	75 mm

Description	Part Number
8.9 mm cable, 24 Single Mode fibers, End 1: Two HMFOC 12 fiber connectors, End 2: Twelve DLC (Gen 1.5 push-pull) connectors, LSZH anti-rodent with E-Glass protection cable	FT-24CGAHBN-*M

* length

**End 1**   **End 2**
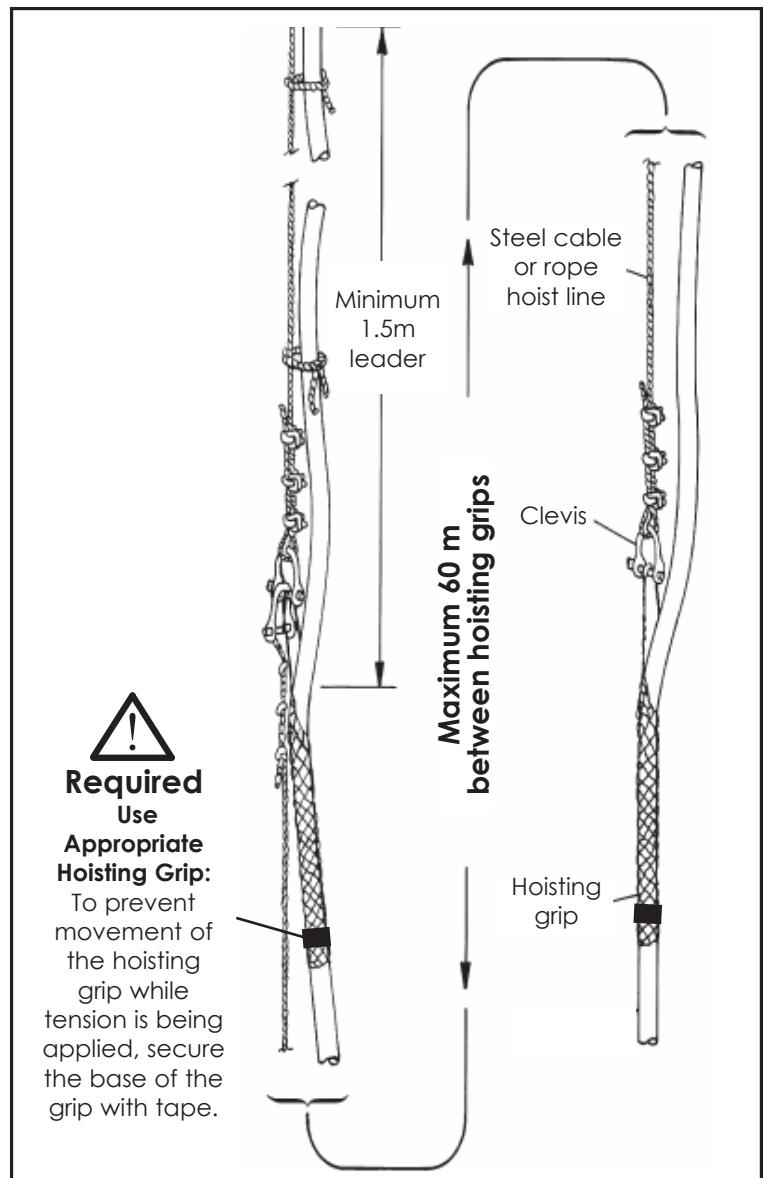

Section 2: Hoisting Considerations

- In general this cable will handle similarly to coaxial cable, and similar installation techniques apply. All cables are individually serialized, be sure to write down the cable serial number for future reference.

- The terminated fiber ends (the broken out fibers plus connectors) however are fragile, and these must be protected during the installation process.

- Leave the protective tube and sock around the fiber tails and connectors in place during hoisting and securing the cable. Remove this only just prior to making the final connections to the HFDC junction box.

- DO NOT BEND THE FIBER ENDS (in the furcation tubes) TIGHTER THAN 30 mm BEND RADIUS ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.

- Be sure that the lace up ends and fiber connectors are not damaged by attachment of a hoisting grip or during the hoisting process. Attach a hoisting grip on the jacketed cable no less than 152.4 mm below the fiber breakout point. Prevent the fiber tails (in protective tube) at the cable end from undue movement during hoisting by securing the protective tube to the hoisting line.

- During hoisting ensure that there is a free path and that the cable, and especially the fiber ends, will not be snagged on tower members or other obstacles.

- Installation temperature range is -40°C to +75°C

- **CommScope Lace-Up Hoisting Grip LUHG-38 is required for installations.**

- **Maximum hanger spacing 0.9 m**

⚠ **Maximum 60 m between hoisting grips**

Hoisting Recommendations
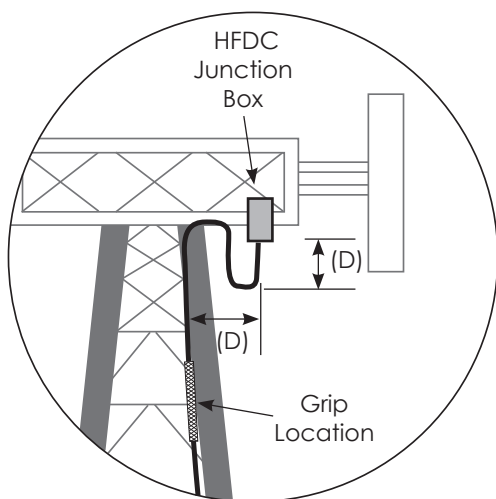
Reminder: Plan grip location by measuring distance (D) from Fiber Enclosure Box to tower support member.

HFDC Junction Box

(D)

(D)

Grip Location

⚠ **Required**
Use Appropriate Hoisting Grip: To prevent movement of the hoisting grip while tension is being applied, secure the base of the grip with tape.

Minimum 1.5m leader

Steel cable or rope hoist line

Maximum 60 m between hoisting grips

Clevis

Hoisting grip

Section 3: Jumpers

- The terminated fiber ends are fragile and must be protected during installation. Leave the packaging around the fiber ends in place until ready to connect the jumper between HFDC junction box and RRU or BBU.

- DO NOT BEND THE FIBER ENDS (in the furcation tubes) TIGHTER THAN 30 mm BEND RADIUS ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.

- Attach the main cable securely to the structure or equipment using approved CommScope hangers to prevent strain on connections from movement in wind or snow / ice conditions.

- Ensure the DLC fiber connectors are seated firmly in the HFDC junction box, RRU or in BBU equipment.

- Ensure the weatherproof boots are seated firmly in the RRU.

- Installation temperature range is -40°C to +75°C.

- RRU/BBU connectivity per OEM instruction

Jumper length is not field adjustable. Use a slack storage device like FBR-COIL-S or coil excess length.

Part Number	DFJ-2S5-2G	DFJ-2S5-G	DFJ-2S5-2GNB
Interface, connector End 1	Dual LC (Gen 1.5 push-pull)	DLC	Dual LC (Gen 1.5 push-pull)
Interface, connector End 2	Dual LC (Gen 1.5 push-pull)	Dual LC (Gen 1.5 push-pull)	Dual LC (Gen 1.5 push-pull)
Total Fiber Quantity	2	2	2
Cable / Fiber Type	LSZH / G.657.A2	LSZH / G.657.A2	LSZH / G.657.A2
Dimensions			
Diameter Over Jacket	5.0 mm	5.0 mm	5.0 mm
Physical Specifications			
Minimum Bend Radius	54 mm	54 mm	54 mm

Description	Part Number
5 mm cable, 2 Single Mode fibers, DLC (Gen 1.5 push-pull) on both ends, DLCs compatible with AOPC/FULAXS protection sleeve (sold separately)	DFJ-2S5-2G-*M

* length

Description	Part Number
5mm cable, 2 Single Mode fibers, DLC (Gen 1.5 push-pull) on HFDC end, standard DLC on other, DLCs compatible with OCTIS protection sleeve (sold separately)	DFJ-2S5-G-*M

* length

Description	Part Number
5mm cable, 2 Single Mode fibers, DLC (Gen 1.5 push-pull)on both ends, with rubber NOKIA protection sleeve on both ends	DFJ-2S5-2GNB-*M

* length

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Section 4: Pre-wired junction box HFDC-24FIBER-P24S connection

1

Carefully unpack the HFDC-24FIBER-P24S pre-wired junction box. Ensure that all components listed in the provided installation guide are included. Using the provided hardware, securely mount the pre-wired junction box in the designated location. Ensure that the junction box is level and properly fastened to prevent movement.

2
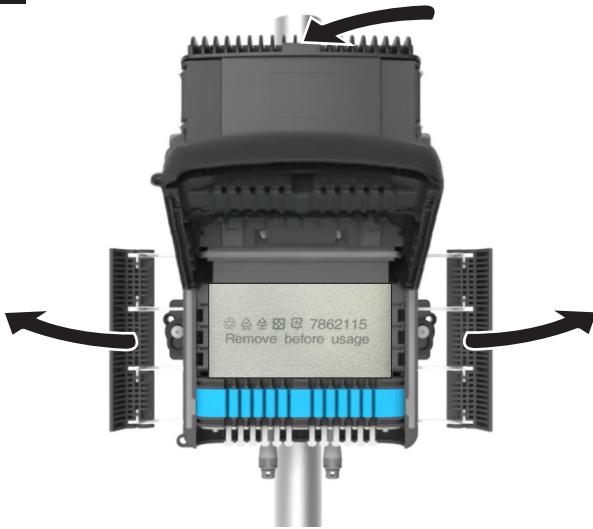
Release the lower latches using a flat faced screwdriver on the sides of the junction box and lift the bottom half to open. Carefully clip open the front panel by engaging the clip located at the top. This will provide easy access to the internal components. Remove packaging foam from inside the junction box and ensure all connections are intact.

3
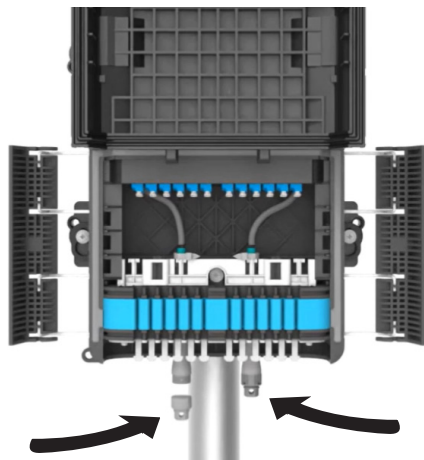
Gently remove the dust caps from the HFMOC connectors located at the bottom of the junction box. Ensure that the connectors remain clean and free from contaminants during the process. Carefully remove the dust caps from the HFMOC connectors on the FT-24CGAHBN series cable, taking care not to touch or contaminate the fiber ends.

4
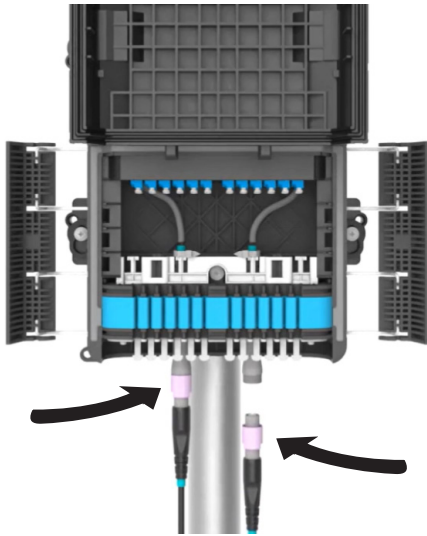
Carefully remove the dust caps from the HFMOC connectors on the FT-24CGAHBN series cable, taking care not to touch or contaminate the fiber ends. Position the HFMOC connectors at the bottom of the junction box, ensuring the alignment keys are properly matched. Gently insert the HFMOC connectors into the designated ports at the bottom of the junction box. Apply steady pressure until you hear or feel a secure click, confirming they are properly seated. Thread the connector's coupling nut onto the thread of the adapter port until it is finger tight. Double-check the connectors to ensure they are securely installed and properly aligned to avoid signal loss.

5
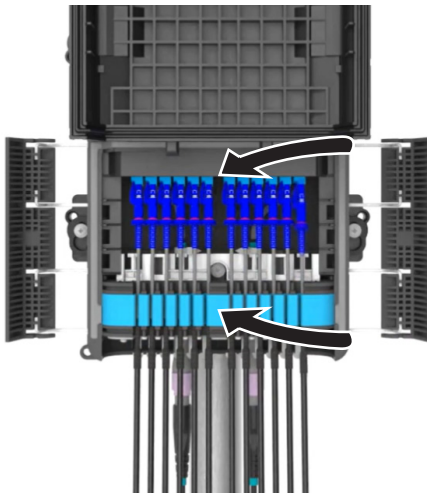
Connect the outgoing fiber jumper DLC (Gen 1.5 push pull) connectors into the adapter plate. Route the cables through the appropriate gel gland points of the junction box. Ensure proper strain relief to avoid damage to the cables. Be careful to maintain the correct bend radius for the fiber cables to prevent signal loss or damage.
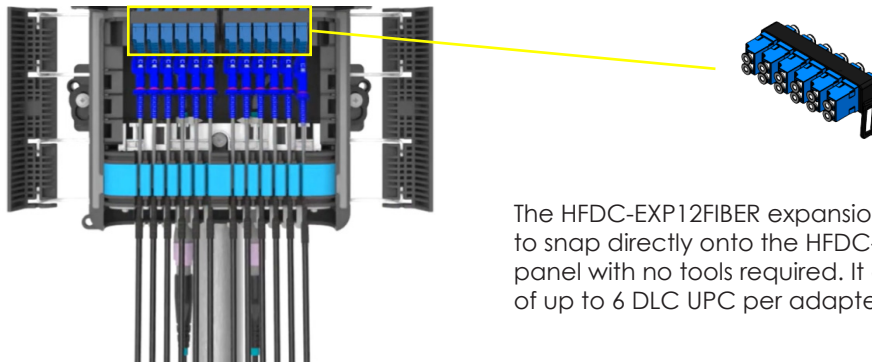
Expansion adapter HFDC-EXP12FIBER is designed to snap onto HFDC-24FIBER fiber distribution panel to add an additional 6 DLCs UPC per adapters.

6
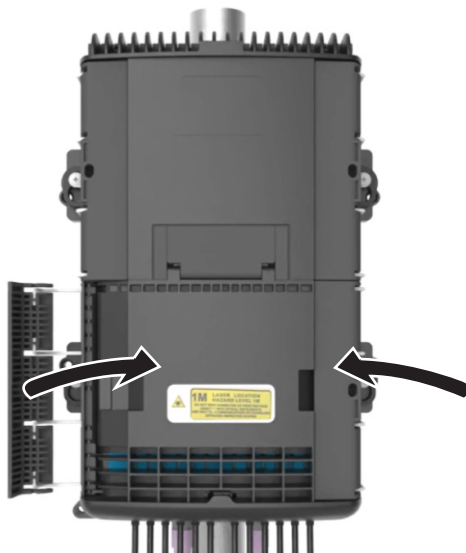
Once all cables are connected and properly secured, close the junction box and fasten all closures as instructed in the provided HFDC installation guide. Double-check that everything is secure to prevent environmental damage or tampering. Inspect the installation to ensure the box is properly mounted, and cables are managed without kinks or bends.

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Future Expansion Ready

The HFDC-EXP12FIBER expansion adapter is designed to snap directly onto the HFDC-24FIBER fiber distribution panel with no tools required. It allows for the addition of up to 6 DLC UPC per adapter (24 fibers).

Preparation
Ensure the HFDC-24FIBER fiber distribution panel is accessible.
Confirm the availability of space to add the additional fiber connections.

Installation Steps
Open the junction box to access the cable routing area.
Snap the expansion adapter onto the HFDC-24FIBER distribution panel.
Route two additional 12-fiber cables through the back of the existing gel gland, and connect to the expansion adapter.
Ensure the cables are properly seated in the gel gland to maintain cable integrity.
Install up to 12 DLC fiber jumpers by aligning them with the designated adapter slots in the expansion adapter.
Use the same gel gland slots as previously routed jumpers to route these cables, maintaining organized cable management.

Finalization
Double-check the routing of cables through the gel gland for secure placement.
Close the junction box and test the fiber connections to ensure proper functionality.

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Section 5: Accessories

Description	Part Number
Hoisting Grip	
For FT-24CGAHBN series trunk	LUHG-38
Block Hangers (kits of 10)	
For FT-24CGAHBN series trunk	912MCLICK
For DFJ-2S5-series jumpers	BHD-4MM
Butterfly Hanger (kits of 10)	
For FT-24CGAHBN series trunk	43211A
PIM-Guard® SnapTak® PIM Free Polymer Hangers (kits of 10)	
For FT-24CGAHBN series trunk and DFJ-2S5-series jumpers	SSH-411
SnapWrap Cable Management Strap. Bundle multiple cable types and sizes into a 12.7mm to 50.8mm bundle, for FT-24CGAHBN series trunk and DFJ-2S5-series jumpers	SWH-200-10
PIM-Guard Adapters (kits of 10)	
Polymer angle member attachment. Includes torque stop set bolt to ensure proper attachment force. Two 3/4" holes	UA-3C
Polymer stand off adapter for round members attachment for single snap-in style hanger	SA-1C
Polymer three-way Snap-in Stand-off adapter. Two sets of slots for round member attachment. 3/8" holes for bolt down attachment. Three 3/4" holes for Snap-in style hangers	SA-3C
Polymer four-way Snap-in Stand-off adapter. Two sets of slots for round member attachment. 3/8" holes for bolt down attachment. Four 3/4" holes for Snap-in style hangers	SA-4C
Miscellaneous Accessories	
DLC connector cleaning tool	FCCT-L
Fiber protection sleeve, Ericsson FULAXS	FA-FWS-E6
Fiber protection sleeve, Nokia AOPC	FA-FWS-AOPC
Fiber protection sleeve, RADIALL OCTIC	FA-FWS-OCTIS
Excess discrete fiber coiling reel, PIM free	FBR-COIL-S
Angle Adapter, compact, M10 tapped hole	243684-M
Adapter, standard, M10 tapped hole	31768A-M
Weatherproofing kit for connectors and splice	221213
Nylon Cable Tie, 361.95 mm length	40417
Cable Tie, heat stabilized, weather-resistant, 460 mm length	CT-460-100
Hardware Kit for 912MCLICK Hangers, includes 5/16" bolts and hardware, 170mm length	252029-10KT-P
Hardware Kit for BHD-4MM hangers (4 stack), includes M10 bolts and hardware, 250.95 mm length	243095-4