

Nokia AHPMDB

Installation Standard

Overview

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- 3/3/2021

OUTLINE

- I. Technical Data
- II. Interfaces
- III. Dimensions & Weight
- IV. Tools
- V. Contents of Delivery
- VI. Lifting of Airscale Radio
- VII. Pole mounting
- VIII. Connecting Ground Cable
- IX. Connecting DC Power Cable
- X. Connecting RF Jumper Cable
- XI. Connecting RET Cable
- XII. Securing Cables
- XIII. Typical Site Configuration

AirScale Tri RRH 2T4R B8/20/28 240W

AHEGA

AHPMDB AirScale Tri RRH 2T4R B8/20/28 240W



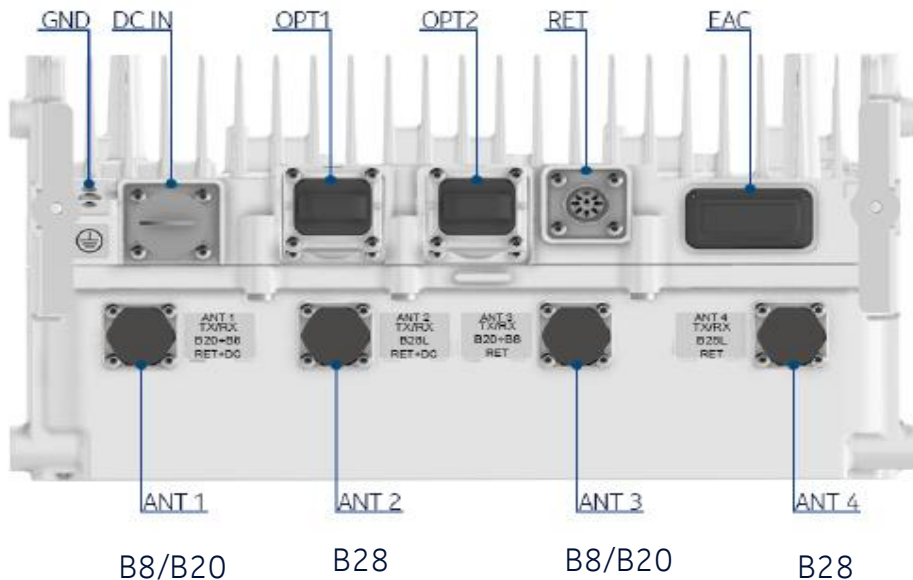
27 l

31kg

Product Code: 475000A	
Supported Frequency bands	3GPP bands 8, 20 and 28
Frequencies	Band 8: RX 880 MHz – 915 MHz, TX 925 MHz – 960 MHz Band 20: RX 832 MHz – 862 MHz, TX 791 MHz – 821 MHz Band 28: RX 703 MHz – 733 MHz, TX 758 MHz – 788 MHz
Number of TX/RX paths/pipes	2x2T4R. B8/B20 on antenna 1/3, B28 on antenna 2/4
Instantaneous Bandwidth IBW	Full IBW for all bands
Occupied Bandwidth OBW	Full OBW for all bands
Output Power	Total 240W
RA Ts Supported	700 (band 28): LTE 800 (band 20): LTE 900 (band 8): LTE, WCDMA, GSM (CS 7)
Dimensions (mm)	560 mm x 308 mm x 168.5 mm
Volume (M3)	27 l (without cover)
Weight (kg)	31 Kg
Supply Voltage / Voltage Range	DC-48V / -57 to -40.5
Typical Power Consumption	Busy hour 4x60W: 678W Busy hour 4x30W: 532W
Antenna Ports	2 TX/4RX B8/B20 + 2 TX/4RX B28 Connector = 4.3-10+
Optical Ports	2x OBSAI RP3-01 or 9.8 Gbps CPRI
ALD Control Interfaces	AISG 3.0 and RS-485
Other Interfaces	MDR26 supports 4 external alarms
Operational Temperature Range	-40 to +55 C

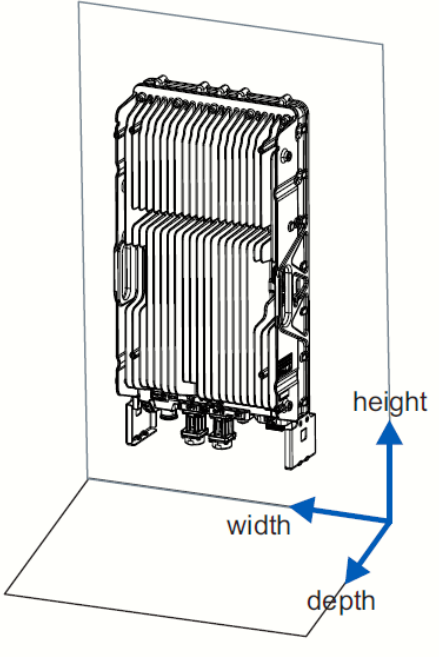
Ingress protection class	IP65
Installation options	Pole, Wall,, Bookmount
Surge protection	Class II 5kA

Interfaces

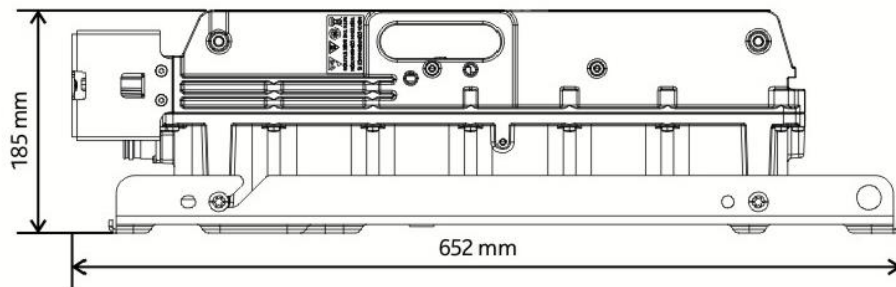
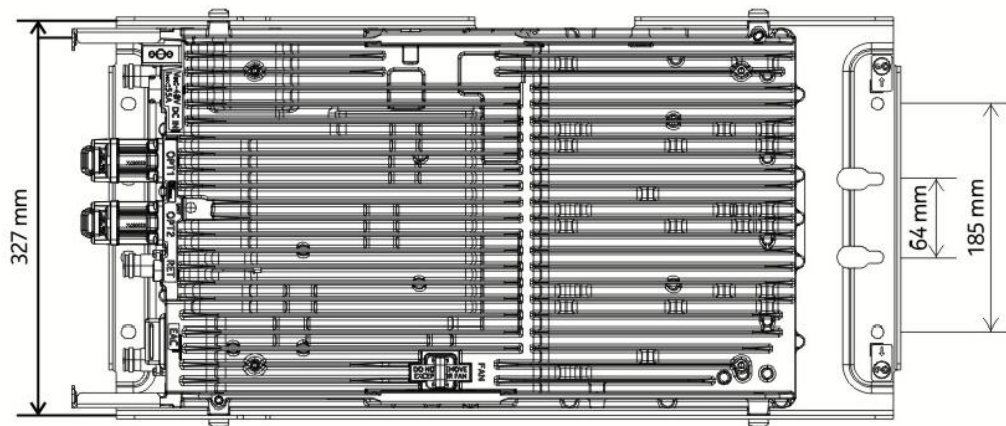


Interface	Label on the HW	Number of interfaces	Connector type	Additional info
Power Connector	DC IN	1	High power circular	Supports grounding for shielded cables; APPB, APPC
Antenna connector	ANT	4	4.3-10+	AISG on each antenna connector Has features that prevent damage when mating with a 4.1-9.5 connector is attempted
Remote Electrical Tilt	RET	1	8-pin circular	RS-485
External Alarm Connection	EAC	1	MDR26	4 alarm inputs and 1 control output
Optical interface	OPT	2	SFP+	9.8 Gbps, CPRI; Nokia IP seal
Ground	⏏	1	M8 or 2xM5 screws	-
Fan	FAN	1	Nokia fan	Located on the heat sink side

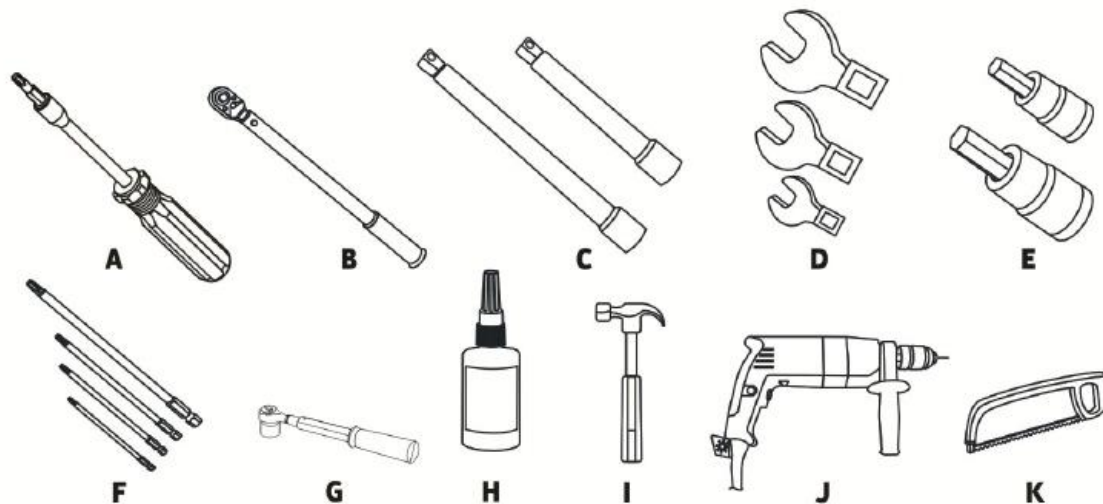
Dimensions & Weight

Property	Value	Dimensions orientation
Height	Core RRH: 512 mm (20.15 in.) With mounting bracket: 652 mm (25.66 in.)	 A technical drawing of a Core RRH unit, which is a vertical, rectangular device with multiple vertical slots. The drawing is shown in a 3D perspective view. Three blue arrows point to the dimensions: 'height' points to the vertical extent, 'width' points to the horizontal extent, and 'depth' points to the front-to-back extent.
Width	Core RRH: 308 mm (12.13 in.) With side mounting bosses: 327 mm (12.87 in.)	
Depth	Core RRH: 169 mm (6.65 in.) With mounting bracket: 185 mm (7.28 in.)	
Weight	31 kg (68.3 lb)	

Dimensions



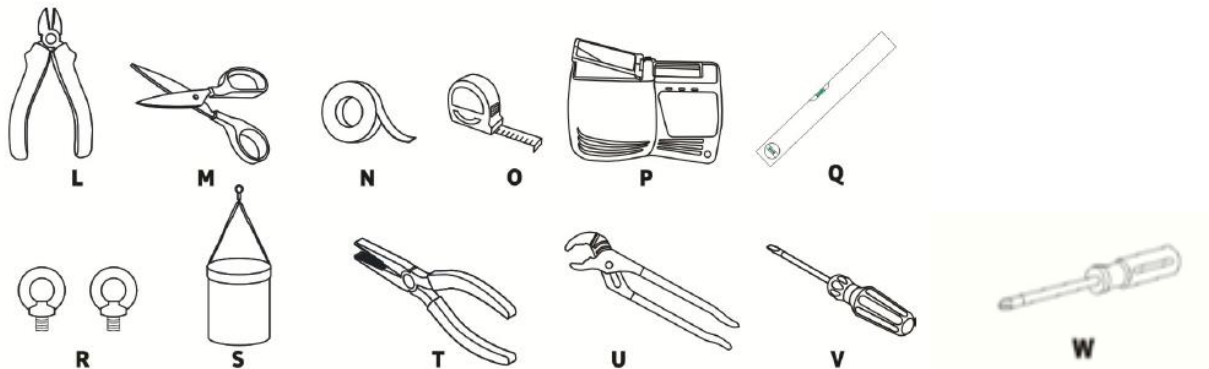
Tools



	Tool	Type/Description
A	Torque screwdriver	capable of 0.5-4.3 Nm (4.4-38.1 in-lb)
B	3/8 in. square drive (or adapter)	capable of 4.3-30 Nm (3.2-22.1 ft-lb)
C	3/8 in. square drive (or adapter) socket extension set	150 mm (6 in.), 300 mm (12 in.)
D	Open end crowfoot wrench	8 mm, 13 mm, 17 mm, 21 mm (modules with R2CT optical plug only), 22 mm, 30 mm, 35 mm
E	Hex key (Allen)	6 mm, 8 mm

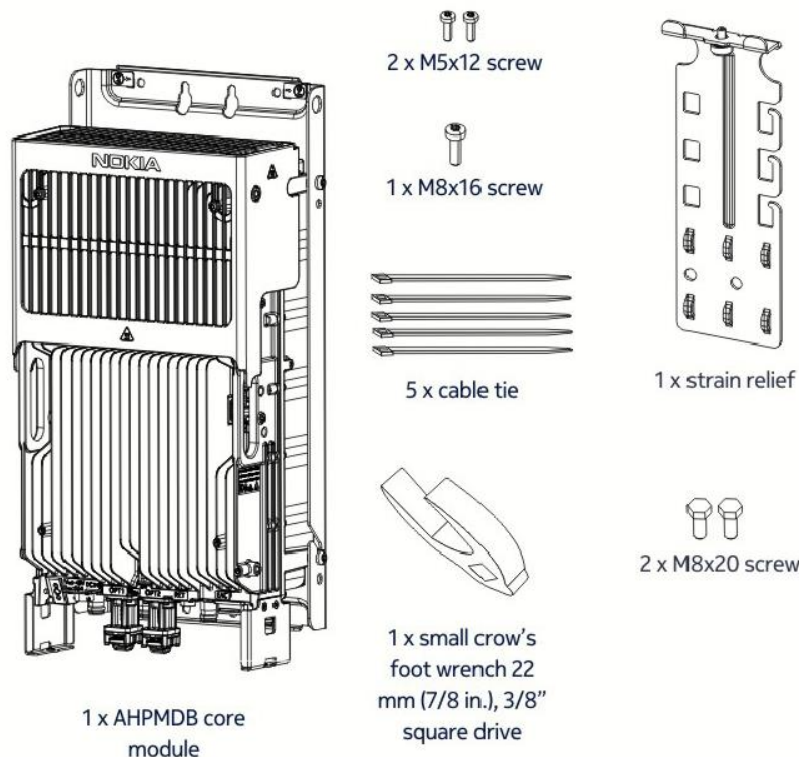
	Tool	Type/Description
F	TORX bit	T15, T20, T25, T45
G	Socket wrench	13 mm
H	Thread-locking compound	Non-permanent, medium strength - for example, Loctite 243
I	Hammer	-
J	Drill and wall mounting hardware	-
K	Saw for cutting steel bolts	-

Tools



	Tool	Type/Description
L	Side cutters	-
M	Scissors	-
N	Insulation tape	-
O	Tape measure	-
P	Cleaning tools for optical cables	-
Q	Level	-
R	M12 eye bolts (for AMPA)	-
S	Lifting bag/bucket	-
T	Soft jaw needle nose pliers	-
U	Soft jaw channel lock	-
V	Flat-head screwdriver	-
W	Philips screwdriver	-

Contents of AHPMDB Delivery



Delivery	Code	Content
AHPMDB AirScale Tri RRH 2T4R B8/20/28 240 W	475000A	1 x AHPMDB core module
Site bag	089470A	1 x small crow's foot wrench 22 mm (7/8 in.), 3/8" square drive
		1 x strain relief
		2 x M5x12 grounding screw
		1 x M8x16 grounding screw
		5 x cable tie
		2 x M8x20 13 mm socket screw

Unpacking Nokia AirScale RRH delivery

Before you start

Unpack and carefully check the delivery before the installation to make sure that all the required items are available and undamaged.



NOTICE: Installing and commissioning of BTS products must be performed by an expert familiar with electronic devices to avoid damage caused by improper handling.



NOTICE: Do not remove the caps protecting the ports, delivered with the RRH until the module is grounded and the cables are connected. After grounding and cabling, all of the RRH unused ports should have plastic caps on. The caps serve as a protection for the module against Electrostatic Discharge (ESD).

Procedure

1 Carefully check the contents of the delivery.

2 Remove the items from the package.

3 Check that the delivery is complete and undamaged.

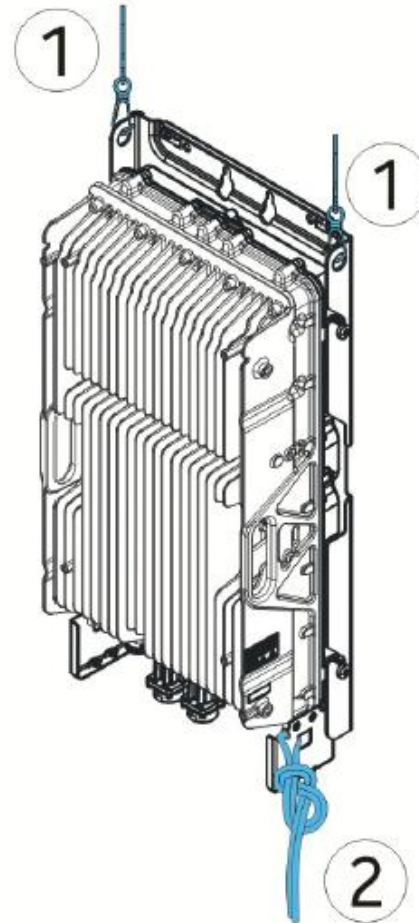
4 Recycle the packaging material.

5 Proceed to the module installation procedure.

Lifting of AirScale Radios

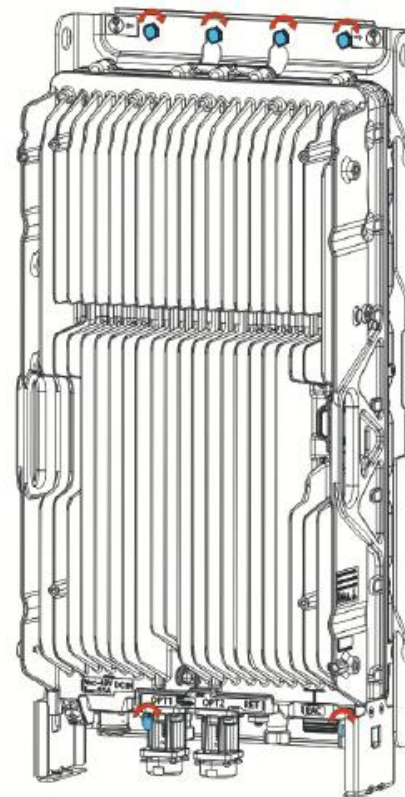
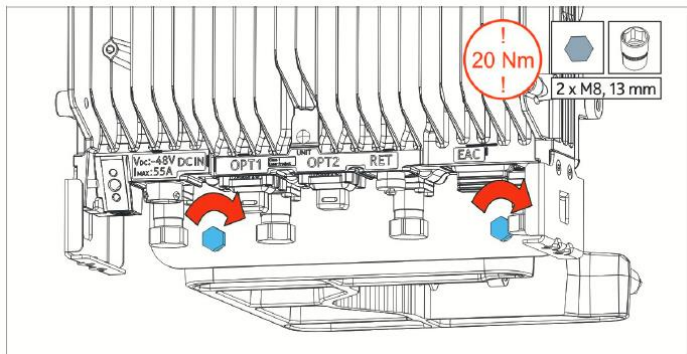


WARNING! Risk of injury!
Only one module can be lifted at a time. Use the designated lifting point and control rope. Units which weigh more than 25 kg (55.1 lbs) require two installers.



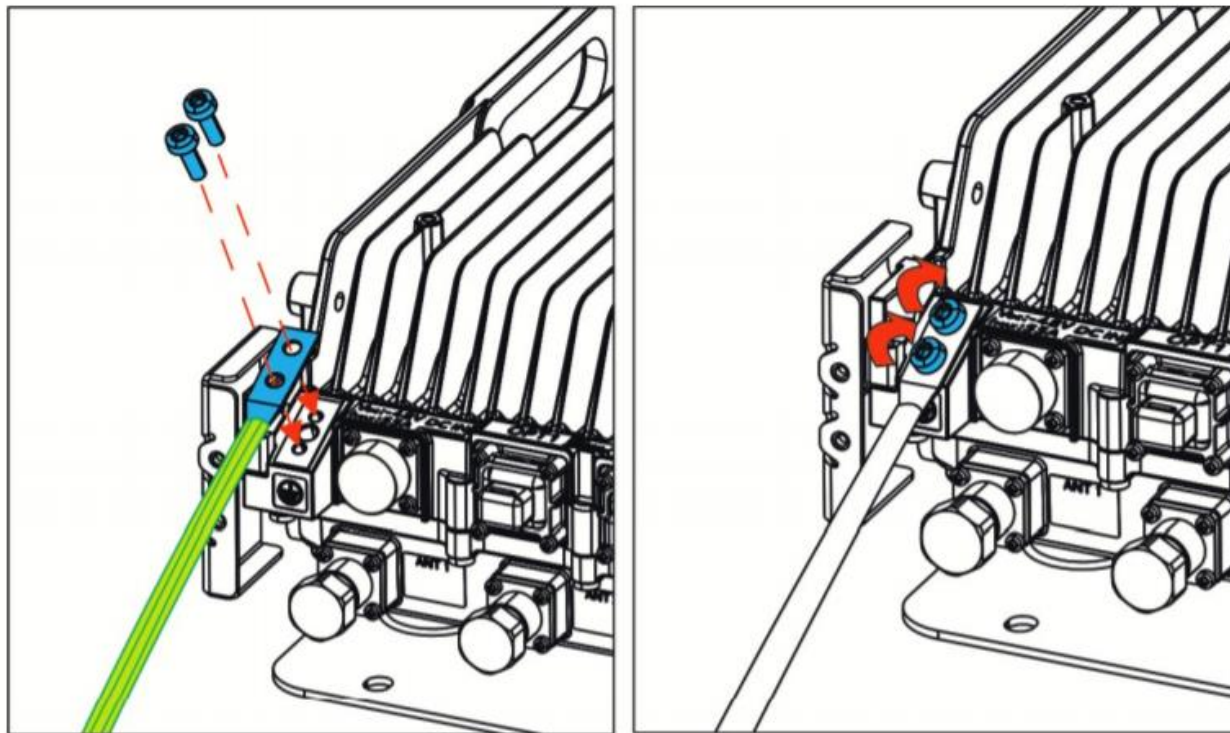
1- lifting point
2- control rope

Pole Mounting

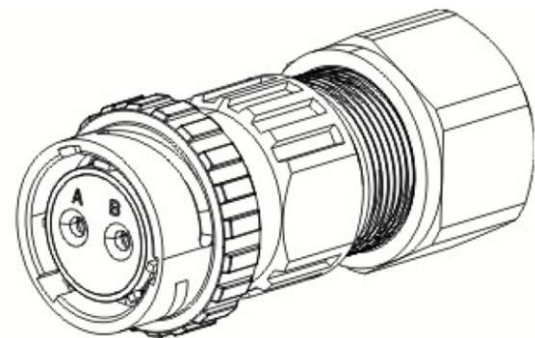
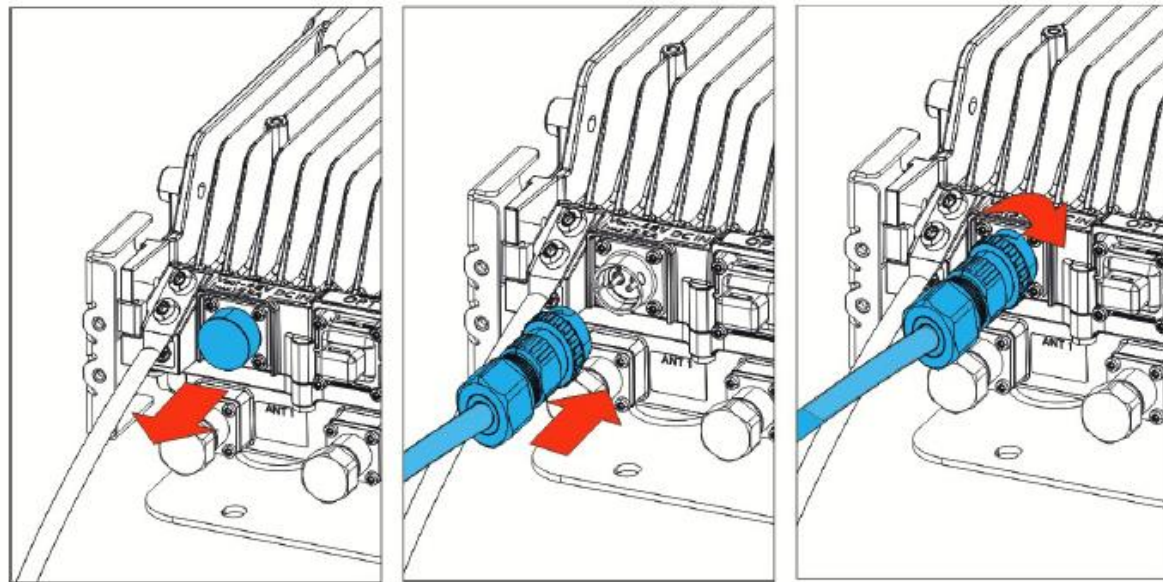


FPKA x 2

Connecting Ground cables



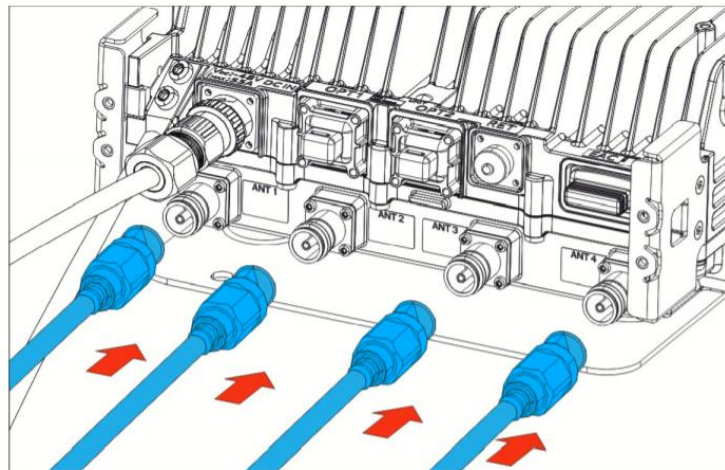
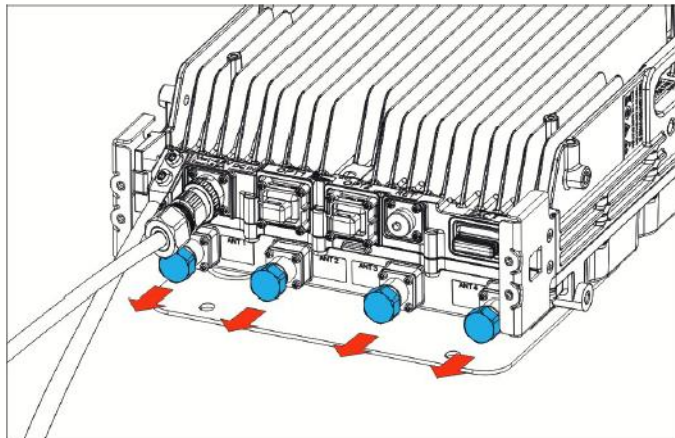
Connecting DC cables



APPC

Connect the wires to the screw terminal and tighten to 2.2 Nm (19.47 in.-lb).

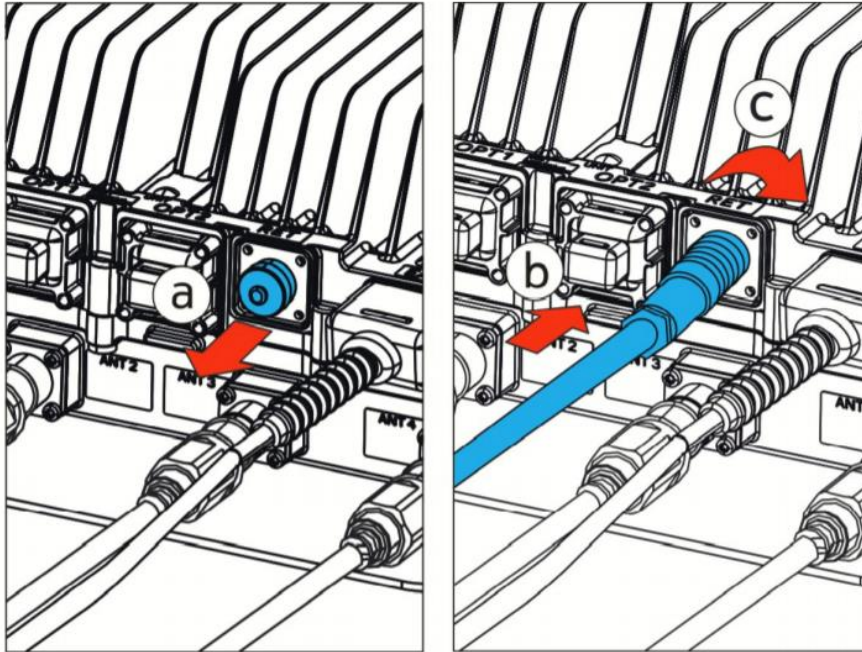
Connecting RF Jumper cables



1 x small crow's
foot wrench 22
mm (7/8 in.), 3/8"
square drive

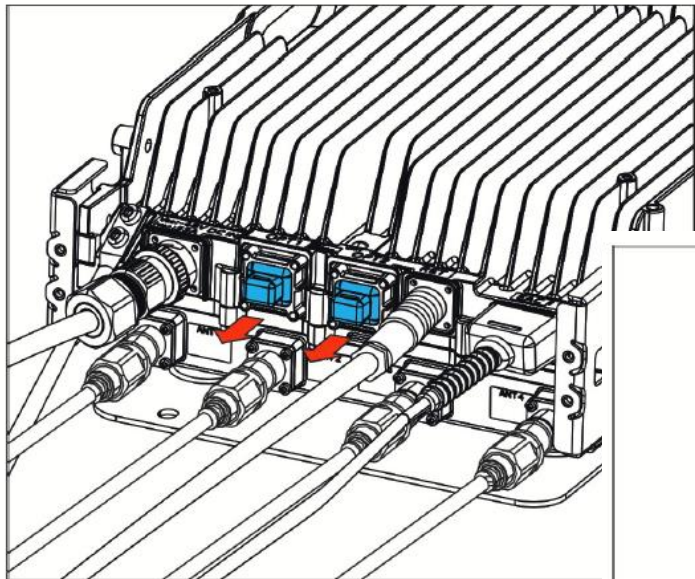
Tighten the antenna cables to torque **5 Nm (44 in-lb)**.

Connecting RET cables

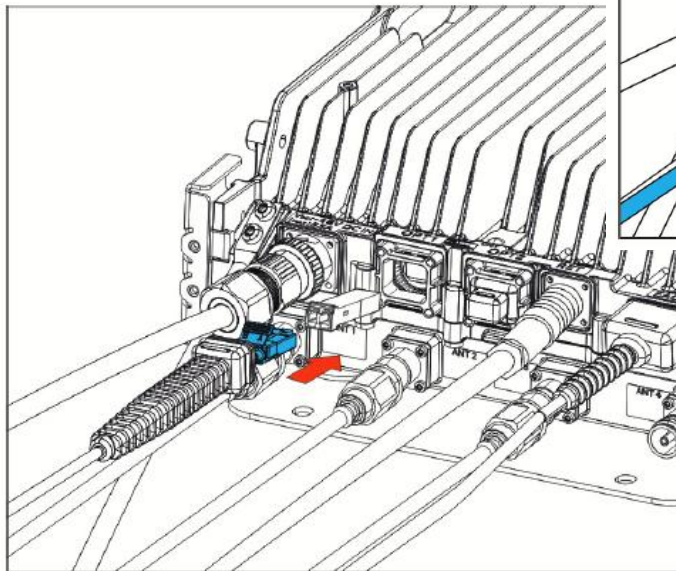


- a) Remove the dust cap from the RET connector.
- b) Align the connector pins and push the RET cable into the module RET connector
- c) Turn the cable connector clockwise by hand to tighten the connector.

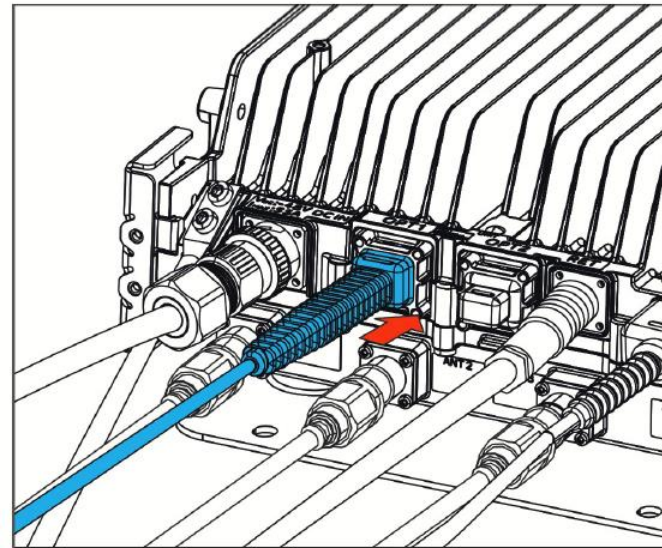
Connecting CPRI/OPTICAL cables



1. Removing the dust cap

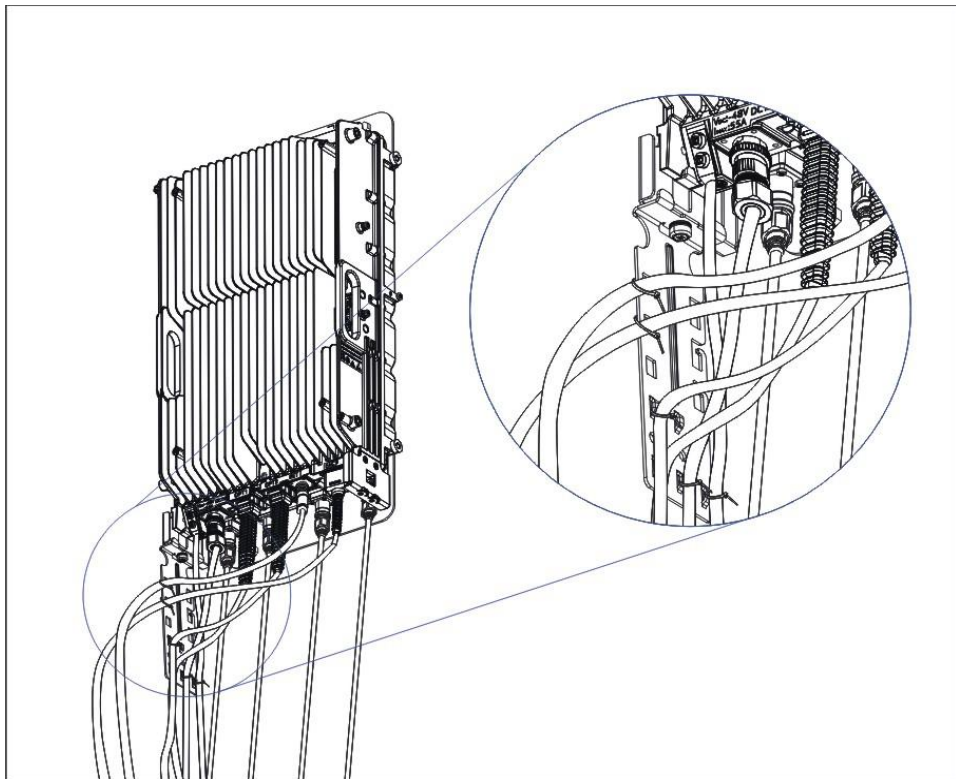


2. Installing the optical transceiver

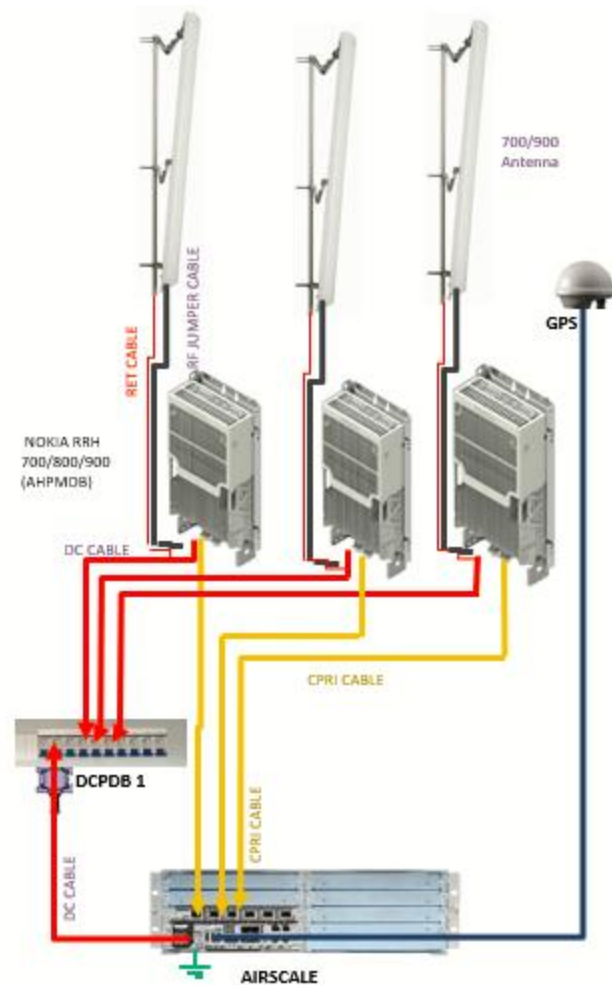


3. Pushing the optical connector

Securing Cables



Typical Site Configuration



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