Flexi Multiradio BTS GSM/EDGE Stack, Wall, and Pole Quick Guide

Nokia Siemens Networks
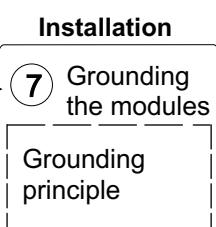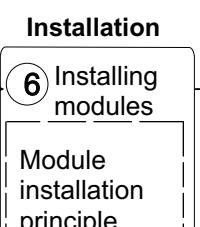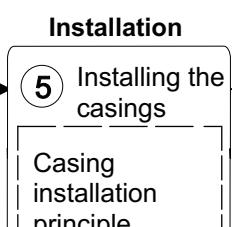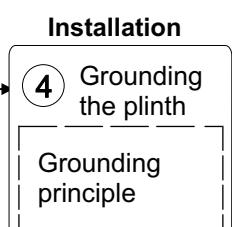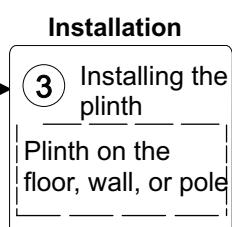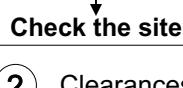
This guide can be used as quick reference for Flexi Multiradio BTS GSM/EDGE installation.

Flexi Multiradio BTS GSM/EDGE is a modular base station for GSM/EDGE capacity and coverage. It can be installed stacked on the floor, or mounted on the wall or on the pole.

This quick guide is for basic stack, wall and pole configurations with 48V DC input power. The basic installation consists of one System Module (ESMB/C) and one RF Module (Fxxx) allowing 1+1+1 up to 6+6+6 configurations depending on the TRX output power.

For all other installation options, see the user manuals.

Check the delivery

1. Contents of delivery

Check the site

2. Clearances

Installation

3. Installing the plinth

Plinth on the floor, wall, or pole

Installation

4. Grounding the plinth

Grounding principle

Installation

5. Installing the casings

Casing installation principle

Installation

6. Installing modules

Module installation principle

Installation

7. Grounding the modules

Grounding principle

Installation example

Cabling

8. Cabling

Cable routing and cable ties

External power

Internal power cables

Antenna cabling

Optical cables

Transmission and Alarm cables

Commission BTS

9. Power up and commissioning the BTS

Front panel

10. Installing module front covers

> ⚠ **Warning**
> Danger of eye damage from invisible laser radiation produced by the System Module optical fibre connector!
> Always switch off the laser before detaching the optical fibre from the connector.

> ! **Caution**
> Incorrect cables and seals may not provide secured environmental protection. Use only tested IP65 class cables with seals provided by Nokia Siemens Networks. Store all unused seals for later use.
>
> Electrostatic discharge (ESD) may damage the modules. Wear an ESD wrist strap or use a corresponding method when handling the modules.
>
> The rear stopper is fragile. Do not attempt to lift the plinth using the rear stopper.
>
> If water leaks into the outdoor mechanics, the transmission equipment may fail. To help prevent water leakage, feed the cables through the bottom cable entries in wall and pole mounting, and through the bottom cable entry holes in stack installation.
>
> Risk of damage to equipment. If modules are exposed to weather conditions, connector seals or boots must be installed at all times, whether the site is active or not.

① **Contents of delivery**
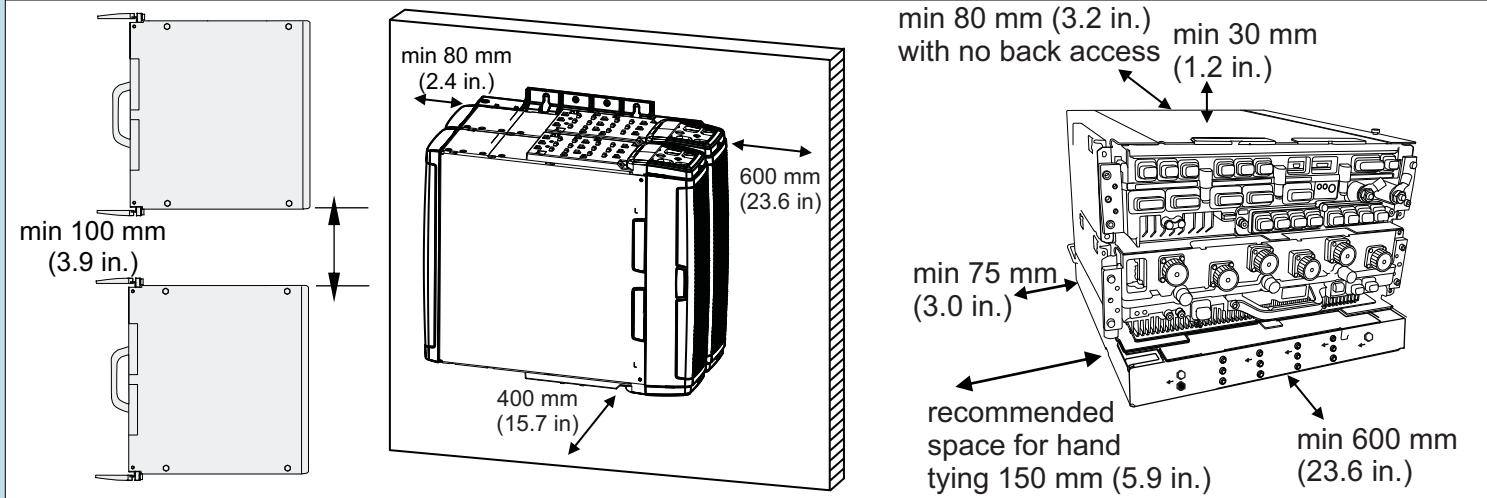
Delivery	Contents of delivery	Version	Product code	Quantity
System module	Flexi Multiradio BTS GSM/EDGE System Module			1
		ESMB	472109	
		ESMC	472059	
	Bag Reclosable (150 x 225 / 200 x 260) 0.1 mm			1
	M10 Hex Nut			2
	B10 Washer			2
	AWG Single cable terminal lug rubber boots			2
	M10 Cableterm (25/35 mm2) Ring			2
	Pull-out tool			1
	Transmission sub-module			
		Flexi transmission interface E1 asymmetrical submodule (FIEA)	470247A	1
		Flexi transmission interface Flexbus sub-module (FIFA)	471007A	1
		Flexi transmission interface E1/T1 symmetrical submodule (FIPA)	470248A	1
		Flexi transmission sub-module (FIQA) PW 100 Base-T Ethernet (RJ48) + 4xE1/T1 symmetrical 120/100 ohm (RJ48) + optional optical GE (SFP)	471607A	1
		Flexi transmission sub-module (FIYA) PW 100 Base-T Ethernet (RJ48) + 4xE1 asymmetrical 75 ohm (SMB) + optional optical GE (SFP)	471719A	1
	Screws (pre-installed)			4
RF Module	Flexi Multiradio BTS GSM/EDGE Radio Frequency Module			
		FXDA Flexi Multiradio RFM 900	472083A	
		FXEA Flexi Multiradio RFM 1800	472084A	
		FXCA Flexi Multiradio RFM 850	472142A	
		FXDJ Flexi Multiradio RFM 900	472143A	
		FXFA Flexi Multiradio RFM 1900	472166A	
	RF Module Cable Set			
	Power cable 2 m		995281	1
	Optical cable 2 m		994807	1
	Optical tranceivers		4707457	2
Plinth delivery	Flexi Mounting Kit for Floor, Wall, and Pole	FMFA		
	Fixing plate for the casing			2
	M5 x 8 screws			12
	M5 x 12 screws			2
Module casing	Flexi BTS Module casing (3U)	EMHA	470316A	1
	3 U cable entries			2
	3 U front cover			1
	3 U rear cover			1
	M5 x 10 screws		6150240	4
	M5 x 8 screws		6150279	2
	Cage nuts			6 (2 loose, 4 pre-installed)
	Maintenance straps			2
	Grounding cable			1
Pole mounting kit (optional)	Flexi Pole Mounting Kit	FPKA	471649A	
	Aluminium castings			2
	Assembling bolts			2
	Module fixing screws			6
	Bolt restrainer			2

Check list

☐ Deliveries are complete.
☐ Equipment is not damaged.

② **Clearances**

Minimum clearances

min 80 mm
(2.4 in.)

600 mm
(23.6 in)

min 100 mm
(3.9 in.)

400 mm
(15.7 in)

min 80 mm (3.2 in.)
with no back access

min 30 mm
(1.2 in.)

min 75 mm
(3.0 in.)

recommended
space for hand
tying 150 mm (5.9 in.)

min 600 mm
(23.6 in.)
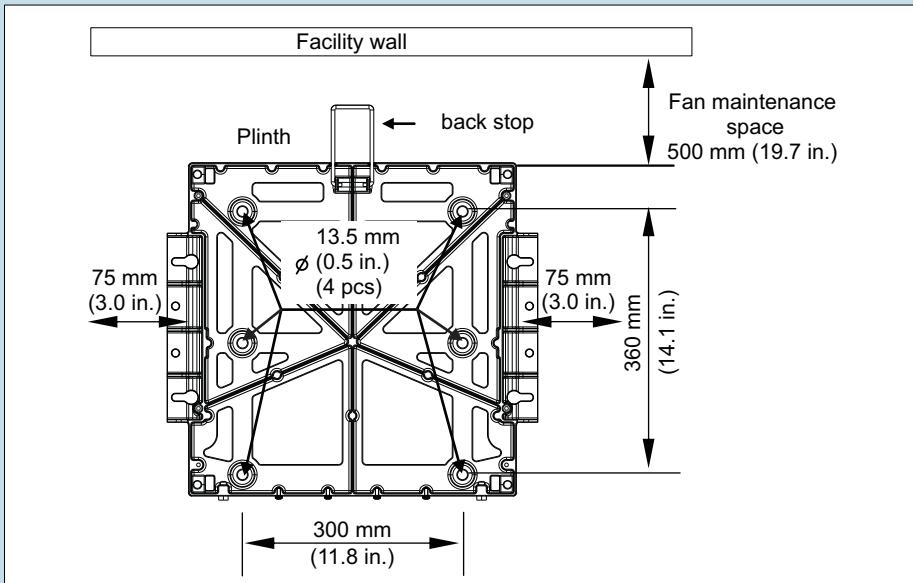
Check list

☐ Site meets the minimum clearances.

Note: In a stack, the minimum side clearance is 75 mm (3 in.). The recommended clearance for hand tying is 150mm (5.9 in.)

Plinth on the floor

Facility wall

Plinth

back stop

Fan maintenance
space
500 mm (19.7 in.)

13.5 mm
∅ (0.5 in.)
(4 pcs)

75 mm
(3.0 in.)

75 mm
(3.0 in.)

360 mm
(14.1 in.)

300 mm
(11.8 in.)
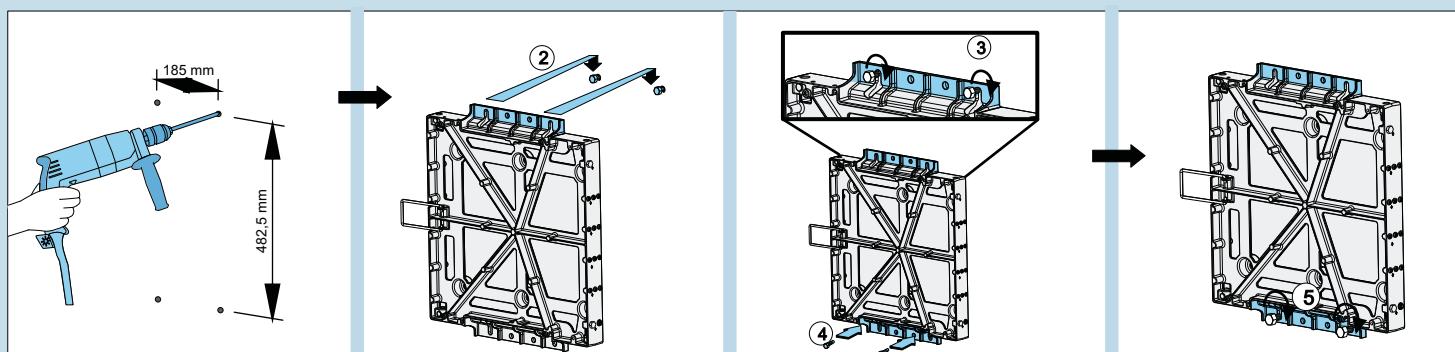
③ **Installing the plinth**

1. Check the clearances around the plinth.

2. Turn the rear stopper.

3. Place the plinth on the floor, grounding points facing forward.

4. Bolt on the floor with 4 bolts, 12 mm (0.47 in.) in diameter. Tighten to 49.0 Nm (36.1 ft-lb)

Plinth on the wall

185 mm

482.5 mm

②

③

④

⑤

1. Mark screw locations according to the holes in the plinth and drill holes.
2. Fix the mounting screws on the wall and mount the plinth.
3. Tighten the upper mounting screws.
4. Tighten the lower mounting screws to a torque value of 49 Nm.

Note that the space required between plinths is 100 mm (3.4 inches).