

USER MANUAL

Installation and Operation Manual for Ku-band BUC 8W MINI



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1. Introduction

1.1 Purpose and Scope

The purpose of this document is to provide installation, operation and maintenance of the Ku-band 8W mini Block Upconverter (hereinafter BUC).

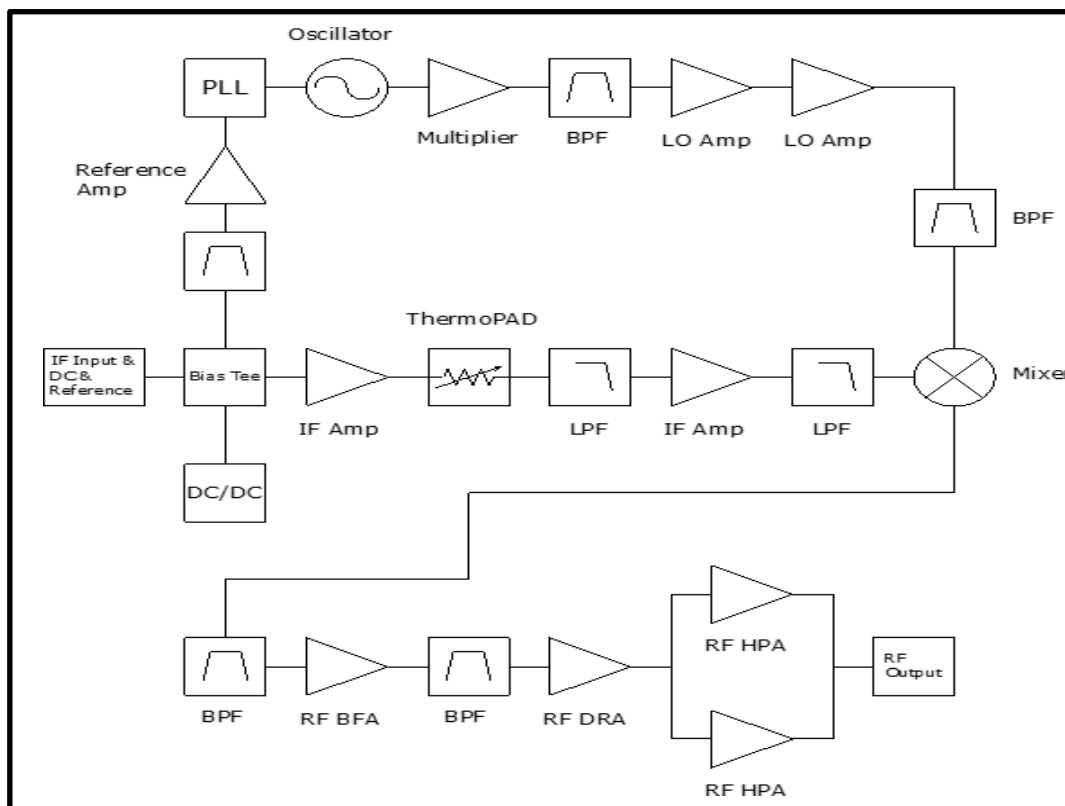
We recommend that the installers familiarize with the product by reading through this manual. Understanding the operation will reduce the possibility of incorrect installation.

1.2 Introduction for BUC

The Block Upconverter is designed to use for VSAT application. The Norsat BUC has high linearity and gain stability over the full operating temperature range. The standard output operating frequency range is 13.75 GHz to 14.50 GHz. Other frequency options are also available. The BUC requires a reference signal (10MHz) either externally or internally to maintain correct transmit frequency. The BUC has either a N-type or F-type female connector for input and WR75 waveguide with a grooved flange for output.

2. Overview

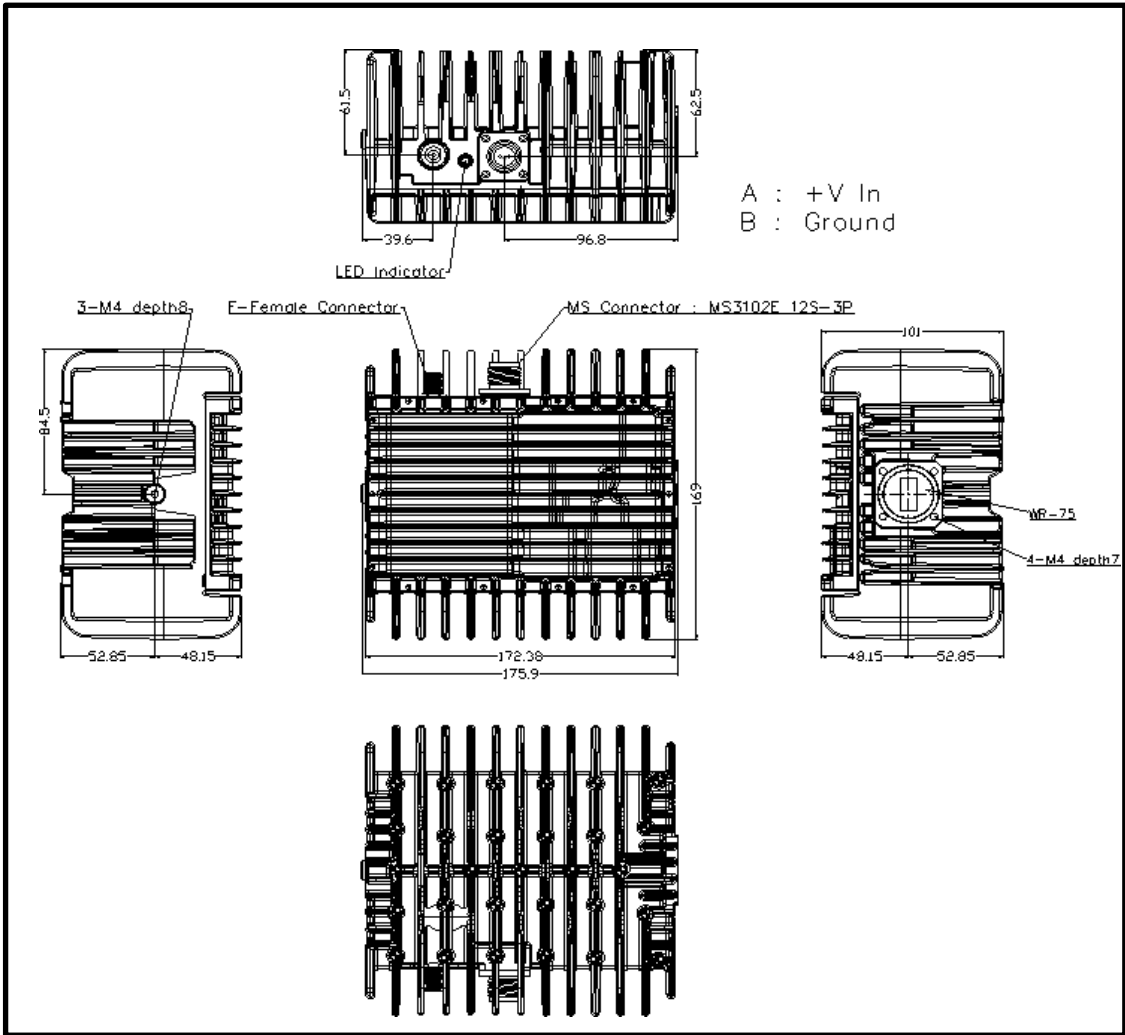
2.1 Block Diagram



2.2 Physical Description



Outline Drawing



3. Safety Instruction

There is a potential safety risk unless appropriated precautions are taken while working with the BUC. Read the following instructions prior to using the BUC.

1. Do not disassemble the BUC. It may cause malfunction and electrical shock.
2. Input a voltage within the range indicated in specified voltage.
3. Do not operate the BUC without a load or termination attached to the RF signal output
4. Do not expose the BUC to standing water. Failure to follow this precaution could result in electric shock and injury to persons.
5. The BUC should be installed in a stable situation because it may cause serious injuries to persons as well as damage to the BUC.
6. Do not perform maintenance to the BUC when the power supply is connected.
7. Do not look into the waveguide opening when the BUC is powered on.
8. Do not touch the body during operation the BUC.

Do not operate the BUC out of operating temperature range, -40°C to +55°C.

4. Interfaces

4.1 Intermediate Frequency (IF) / 10MHz reference Input / DC

Intermediate Frequency (IF), 10MHz reference signal and DC are provided through N or F type connector. N or F type connector is used for the input port as shown in Figure 1.

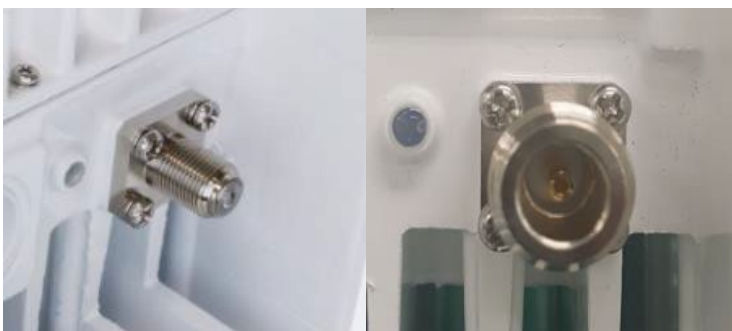


Figure 1. F type female connector N type female connector

The torque value to connect the cable is shown in Table 1.

Connector	Torque value (N/m)
N-type	0.39 - 0.49

F-type	0.39 - 0.49
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Table 1. Torque value *1 [kg f/cm] = 0.0980 [N/m]

4.2 RF OUT

WR75G waveguide (Grooved) is used for the RF output port as shown in Figure 2.

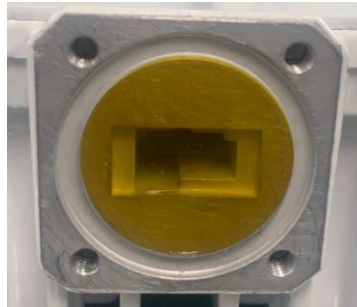


Figure 2. WR75 RF output port

5. Installation

The BUC must be attached to some form of mounting structure which is usually the antenna feed horn or the antenna support structure. Specific mounting procedures will depend on the antenna used. The BUC of Norsat is designed to be easily mounted on most of antenna produced by manufacturer. Locate and install the antenna according to the antenna manufacturer's instructions. Choose an area that is free of interference from motors and electronic equipment.

5.1 Check Packing List

Conduct initial inspection upon receiving the BUC. Please ensure the following:

- ① Check that the shipping container is not damaged.
- ② Check that all items in the packing list are not damaged.
- ③ Check that all items in the packing list are present.

Installation of the BUC.

The BUC requires a steady flow of air. To provide sufficient airflow, the BUC shall be properly oriented with the deepest heat sink fins facing up. The BUC has body heat sinks with numerous air cooling fins for cooling. Please do not block the fins so that heat sinks are open to fresh air. Adequate cooling for the BUC will provide years of top performance.

5.2 Connecting Coaxial Cable and DC.

The length (and associated RF losses) of the interconnecting cables must be considered when determining the installing location of the BUC. An inappropriate choice of cable may result in a reduction of output power or even no power or even no voltage applied to the BUC. Tightly firm the cable at each end of connection. Make sure that the external connectors are waterproof.

5.3 Installation of OMT to WR75

BUC can be mounted with OMT of antenna. Please do not block fins. Please follow the guidelines below.

- ① Clean the gasket groove on the waveguide flange.
- ② Insert the enclosed gasket to the groove.
- ③ Use the enclosed bolts and washers (4pcs) to install OMT.
- ④ The torque value to install OMT is shown in Table 2.

Bolt	Torque Value (N/m)
M4X12MM	2.39 to 2.91

Table 2. Torque value *1 [kg f/cm] = 0.0980 [N/m]

Waterproof for cables and connectors

The application of self-amalgamating tape is strongly recommended because this ensures an appropriate waterproofing. Ensure the waveguide joints are properly sealed with the gasket supplied. Use the self-amalgamating tape provided to seal the junction between the connector and coaxial cable as shown in Figure 3. Detail instruction to use the self-amalgamating tape is as following:

- ① Connect the coaxial cable to the BUC connector.
- ③ Tighten coaxial cable and connector all the way to the end.
- ④ Tightly wrap the coaxial cable and BUC connector with the self amalgamating tape.
- ⑤ Tightly wrap the Waveguide filter or OMT with the self-amalgamating tape.

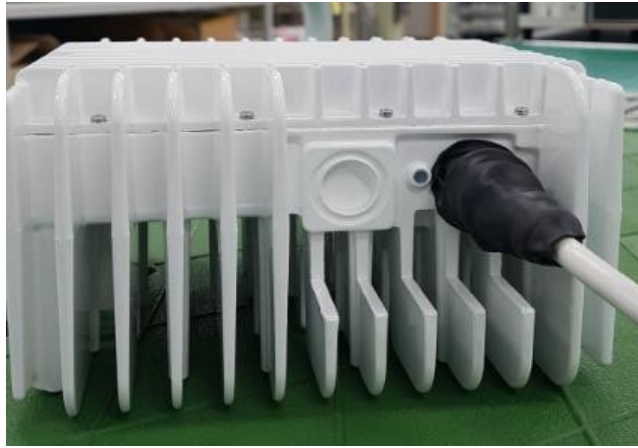


Figure 3. Application of self-amalgamating tape



ABOUT NORSAT

Norsat International Inc., founded in 1977, is a leading provider of innovative communication solutions that enable the transmission of data, audio and video for remote and challenging applications. Norsat's products and services include customizable satellite components, portable satellite terminals, maritime solutions and satellite networks. The company's products and services are used extensively by telecommunications services providers, emergency services and homeland security agencies, military organizations, health care providers and Fortune 1000 companies.

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