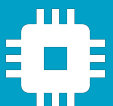




Subsystems for the
UAS intergration into
the airspace

Omni-directional Ground Station

—○—○—
Data sheet & User manual



Introduction

OGS station is an **ADS-B** and **FLARM** Omni-directional receiver station with multi-constellation **GNSS** sensor to provide best accuracy. **LTE** connectivity allows usage in all LTE/4G rich environments without the need for any additional cabling to send data. It has been designed to allow quick and easy assemble enclosed in IP67 case for high weather condition resistance. Device comes with all necessary cables and antennas for straight forward installation.

It is a perfect solution for permanent installation in open areas for constant **airspace monitoring** and conducting VLOS/BVLOS operation where safety is critical.

NOTE: The device to operate on FLARM frequency requires FLARM UAS license. The license can be obtained with the device from Aerobits upon purchase. FLARM library expire after year and must be updated with latest firmware.

Applications

- Airports and critical infrastructure
- Nationwide traffic management systems (manned and unmanned)
- Perfect solution for local airfields
- U-Space and UTM systems
- Ground Network air traffic surveillance systems

For more information please contact: support@aerobits.pl.

Contents

1	Technical parameters	3
1.1	Basic technical information	3
1.2	Electrical specification	3
1.2.1	Power supply	3
1.3	Mechanical specification	3
1.3.1	Mechanical parameters	3
2	Quick start	4
2.1	Scope of delivery	4
2.2	Installation process	4
2.2.1	Mounting	4
2.2.2	Power supply connection	8
2.3	Inserting a SIM/chip card	9

1 Technical parameters

1.1 Basic technical information

Parameter	Description	Typ.	Unit
First Band	ADS-B	1090	MHz
Second Band	FLARM	868	MHz
Sensitivity (ADS-B)		-90	dBm
Sensitivity (FLARM)		-115	dBm
Integrated GNSS	Multi-GNSS for precise time stamp		
LTE Cat. 1	Data transport layer (global bands)		

Table 1: General technical parameters.

1.2 Electrical specification

1.2.1 Power supply

Parameter	Value
Power connector	Standard USB connector (programming and power supply)
Power consumption	1.5 W
Power supply	100 - 240 VAC

Table 2: Power supply of OGS

1.3 Mechanical specification

1.3.1 Mechanical parameters

Parameter	Value
Dimensions	170 x 170 x 100 mm
Weight	0.5 kg (Module without cables and antennas) 2.5 kg (With cables, arm and antennas)

Table 3: Mechanical parameters of OGS

2 Quick start

2.1 Scope of delivery

1. Omni-directional Ground Station
2. ADS-B antenna
3. FLARM antenna
4. Power Supply Cables
5. Small assembly parts
6. Antenna's installation arm
7. Distance bracket

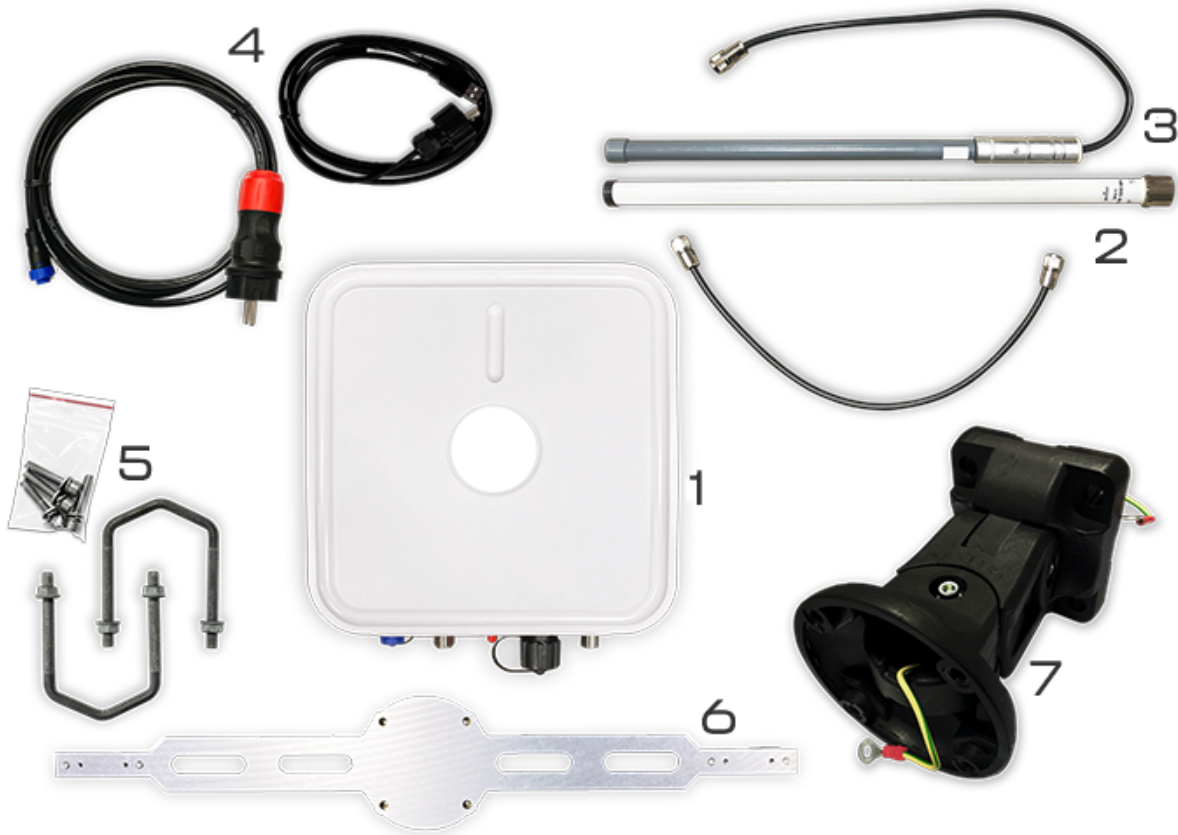


Figure 1: OGS equipment kit

2.2 Installation process

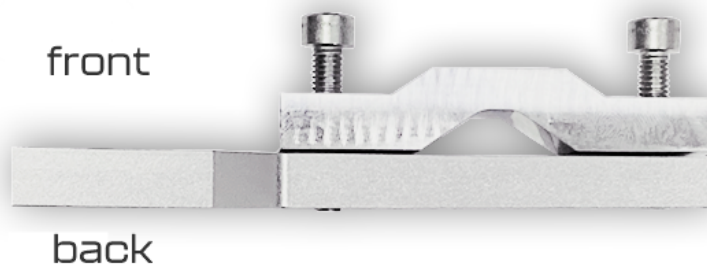
2.2.1 Mounting

1. Take the OGS out of the box and place facing down - as shown on the picture.



2. Place the arm on the OGS case (without installed antennas).

NOTE: Please observe correct direction. Front of the arm and front of the case have to face the same direction.



Rotate OGS as shown on the picture below.

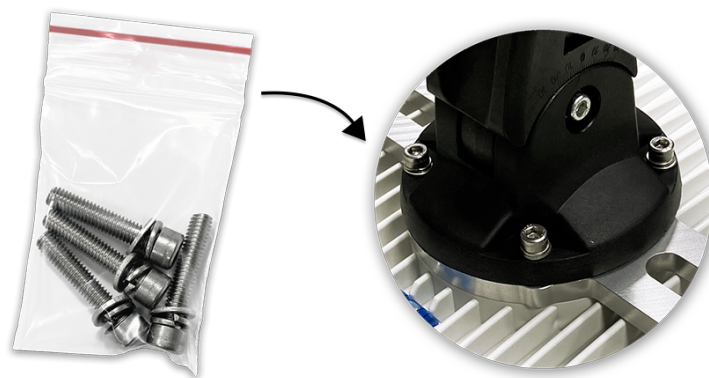


3. Mount black distance bracket with the protective earth conductor on the case.

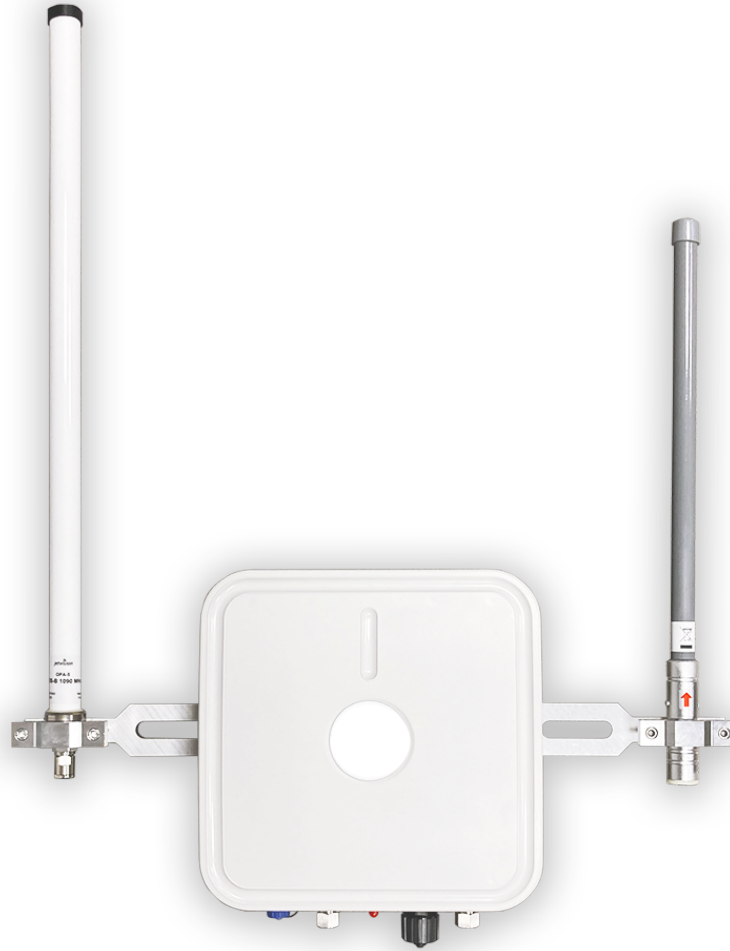
NOTE: It is important that the cable is connected to the appropriate hole, which is marked on the case with following electrical marking.



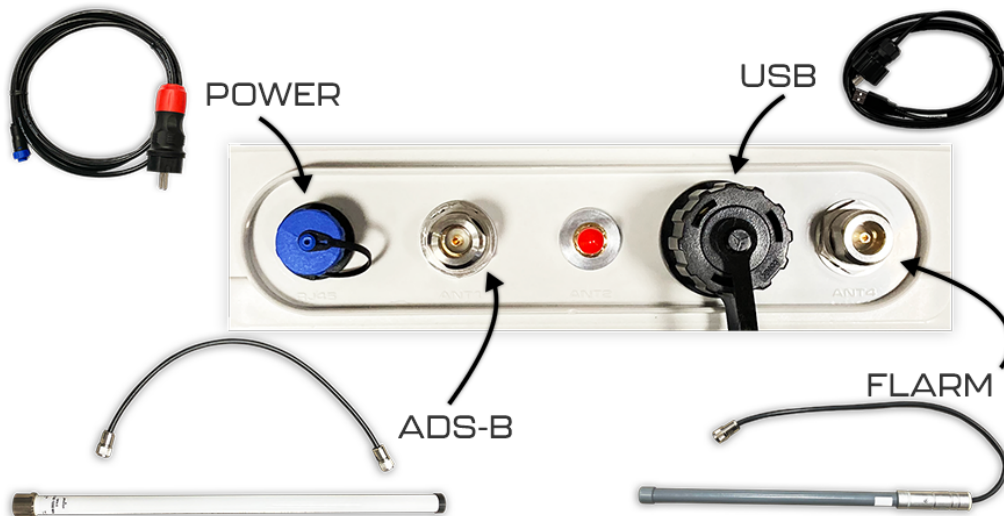
For installation, use the screws included in the kit.



4. After installing the arm, attach the antennas. Loosen the screws on both sides of the arm and tighten them after inserting antennas. It is recommended to install antennas one by one to avoid damaging them.



5. After the mechanical part of installation, connect the antennas to the device and the device to the power supply as shown below. **Do not use both power sources at the same time.**

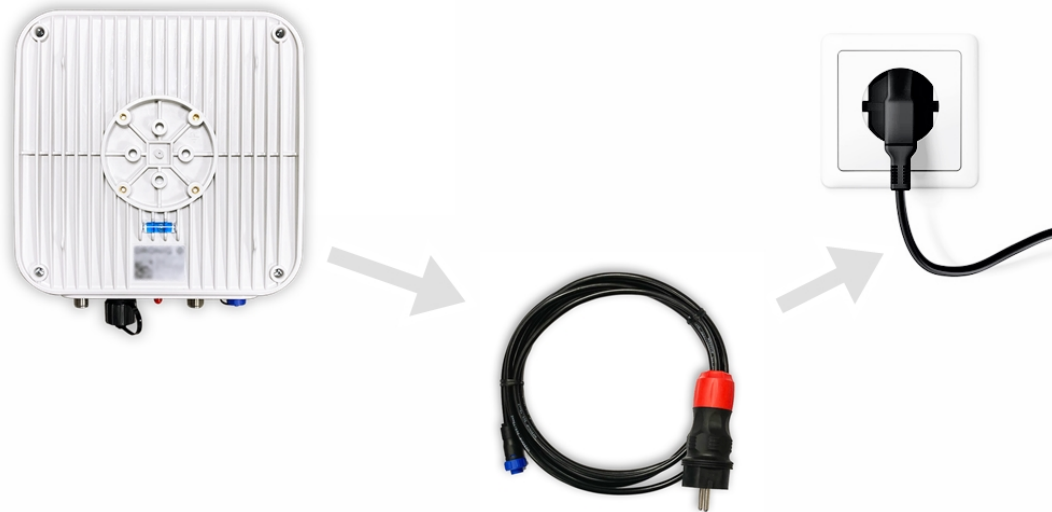


6. Correct mounting shown below.



2.2.2 Power supply connection

NOTE: Do not use both power sources at the same time. Please disconnect power supply cable (100-240 VAC) before programming OGS via USB cable.



2.3 Inserting a SIM/chip card

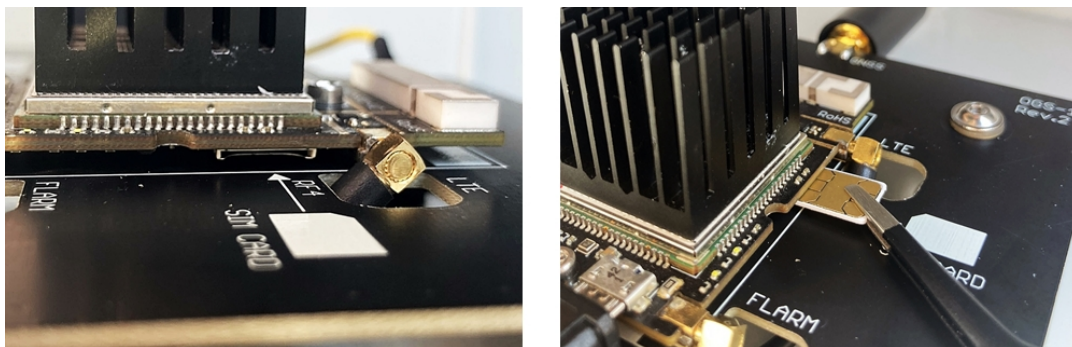
Ground stations based on the **HOD V2** need a valid SIM card. Recommended way to change/insert SIM card is described below.

1. Disconnect module.

Ensure that you have HOD disconnected and take off module cover. To unmount cover you will need 2.5mm allen key.

2. Find SIM card slot and insert SIM card.

It is not recommended to unmount the HOD V2 because of very sensitive connections. The slot is visible after turning the housing.



Insert SIM card into slot visible on the picture above. A simple way to do it is to grab SIM with tweezers and push it carefully directly into slot. Then attach the device back (if unmounted) and mount the cover.

Please read carefully

Information contained in this document is provided solely in connection with Aerobits products. Aerobits reserves the right to make changes, corrections, modifications or improvements to this document, and to products and services described herein at any time, without notice. All Aerobits products are sold pursuant to our own terms and conditions of sale. Buyers are solely responsible for the choice, selection and use of the Aerobits products and services described herein, and Aerobits assumes no liability whatsoever, related to the choice, selection or use of Aerobits products and services described herein. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services, it shall not be deemed a license granted by Aerobits for use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering use, in any manner whatsoever, of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN AEROBITS TERMS AND CONDITIONS OF SALE, AEROBITS DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO USE AND/OR SALE OF AEROBITS PRODUCTS INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED AEROBITS REPRESENTATIVE, AEROBITS PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE.

Information in this document supersedes and replaces all previously supplied information.

© 2023 Aerobits - All rights reserved