

MyMo



ORIGINAL INSTRUCTION IN ENGLISH LANGUAGE



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1. INTRODUCTION

This document describes **MyMo** system, that is a *Ground Interferometric Radar* system by IDS GeoRadar.

It refers to the concepts the User must learn before initiating the utilization of the device. Therefore, it is mandatory to carefully read the entire document before starting and operating the system.

1.1 Estimated Reading Time

The estimated reading time of the entire document is 120 minutes.

1.2 Purpose

The purpose of this document is to guide the Reader to a list of actions to install and use the **MyMo** system in a thorough, correct, and safe way.

The structure of the manual is organized in a collection of "*how-to*" as well as "*descriptive chapters*". Each chapter contains illustrations and basic descriptions of the main operations to be carried out for system installation and use on field.

1.3 Application field

The main application of **MyMo** is the collection of *Interferometric* data over areas of variable extension, and for applications including, but not limited to:

- Structural safety of buildings, bridges, towers, dams and manmade structures in general (known as **SHM, Structural Heal Monitoring**),
- Vibration analysis,
- Displacement analysis
- Slope stability
- Open Pits

In general, any type of natural or manmade "scenario" that should be studied, under *static* or *dynamic* conditions, in terms of its own relative displacement or resonant frequency and that is placed at a maximum distance from **MyMo** sensor up to 400 meters, based on system's specification and set up.

1.4 Intended readership

The intended Reader(s) of this manual is(are) the technician(s) in charge of using the system that has undergone the IDS GeoRadar training for **MyMo**. Training to Users, may also be delivered by either IDS GeoRadar local Selling Units or Distributor Partners.

1.5 Authorization of use

The use of **MyMo** system may be subject to a license and/or authorization by the Competent Ministry of the country where the system will be used.

1.5.1 CE Compliance

MyMo complies with the essential requirements of the following directives and regulations:

- Radio Equipment Directive (RED) 2014/53/EU
- RoHS Directive 2011/65/EU and 2015/863/UE
- REACH Regulation (EC) No 1907/2006



The full EU Declaration of Conformity (DoC) is available either on the CD or a separate document included with this product.

This equipment is compliant with EN IEC 62368-1:2024.

Using MyMo is prohibited in specific areas of some European countries due to exclusion zones around RAS observatories with free line of sight. Detailed information on exclusion zones is available in ECC Decision (21)02.

A list of approved countries for MyMo use is indicated in the REC 70-03, Annex A. If the country does not allow MyMo use, contact the local competent ministry or radio regulator to obtain permission to operate.

1.5.2 Japan Compliance

This device has been granted in accordance with the provisions of Article 38-24, Paragraph 1 of the Japan Radio Law. It can be considered a mmW radar.



1.5.3 FCC Compliance

This device has been approved for operation under an FCC waiver of Part 90 of the FCC rules. Operation is subject to the specific conditions outlined in the waiver grant DA-18-839A1. As stated in the waiver, MyMo must not, under any circumstances, be operated while illuminating any public roadway. Furthermore, as required in the same waiver, for MyMo:

- The use is limited to underground mines, open-pit mines, and tunnels;
- The value of EIRP is below 48 dBm;
- The device does not cause interference to, and accepts interference from, Government Radiolocation, 76–81 GHz Band Radar, Radio Astronomy, Amateur, and Space Research operations.

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 30 cm between the radiator and your body.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Operation of this equipment is subject to the requirement to obtain a site license from the FCC before being put into service. The license application must be submitted at FCC Universal Licensing System.

This device also complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and



2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. While the commercial name of the product is MyMo, the FCC ID is UFW-HYDRA2.

2. HOW TO READ THE MANUAL

2.1 Manual Layout

As mentioned, this User Manual is structured in a “How to” manner. In each of the relevant chapters, User shall find the basics information to carry out the **MyMo** installation and use.

It is strongly recommended to go through this manual thoroughly, and to read it carefully. However, as the document is divided into a first part that is descriptive of the whole system, but also into procedures that are self-consistent and that can be read sparsely, it is not mandatory to read this document chapter after chapter, in case of need.

Please, note that images and pictures shown in the manual aim at supporting the Users in understanding the operation described. However, pictures and images portrayed herein may, from time to time, slightly differ from the actual Hardware and Software they describe.

2.2 SYMBOLS

Warning messages are an essential part of the Safety Concept of the instrument. They appear wherever hazards or hazardous situations can occur.

Type	Description
 DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a potentially hazardous situation or an unintended use which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation or an unintended use which, if not avoided, may result in minor or moderate injury.

Warning messages:

- make the user alert about direct and indirect hazards concerning the use of the product.
- contain general rules of behaviour.

For the user's safety, all safety instructions and safety messages shall be strictly observed and followed. Therefore, the manual must always be available to all persons performing any tasks described herein.

DANGER, WARNING, CAUTION and NOTICE are standardized signal words for identifying levels of hazards and risks related to personal injury and property damage.

For your safety it is important to read and fully understand the table below with the different signal words and their definitions. Supplementary safety information symbols may be placed within a warning message as well as supplementary text.



Note text/to keep in mind



Tip information

2.3 Glossary & Acronyms

The following acronyms are used in this manual:

- **Baseline:** It is the “virtual” alignment the User should follow to take pictures of the monitoring scenario at the beginning of any survey
- **Controller:** PC / Tablet used by the user for data acquisition.
- **GNSS:** Global Navigation Satellite System.
- **GUI:** Graphic User Interface
- **HW:** Hardware.
- **LoS:** Line of Sight
- **MyMo:** My Monitoring Station
- **NMEA format:** National Marine Electronics Association format.
- **OTA updates:** Over-the-Air updates
- **RTK:** Real Time Kinematic.
- **SNR:** Signal to Noise Ratio.
- **SW:** Software.
- **SAP (follow by 6-digit):** ID code to identify the part number
- **SHM:** Structural Health Monitoring

3. SAFETY DIRECTIONS

The following directions enable the person responsible for the product, and the person who uses the equipment, to anticipate and avoid operational hazards.

The person responsible for the product must ensure that all users understand these directions and adhere to them.

3.1 Intended Use

The intended use of **MyMo** is the remote measurement of surface slow displacement measured along the *Line of Sight* (LoS) direction (Fig. 1) or Projections (Fig. 2) in the following environments:

- open pits, mines and quarries
- natural landslides
- tailing dams
- structures (building, dams, bridges, towers, etc...)

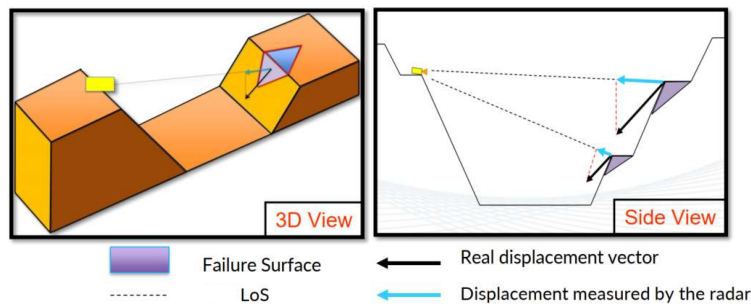


Fig. 1 Line of Sight displacement



In case the movement direction is orthogonal to the LoS, the system will measure ZERO displacement



LoS
Displacement

Vertical
Displacement

Line of Sight

MyMo measures along the **Line of Sight**, by comparing the phase information of the radar signal collected at different times

Projections

Based on the sensor geometry and viewing angles, LoS measurements can be projected to derive **vertical** and **horizontal** displacement components



Fig. 2 LoS and Projections

3.2 Reasonably Foreseeable Misuse

Below are listed a list of possible misuse of the system to be avoided:

- Use of the product without instruction
- Use outside of the intended use and limits
- Disabling safety systems
- Removal of hazard notices
- Opening the product using tools, for example screwdriver, unless this is permitted for certain functions
- Modification or conversion of the product
- Use after misappropriation
- Use of products with obvious damage or defects
- Use with accessories from other manufacturers without the prior explicit approval of IDS GeoRadar S.r.l.
- Inadequate safeguards at the working site.



NOTE: The product is intended for professional use only; not for consumers use.

3.3 Limits of Use

MyMo operating temperature ranges from -20°C to +55°C. The upper temperature limit is reduced to +40°C with direct sunlight radiation. Lower operating temperature can be achieved by installing the system inside a shelter with a proper opening to allow the transmission of the signal emitted by **MyMo** (container or similar housing).

Environment: Suitable for use in an atmosphere appropriate for permanent human habitation. Not suitable for use in explosive environments.

WARNING: POTENTIALLY HAZARDOUS AREAS

working in hazardous areas, such as potentially explosive areas, or close to electrical installations, or similar situations, could result in death or serious injury.

PRECAUTION: Local safety authorities and safety experts must be contacted, by the person in charge of the product, prior commencing any survey in potentially hazardous areas for the due risk assessment.



- to inform IDS GeoRadar S.r.l. immediately if the product and the application become unsafe
- to ensure that the national laws, regulations and conditions for the operation of electromagnetics transmitters are respected.



NOTICE: Watch out for erroneous measurement results if the product has been dropped, misused, modified, or stored for long periods.

Precautions:

Periodically carry out test measurements.

3.4 Responsibilities

Manufacturer of the product: IDS GeoRadar S.r.l. is responsible for supplying the product, including the user manual and original accessories, in a safe condition.

Person responsible for the product: the person responsible for the product has the following duties:

- to understand the safety instructions on the product and the instructions in the user manual
- to ensure that it is used in accordance with the instructions
- to be familiar with local regulations relating to safety and accident prevention

3.5 Hazard of Use

	NOTICE: If the accessories used with the product are not properly secured and the product is subjected to mechanical shock, for example blows or falling, the product may be damaged. Precautions: When setting up the product, make sure that the accessories are correctly adapted, fitted, secured, and locked in position. Avoid subjecting the product to mechanical stress.
	WARNING: CRUSHING HANDS, FINGERS AND TOES While installing and using the system, the risk of fingers pinching out may occur. PRECAUTION: To mount and use the system, the user must always wear protective gloves and safety boots.
	WARNING: RISK OF ACCIDENTS During surveys there is a danger of accidents occurring if the user does not pay attention to the surrounding site conditions, such as obstacles, excavations, or traffic. PRECAUTIONS: During operations, the user of the product must be fully aware of the existing site conditions, and potential dangers.

	WARNING: SECURING OF THE WORKING SITE Inadequate securing of the working site can lead to dangerous situations, for example in traffic, on building sites, and at industrial installations. PRECAUTIONS: Always ensure that the working site is adequately secured. Adhere to the regulations governing safety, accident prevention, and road traffic.
	WARNING: ELECTROCUTION Because of the risk of electrocution, it is dangerous to use poles and extensions near electrical installations such as power cables or electrical railways.  PRECAUTIONS: Keep at a safe distance from electrical installations. If it is essential to work in this environment, first contact the safety authorities responsible for the electrical installations and follow their safety instructions.

	WARNING: LIGHTING STRICKING If the product is used with accessories (for example GNSS pole support), the user may increase the risk of being struck by lightning. PRECAUTIONS: Do not use the product during thunderstorm.
	WARNING: EXPOSURE OF BATTERIES TO HIGH MECHANICAL STRESS, HIGH AMBIENT TEMPERATURE OR IMMERSION INTO FLUIDS High mechanical stress, high ambient temperatures or immersion into fluids can cause leakage, fire, or explosions of the batteries. PRECAUTIONS: Protect the batteries from mechanical influences and high ambient temperatures. Do not drop or immerse batteries into fluids.
	WARNING: MECHANICAL INFLUENCES ON BATTERIES During the transport, shipping, or disposal of batteries it is possible, for inappropriate mechanical influences, to constitute a fire hazard. PRECAUTIONS: Before shipping the product or disposing of it, discharge the batteries by running the product until they are flat. When transporting or shipping batteries, the person in charge of the product must ensure that the applicable national and international rules and regulations are observed. Before transportation or shipping, please contact your local passenger or freight transport company.



NOTICE: Only IDS GeoRadar authorized technical service are entitled to repair this product.



WARNING: Short circuit of battery terminals

Risk of fire, electric shock, and damage.

PRECAUTIONS: Keep away any metallic or wet objects from the battery terminals inside battery housing.



WARNING: Short circuit of battery terminals

If battery terminals are short-circuited e.g., by coming in contact with jewellery, keys, metallised paper or other metals, the battery can overheat and cause injury or fire, for example by storing or transporting in pockets.

PRECAUTIONS: Make sure that the battery terminals do not come into contact with metallic objects.



WARNING: Battery may get hot after prolonged use.

Risk of burning injuries.

PRECAUTIONS: Avoid touching the hot battery. Allow the battery to cool down before removing it.

NOTICE: If the product is improperly disposed, the following can happen:

- If polymer parts are burnt, poisonous gases are produced which may impair health.
- If batteries are damaged or are heated strongly, they can explode and cause poisoning, burning, corrosion or environmental contamination.
- By disposing of the product irresponsibly you may enable unauthorized persons to use it in contravention of the regulations, exposing themselves and third parties to the risk of severe injury and rendering the environment liable to contamination.



RECYCLING

The crossed out wheeled bin symbol shown on the equipment indicates that the product must be recycled separately from other waste at the end of its useful life.

Separate waste disposal of this product at the end of its useful life will be organised and managed by IDS GeoRadar. When you decide to dispose of the equipment, contact IDS GeoRadar and follow the system that IDS GeoRadar has set up to permit the separate collection of the apparatus at its life end.

Adequate separate collection for its subsequent recycling, treatment and environmentally friendly disposal contributes towards avoiding any unnecessary effects on the environment and to health and favour the reuse or recycling of the materials that make up the equipment. Unauthorised disposal of this product as unsorted waste by its possessor will lead to an administrative penalty foreseen by national regulations.

4. CYBERSECURITY

This section includes cybersecurity characteristics of **MyMo**, its interfaces exposed to risk of cyberattacks, and the actions needed to grant the safe use of this device.



NOTICE: Users must read carefully this section before installation and use of the device.

4.1 MyMo Interfaces

4.1.1 Physical interfaces

MyMo, includes the following interfaces:

- **Ethernet Port (RJ45)** – For cabled network connection; it supports protocol FTPS, HTTPS, DHCP (client), DNS (client), SNTP (client).
- **Ethernet Port (RJ45)** – For cabled connection with a PC controller; it supports protocols HTTPS, DHCP (server), DNS (server).
- **HotSpot WiFi** – for wireless connection with a PC Controller; it supports protocols HTTPS, DHCP (server), DNS (server).
- **WiFi** – for network wireless connection; it supports protocols FTPS, HTTPS, DHCP (client), DNS (client), SNTP (client).
- **LTE module** – for internet access; it supports protocols FTPS, HTTPS, DHCP (client), DNS (client), SNTP (client).



NOTICE: Do not connect any accessory or third party's device to these ports unless trusted.

4.1.2 Network interfaces and supported protocols

MyMo can transfer data and/or receive Over-The-Air (**OTA**) updates via Wi-Fi, 4G and Ethernet.

Network active services are:

- **SSH (port 61531):** Access to the system, for authorized technical personnel ONLY.
- **HTTPs (port 443):** access to Users application
- **SNTP client (port 123):** Time synchronization with remote server
- **DHCP server (port 67):** to assign IP address to the Controller PC
- **DHCP client (port 68):** to obtain IP address for cabled and non-cabled interfaces towards the network
- **DNS client/server (port 68):** to resolve local or remote domain name

Protected protocols:

- **TLS version 1.3 encryption** RSA-4096/AES-256/WPA2 AES-CCMP

4.2 Software updates and cybersecurity

To grant protection to vulnerability, the device supports software updates:

- **Updates modes:** automatic and/or manual.
- **Channel of updating:** OTA encrypted or through dedicated App
- **Update Server:** authenticated and with digital signature

It is strongly suggested to keep the device always updated.

4.3 Duration of Safety support

IDS GeoRadar grants the availability of cybersecurity periodic updates.

4.4 Data Protection and Safe Communications

All data transmitted between **MyMo** and remote services are protected by **end-to-end encryption**. This device does not handle personal data.

4.5 Suggested settings for safe use

To minimize risk connected to cybersecurity, it is recommended to:

- Periodically change WiFi password
- Disable interfaces when not in use
- connect the device only to trusted network
- place the device in a safe site from the accessibility point of view
- always install the latest software updates available

4.6 Handling vulnerability and incidents

IDS GeoRadar maintains an internal process to handle cybersecurity vulnerability.

In case of any suspect or actual cybersecurity issues unplug the system and report it immediately using the technical support e-mail address:

- support.mining@idsgeoradar.com , or
- support.geo@idsgeoradar.com

4.7 Limitations and safety warnings

- Do not alter or modify either the firmware or the interfaces of the device, unless specifically guided and/or requested by IDS GeoRadar srl.
- Using the device in open areas with no protection whatsoever may increase the risk of cyberattack.

- It is strongly recommended not to connect the device to open, public networks.

5. GENERAL DESCRIPTION

MyMo system by IDS GeoRadar srl, is designed to detect displacements, along the **Line of Sight** (LoS), of vertical buildings (e.g.: towers or dams), horizontal buildings (e.g.: bridges or overpasses), natural or manmade slopes (e.g.: landslides and open pits).

For the above-mentioned field of applications static, dynamic, contact-less, and up to 400 meters distance (from radar head sensor) monitoring campaigns, can be carried out.



NOTICE: The maximum monitoring distance reached by the system may also depend on both the acquisition geometry and the “Radar signal reflectivity” of the monitored scenario.

MyMo hardware and software are customized in specific packages and accessories, to optimize the final use and specific application.

In this respect, **MyMo** system by IDS GeoRadar can include a Base package but also accessories and different field SW packages.

5.1 MyMo System Base

The following items are included in the Base package:

Q.ty	Description	SAP Code	Image
1	MyMo Sensor	995941	
1	110V-220V AC-DC to 24V 185W Power Supply	1015496	

1	MyMo transport case	1038057	
2	GEB461 Battery	973449	
1	Quick guide access flyer	994784	

5.2 MyMo Base Accessories

The following accessories for the Base package are available:

ACCESSORIES		
Description	SAP Code	Image
GKL311, Charger Pro 3000	799185	
GKL341, Charger Pro 5000	799187	
MyMo Backpack	1045845	

Tripod	860954	
Tilting head for tripod	860953	
MyMo Fixed Mount Kit	1047900	
Tripod transportation bag	1031137	
Tablet Panasonic FZ-G2	968919	
US Keyboard for Panasonic FZ-G2	968921	
Battery for FZ-G2	968922	
Chaser LAN cable 2.5m	987232	
Main power cable adapter <i>Schuko</i>	858998	
Main power cable adapter BS1363	858999	
Main power cable adapter NEMA 5-15	859000	

Main power cable adapter AS/NZS 3112	859001	
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5.3 MyMo Field App

To run **MyMo** on field it is necessary to use a web app running on web browser named **MyMo Field App** (Fig. 3Fig. 1). It can be installed and used as **perpetual license** or **time limited**.

Moreover, **MyMo Field App** license can be activated to allow for variable distance-to-target survey.

For more details on licensing, refer to the local IDS GeoRadar Representative.



NOTICE: An active internet connection is needed during the license activation of MyMo Web App and the get started procedure (“unboxing”). During monitoring instead, it is NOT mandatory to have an active internet connection.

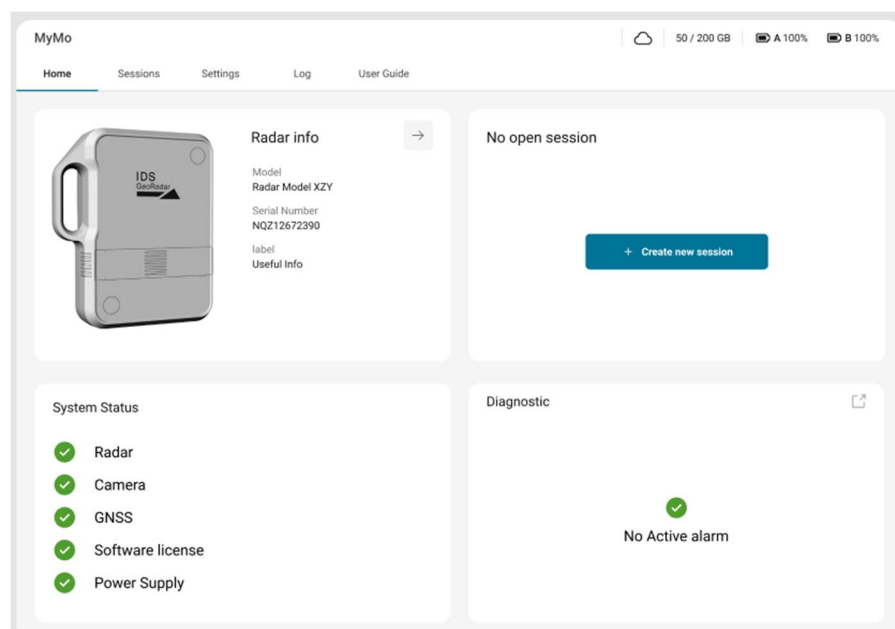


Fig. 3 MyMo Field App Home Page

5.4 MyMo Sensor Description

MyMo front view includes the following:

1. 2 cameras for stereoscopic imagery of the monitoring scenario,
2. Handle (front view).



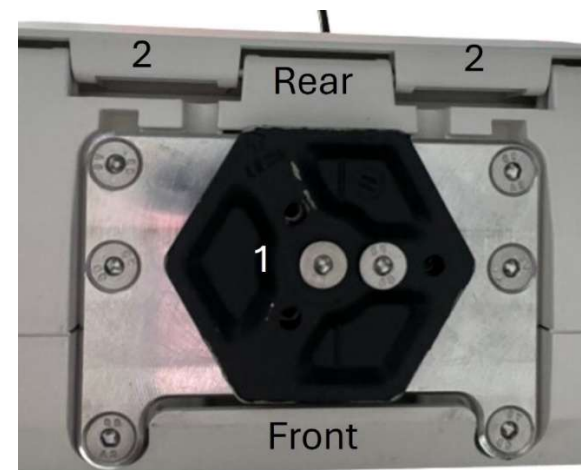
MyMo rear view includes the following:

1. Power Connector (to connect the power supply)
2. LAN 1 port (for internet)
3. LAN 2 port (connection to PC)
4. O/I Button (ON/OFF). Also used for shooting photos of the monitoring scenario,
5. Handle (rear view),
6. Camera LED,
7. WiFi LED
8. Power supply/Battery Status LED
9. Battery compartment.



MyMo bottom view includes the following:

1. Hexagonal metal plate to pair MyMo head sensor with tripod's tilting head,
2. Hookups of the battery compartment.



WARNING: System Malfunctioning due to batteries

Using non-specific batteries may cause malfunction, damage to the device, or safety hazards

PRECAUTION: Use only the specified battery type (Leica GEB461)



WARNING: System Malfunctioning due to battery charger

Using non-specific battery charger may cause malfunction, damage to the device, or safety hazards

PRECAUTION: Use only the specified power supply type (MW HLG-185H-24)

6. HOW TO SET UP MYMO AND ACCESSORIES

Installing **MyMo** on site is the first operation to be carried out prior to any monitoring activity.

Like any other interferometric survey, monitoring with **MyMo** relies on signal phase difference measurements gathered along the LoS between **MyMo** and the target to be monitored. Hence, installation is a critical operation to optimize the result of the survey.

In general, the installation of **MyMo** with respect to target, depends on factors, including but not limited to:

- **MyMo** distance-to-target (tower, slope, open pit wall, bridge, building...),
- Shape of the target,
- Radar signal reflectivity of the target,
- Width of the area to be monitored,
- Site accessibility,
- Interference with external noise (road traffic, working machines, any nearby source of vibration...)

Depending on accessories purchased, **MyMo** can be installed:

- On Tripod, or
- On Fixed Mount Kit

In the following pages, general installation instructions are illustrated.

**WARNING: CRUSHING HANDS, FINGERS AND TOES**

While installing and using the system, the risk of fingers pinching out may occur.

PRECAUTION: To mount and use the system, the user must always wear protective gloves and safety boots.

6.1 How to set up **MyMo** on Tripod

To set up **MyMo** on tripod, follow the steps below:

1. Take off the tripod from its bag and place it vertically, with its “legs” slightly opened,



2. Take the tilting head off the bag,



3. Fix the tilting head to the tripod using the screw at the upper end on top of the tripod,



5. The tripod, with the tilting head correctly mounted on top, should now look like the image below (view from top),



4. Fix and adjust the three knobs (A, B, C in [Fig. 4](#)) so that all planes (X-Z, X-Y, and Y-Z) are set to 0° (red circle below),



6. Adjust the height of the tripod and the opening of its “legs” based on target to monitor and condition of the surface at the base of the tripod’s legs,



7. Make sure of the correct leveling of the tripod by verifying that tripod spirit bubbles (left) and tilting head spirit bubbles (right) are correctly centered,



8. By acting **anticlockwise**, at the same time, on both the two levers at the left and right side on the top of the tilting head, arm the gear to host/pair the **MyMo** sensor with the tripod and tilting head,



9. This (below) is how the tilting head looks when **NOT READY** to place **MyMo** sensor (before arming the gear),



10. This (below) is how it looks the tilting head when **READY** to place **MyMo** sensor (after arming the gear),



11. Take off **MyMo** from its container,



12. Hold the sensor with both hands,



13. slightly fold the top frontwards and place the hexagon part at the base of the **MyMo** sensor on top of the mechanism of the tilting head that has been just “armed”,



14. Still holding **MyMo** with both hands, slight press backwards, until hear a “click” indicating that the two levers are back in the initial position locking the **MyMo** sensor to the tilting head,

15. Make sure that the left lever is fully at the initial position as this indicates the correct locking of the **MyMo** sensor.



16. Open the battery compartment at the back of **MyMo**, where all plugs and the O/I button are located,

17. Enter the batteries, and close the battery compartment again,

18. Press the O/I button to start the system and **MyMo** is now ready for the monitoring session.

NOTICE: For MyMo to power on, hold the O/I button for about 6 seconds until the LEDs turn from white to green.



After each start, MyMo performs a Built-in-Test of the internal electronic. This operation takes about 3 minutes and after that the system is ready. Now, only battery and WiFi LEDs shall be on solid green.



The conceptual sketch of Fig. 4 illustrates, in a schematic way, how **MyMo** should be set up before starting a monitoring campaign.

Dashed blue line, behind Operator, is the “so-called” Base Line, that is a “virtual” line alongside where pictures of the monitoring area should be taken.



NOTICE: The higher the distance between MyMo and the target, the longer the Base Line.

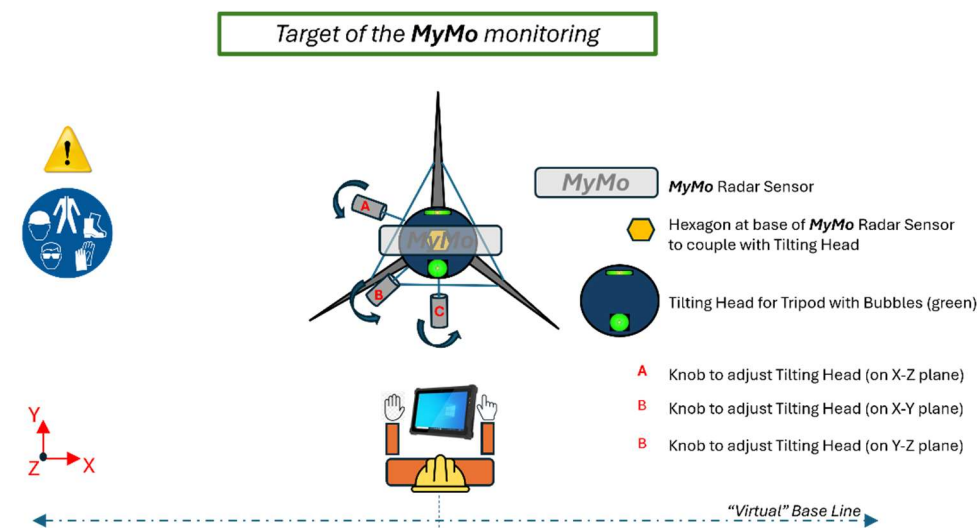


Fig. 4 Sketch of the MyMo installation (View from top)



WARNING: CRUSHING HANDS, FINGERS AND TOES

While installing and using the system, the risk of fingers pinching out or other accidents may occur.

PRECAUTION: During installation and use, ensure that the tripod is positioned securely and stably, and that the sensor is properly mounted and firmly attached to its dedicated support

6.2 How to set up MyMo on Fixed Mount Kit

MyMo Fixed Mount Kit (1047900) (Fig. 5) allows **MyMo** to be installed and used in those circumstances where the tripod may not be suitable for the purposes of monitoring.

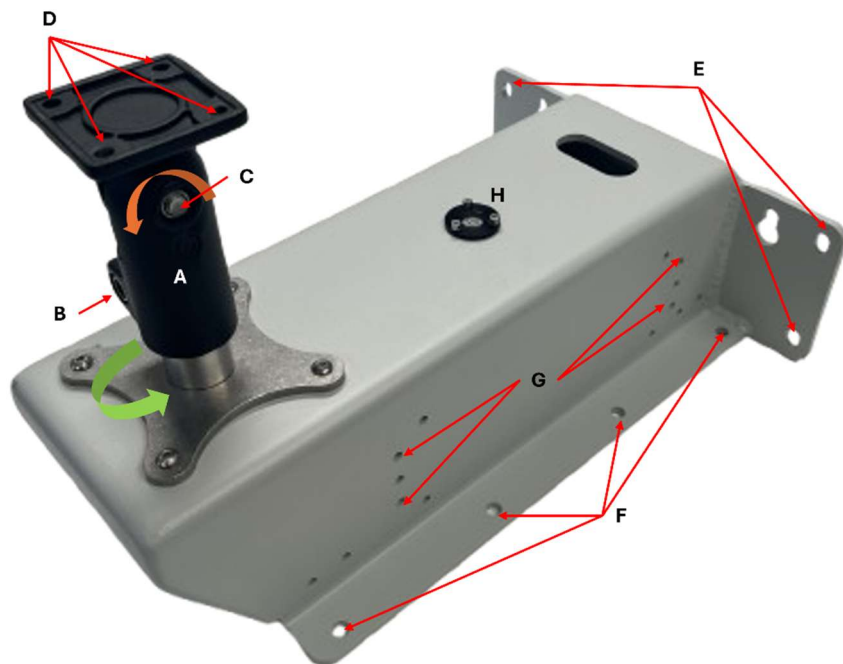


Fig. 5 Fixed Mount Kit

It includes the following parts:

- A. Removable *tilting head*,
- B. Screw to release/fix the tilting head (also allows to orient/move on the horizontal X-Y plan, the green arrow, after installation and prior monitoring),
- C. Screw to release/fix the tilting head and orient/move along the vertical Y-Z plan (the orange arrow), after installation and prior monitoring,
- D. Holes to fix the **tilting head** to the **MyMo** radar sensor,

- E. Holes to fix (using appropriate through bolts) the **Fixed Mount kit** on a vertical structure (or to the *Pole Mount adapter*),
- F. Holes to fix (using appropriate through bolts) the **Fixed Mount kit** on a horizontal structure,
- G. Holes to fix the Power supply,
- H. Spirit bubble level.

The **Fixed Mount Kit** also includes a pole mount adapter (Fig. 6).



Fig. 6 Pole Mount adapter for Fixed Mount Kit

NOTICE: The kit provided by IDS GeoRadar includes through bolts with a torque-controlled anchor usually suitable for use in concrete over C20/25.



Please note that this setup is just a standard configuration and might not be suitable for all surfaces; to have the Mount Kit safely fixed, user should perform a preliminary assessment of the surface.

The choice of the setup to be used for installation of the Mount Kit, which could include through bolts other than the ones included in the kit, is under exclusive User's responsibility.

Typical installation conditions for the **MyMo Fixed Mount Kit** are:

1. A horizontal plan (e.g.: a concrete slab, a floor...),



2. A vertical structure (e.g.: a pillar, a wall...),



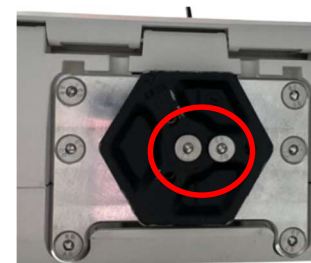
3. A vertical pole.



6.2.1 How to prepare the MyMo Fixed Mount Kit

Regardless of where to install **MyMo** with its **Fixed Mount Kit**, preliminary operations to be carried out always include the following steps:

1. Release the (2) screws (inside the red circle, below) fixing the hexagonal insert at the base of the **MyMo** radar head sensor,



2. Remove the hexagon insert,



3. Now, release the screw (red circle below) fixing the *tilting head* (that is the part in black) on top of the **Fixed Mount Kit**,



4. Remove now the *tilting head* from the base of the *Fixed Mount Kit*, slightly pulling upward,



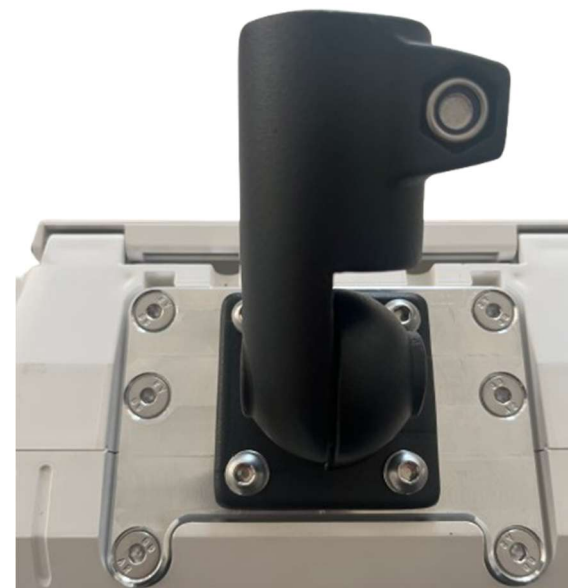
5. Place the tilting head at the bottom of the **MyMo** radar head sensor where User has just removed the hexagon, **EXACTLY** as illustrated in the picture below: this will allow for the correct adjustment along the YZ and XY plan, before monitoring, and after installation.



6. Using the screws provided, fix the *tilting Head* to the **MyMo** radar head sensor,

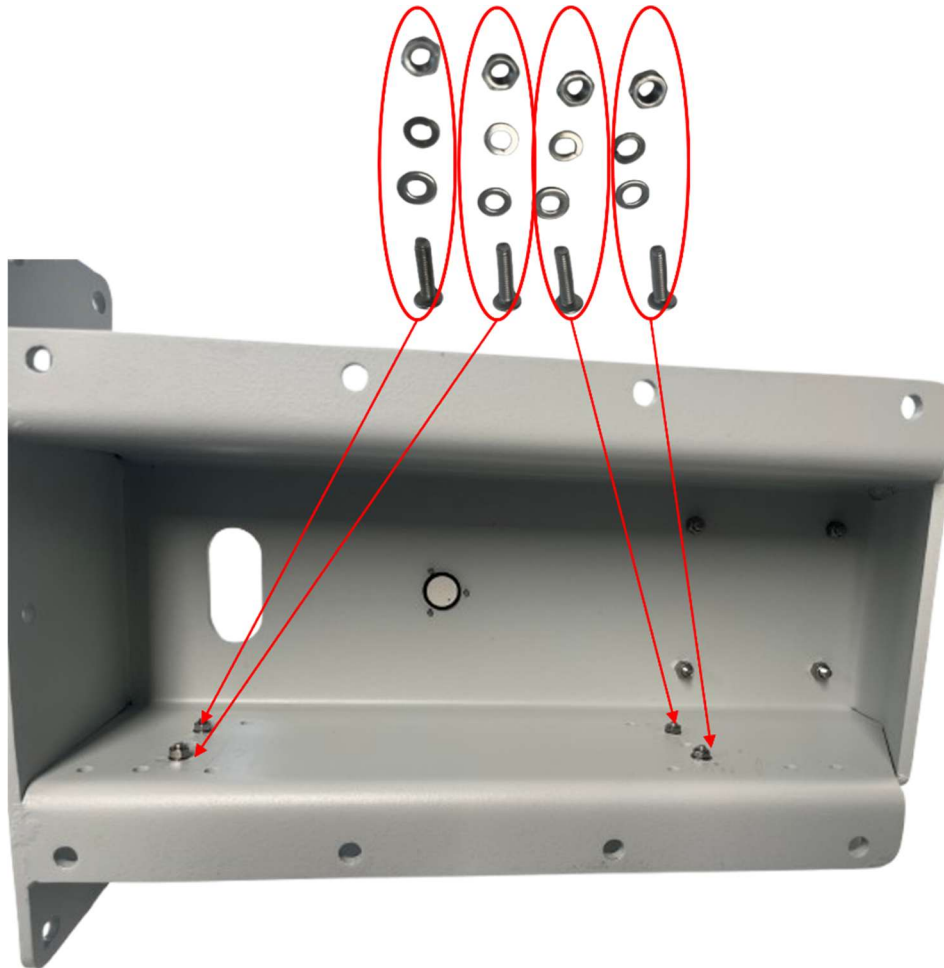


7. **MyMo** is now ready to be installed on *Fixed Mount Kit*.

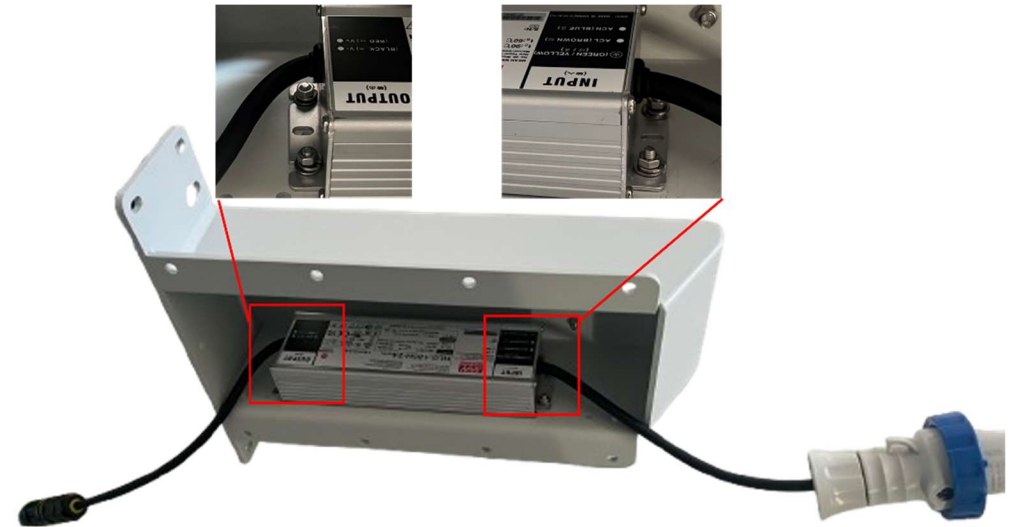


6.2.2 How to install the Power supply on the Fixed Mount Kit

1. With the *Fixed Mount Kit* upside-down, place the bolts, washers and nuts provided (using "G" of Fig. 5), and make sure that they are loose, to allow the correct insert of the power supply,



2. Fit in the Power Supply with the bolts, washers and nuts just placed, in the same position as in image below and fix the bolts against it,



3. Use the cable gland hole (A) to pass the cable and to connect the output side of the cable to the PWR plug of **MyMo** (B). Then, connect "C" to the right adapter, depending on the Region where the system is used.



6.2.3 How to install MyMo Fixed Mount Kit on Horizontal Plan

1. Place **MyMo Fixed Mount kit** on the horizontal plan selected for the monitoring and sign the points corresponding to the holes (F in Fig. 5). Drill these points with the correct size drilling rig,



2. Now, enter the bolts in the corresponding holes,



3. Fit in the *Fixed Mount Kit* on the bolts, and fix them,



4. Place **MyMo** Radar head sensor on top of the **Fixed Mount Kit**,



5. Adjust the heading of **MyMo** acting on screws **B** and **C** of the tilting head (Fig. 5)
6. Fix the screws **B** and **C** before starting the monitoring.

6.2.4 How to install MyMo Fixed Mount Kit on a vertical structure

1. Place **MyMo Fixed Mount Kit** on the vertical structure selected for the monitoring and sign the points corresponding to the holes (E in Fig. 5). Drill these points with the correct size drilling rig,



2. Now, enter the bolts in the corresponding holes,



3. Fit in the **Fixed Mount Kit** on the bolts and fix them,



4. Place **MyMo Radar head sensor** on top of the **Fixed Mount Kit**,



5. Adjust the heading of **MyMo** acting on screws **B** and **C** of the tilting head (Fig. 5)
6. Fix the screws **B** and **C** before starting the monitoring.

6.2.5 How to install MyMo Fixed Mount Kit on a vertical Pole

The **Pole Adapter** for **MyMo Fixed Mount Kit** (Fig. 6), includes the following parts:

1. Metal plate with (2) knobs (red circle),



2. (2) Hose clamps,



3. (4) Hexagonal bolts M3x25mm,



4. (8) Washers,



5. (4) locking nuts.



Tools needed to install the pole mount adapter are (from left to right):

- Wire cutter
- Screwdriver
- Wrench (size 13)
- Allen Key (size 6)

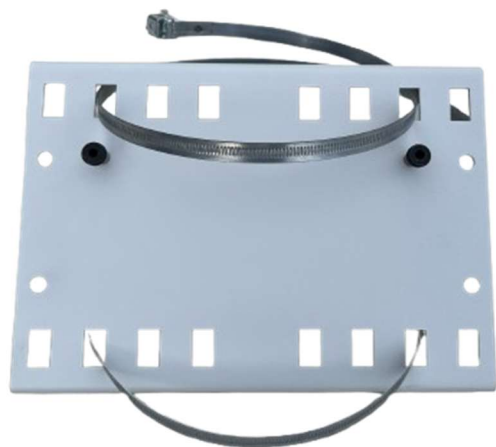


To install **MyMo** using **MyMo Fixed Mount Kit** on a vertical pole, follow the steps below:

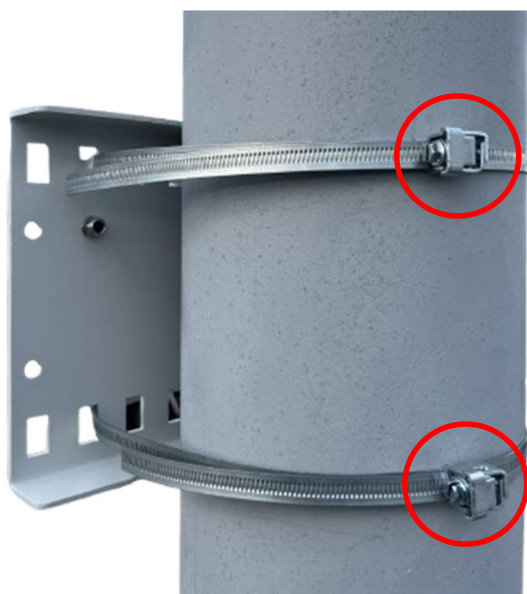
1. resize of the *hose clamps* using the wire cutter, if they are too long for the diameter of the pole to be used for installation,



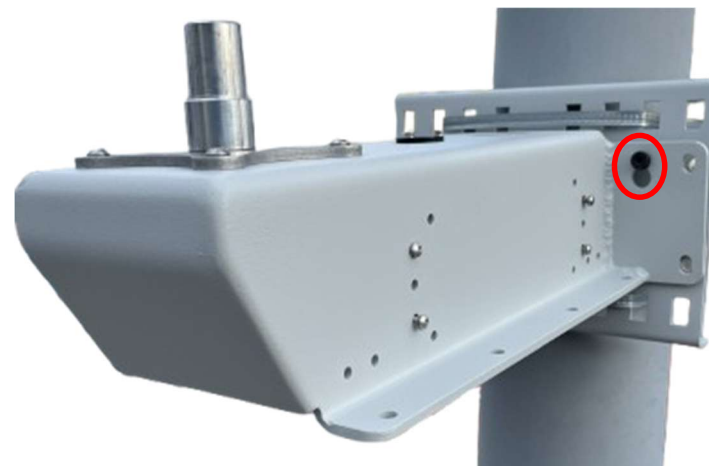
2. Enter the *hose clamps* in the squared holes in upper and lower part of the metal plate using the appropriate hole depending on pole diameter,



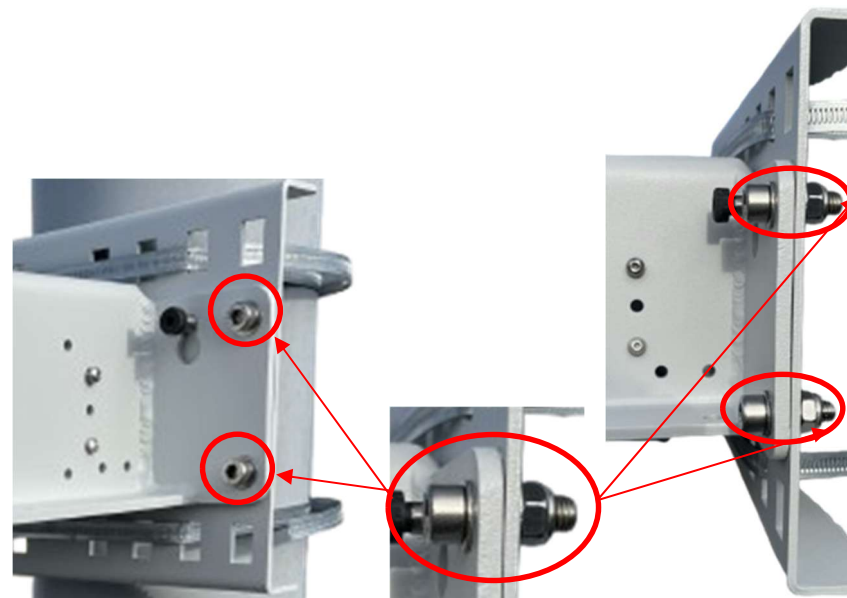
3. With knobs upwards, fit the metal plate with hose clamps to the pole, adjust the heading to the target and fix the hose clamps using the screwdriver (screws in the red circle),



4. Now place the **MyMo Fixed Mount kit** on the pole adapter using the knobs (red circle),



5. Using holes "E" of Fig. 5, fix the **Fixed Mount Kit** to the **Pole Adapter** using the (4) bolts, (8) washers, and (4) locking nuts provided with the kit.



6. Place now **MyMo** on top on the **Fixed Mount Kit** just installed,



7. Prior to tightening the *tilting head* screws, adjust heading towards the target and the system's ready to start monitoring.



7. How to get started *MyMo Field App*

Inside **MyMo** sensor there is an embedded PC where the actual data acquisition software is installed. Therefore, the PC Controller (i.e.: tablet) is used to visualize the SW embedded into **MyMo** and to manage the monitoring.

Only the first time the User turns on and initialize **MyMo** the First Access Configuration Wizard procedure should be performed to get started the **MyMo Field App**, that is the web application used to link the PC Controller and **MyMo**.

7.1 How to get started MyMo Field App (using WiFi connection)

To get started **MyMo Field App** follow the steps below:

1. Turn on **MyMo** using the O/I button,



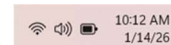
NOTICE: For MyMo to power on, hold the O/I button for about 6 seconds until the LEDs turn from white to green.

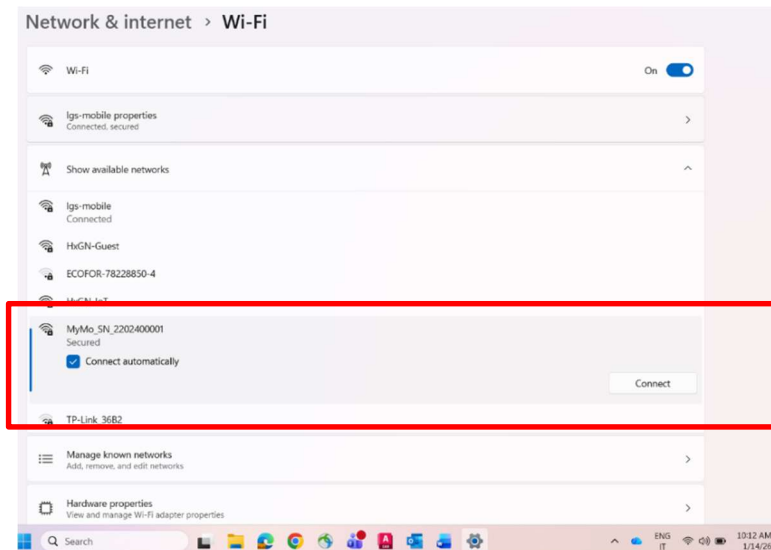


After each start, MyMo performs a Built-in-Test of the internal electronic. This operation takes about 3 minutes and after that the system is ready. Now, only battery and Wi-Fi LEDs shall be on solid green.

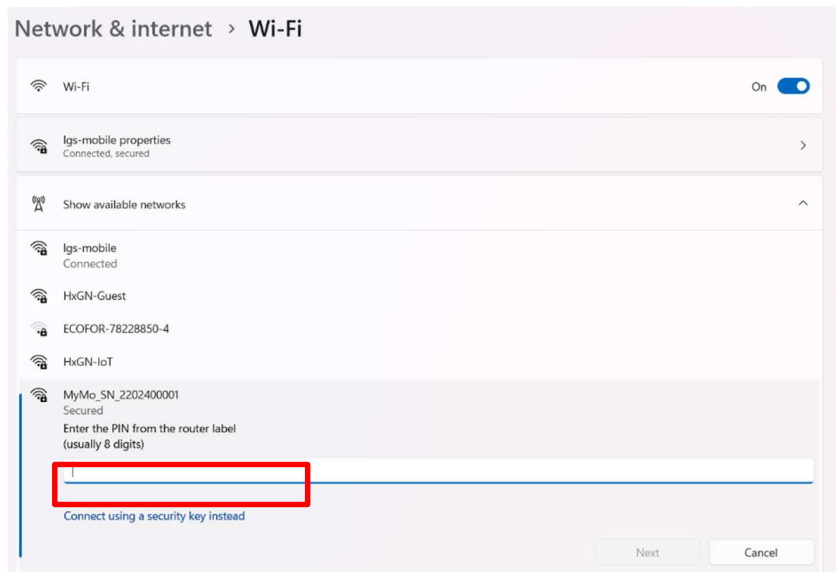


2. Turn on the PC Controller,
3. Verify that the internal watch of the PC is synchronized,
4. Press on the WiFi Network icon  on the low right corner of the Controller desktop and select "**MyMo_SN_XXX-XX-123456**" that includes the Serial number of the MyMo in use: press "Connect",





5. **DO NOT ENTER THE PIN**, rather press ***“Connect using a security Key instead”***



6. Enter the security key provided in a flyer inside the delivery package,



7. Press ***“Next”***



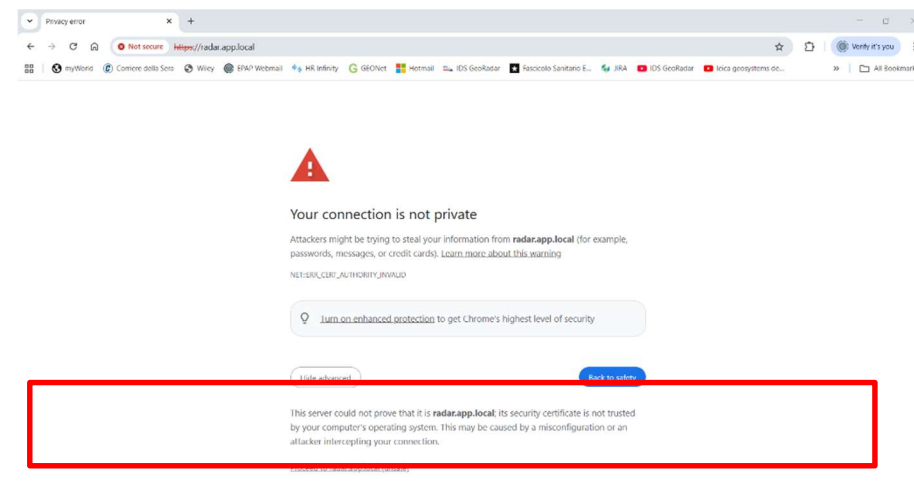
8. Wait for the ***“Checking network requirements”*** progress bar to finish,



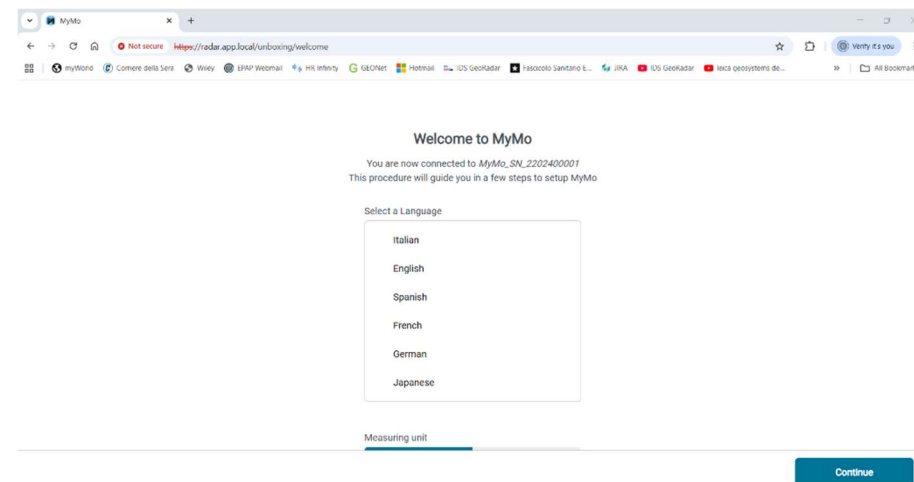
9. And the WiFi connection between the PC Controller and **MyMo**, is now established.



10. Launch now the internet browser and type <https://mymo.app.local/login>
11. in the URL bar; select “SHOW ADVANCED” and the press “Proceed to mymo.app.local/login (unsafe)”,



12. This will launch **MyMo Web App** and prompt the User to the “**Welcome to MyMo**” page. Select the preferred language and press continue,



13. To facilitate future logins, User may save the link to **MyMo Field App** to the browser's bookmark and then copy to the PC desktop,



14. Enter now the EID 25-digits code included in the invoice and press “Continue”,

MyMo setup

Information needed to complete the setup procedure

- 1. Purchasing invoice with the software license Entitlement ID
- 2. Access to a stable internet connection

I'm ready, continue

15. Read the legal notice and then press on “Accept and Continue”,

Software Terms and Condition

Hexagon Geosystems Software License Agreement

Please carefully read this Software License Agreement (the “License Agreement”) before accessing, using or downloading the Software.

By submitting an order, by clicking an accept button or by accessing, downloading and/or using the Software, you as a Customer or User (as defined below) agree to be bound by the terms of this License Agreement, which also incorporate the Privacy Policy and the

Accept and continue

16. Select now the time zone where the system is in use, and press “Continue” (the search box may be used to search for a specific location),

Select your timezone

UTC+14:00 Pacific/Kiritimati

UTC+13:45 Pacific/Chatham

UTC+13:00 Antarctica/McMurdo

UTC+13:00 Pacific/Apia

UTC+13:00 Pacific/Auckland

UTC+13:00 Pacific/Enderbury

UTC+13:00 Pacific/Fakaofo

UTC+13:00 Pacific/Tongatapu

UTC+12:00 Asia/Anadyr

Continue

17. Connect the system to the internet by selecting the preferred WiFi Hotspot and press “Continue”,

Connect MyMo to the internet

Wi-Fi networks

- HxGN-Net
- HxGN-Guest

+ Add a hidden network

Mobile networks

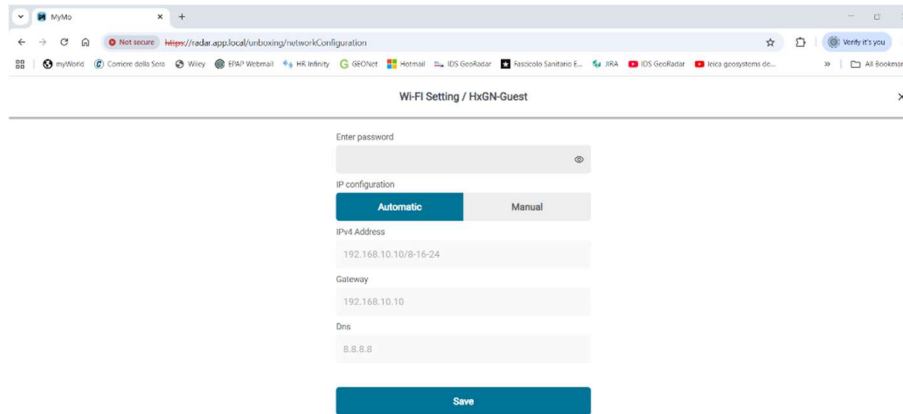
No sim inserted

Cables networks

eth2 Network cable is unplugged

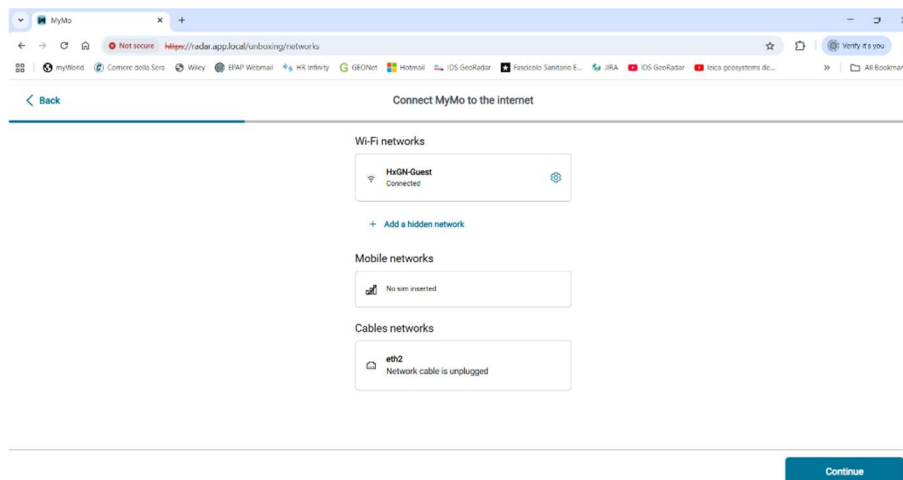
Continue

18. Enter the password and press “Save” to continue,

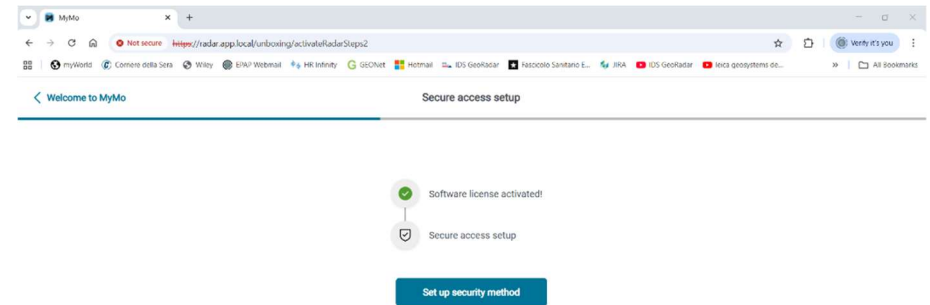


19. Enter EID,

20. Now press “Continue”, to proceed



21. **MyMo Field App** software license is now activated,



22. Configure now the 6-digit access code to be used for any future login, and press “Continue”,

