

Instructions for setup of NRRC mobile MIRA station (weather station optional)

Installation Manual

0 Information on the Document

Project Survey

Document-Title	Instructions for setup of NRRC mobile MIRA station (weather station optional)
Document Subtitle	Installation Manual
Project	
Customer	
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Filename	\\SMU01\Produkte\03-Hardware\09-MIRA\04-Anwender-Dokumentation\MIRA_setup_of_mobile_station.docx
Version	1.0
Date	30.06.2023
Status	released

Changes versus Version 0

Version no.	Author / Date	Chapter	Description
1.0	Lösel / 30.06.23	All	

Document Cross References

Title	Link

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1 Introduction

This document will guide through the installation of the mobile MIRA stations.



2 Mechanical installation

2.1 Overview of containing items



The transportation box contains the following items:

- Tripod
- Fixation screws
- Main mounting pole
- Solar panel
- Mounting pole for weather station
- Weather station (optional)
- Electrical cabinet
- MIRA

2.2 Setup of tripod

Take the tripod out of the transportation box and deploy it firmly. The tripod has a bubble level to assure a horizontal orientation of the mounting plate.



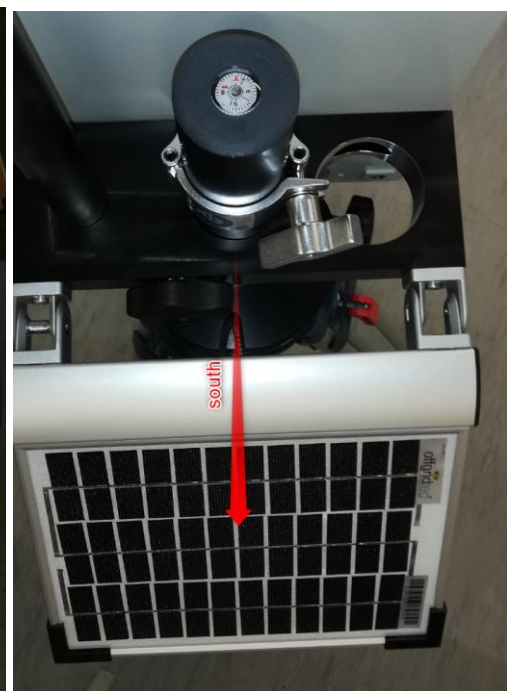
2.3 Fixation of main pole with compass

1. Take the main mounting pole and the largest fixation screw out of the transportation box.
2. Guide the fixation screw through the hole on the side of the mounting plate.
3. Guide the main mounting pole through the hole in the middle of the mounting plate. On top of the main mounting pole a small compass is installed for the orientation of the solar panel.
4. Fix the main mounting pole with the mounting screw.



2.4 Installation of brackets with solar panel

1. Take the solar panel with the attached brackets out of the transportation box. The fixation screw is already attached to the brackets.
2. Guide the brackets over the main mounting pole.
3. Take care that the orientation of the solar panel is southwards.
4. Fix the brackets with the solar panel to main mounting pole with the screw.
5. Use the grey mounting screw to fix the solar panel with an angle of 45° with respect to the ground.



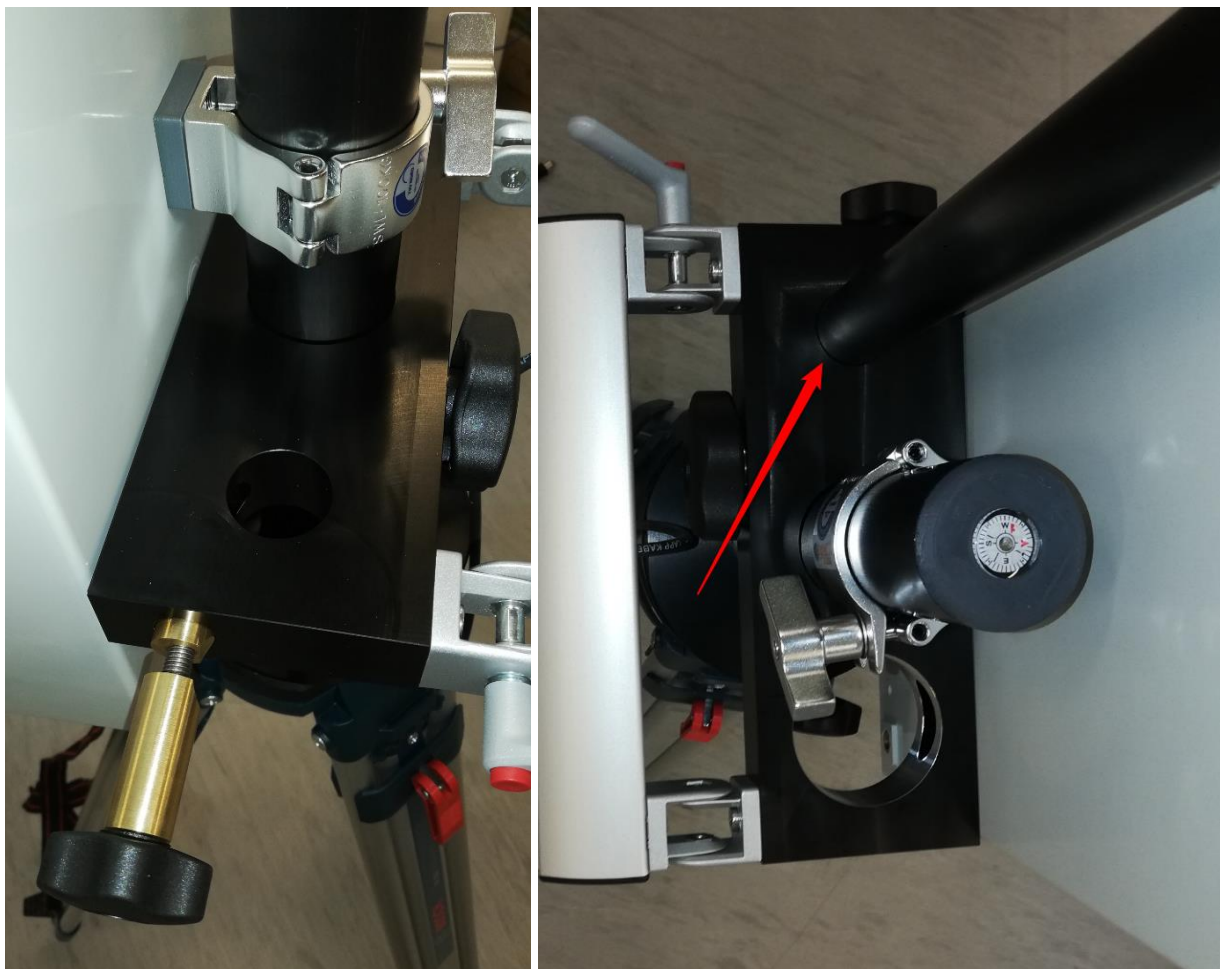
2.5 Mounting of the electrical cabinet

1. Take the electrical cabinet out of the transportation box.
2. Place it on the mounting plate.
3. Fix the electrical cabinet with the bracket to the main mounting pole.



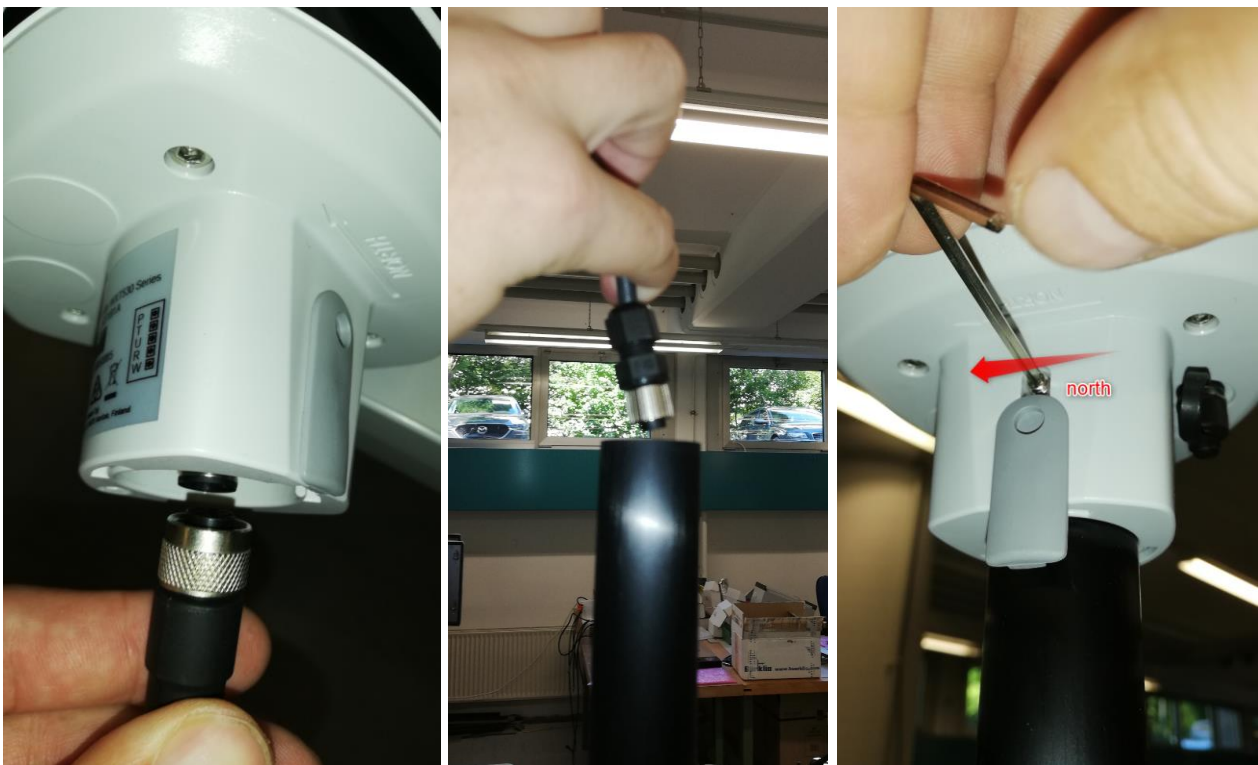
2.6 Fixation of met pole

1. Take the mounting pole for the weather station and the smallest fixation screw out of the transportation box.
2. Guide the fixation screw through the hole on the side of the bracket on the solar panel.
3. Guide the mounting pole for the weather station through the smallest hole in the bracket on the solar panel.
4. Fix the mounting pole for the weather station with the fixation screw.



2.7 Installation of Vaisala weather station (optional)

1. Take the weather station and cable for the weather station out of the transportation box.
2. Connect the cable to the weather station.
3. Guide the cable through the mounting pole for the weather station.
4. Mount the weather station on top of the mounting pole with the arrow showing north direction.
5. Fix the weather station to the mounting pole with the hexagon screw.



2.8 Fixation of MIRA probe

1. Take the MIRA and the remaining fixation screw out of the transportation box.
2. Guide the fixation screw through the hole on the side of the bracket on the solar panel.
3. Guide the MIRA through the last hole in the bracket on the solar panel.
4. Fix the MIRA with the fixation screw.
5. Connect the two MIRA cables to the MIRA.



Now connect the 8-pin “Fischer” plug to the 8-pin socket. Then do the same with the 5-pin connector. The red dots indicate the aligned position; the connector fits only in this position.



2.9 Connection all cables to the electrical cabinet

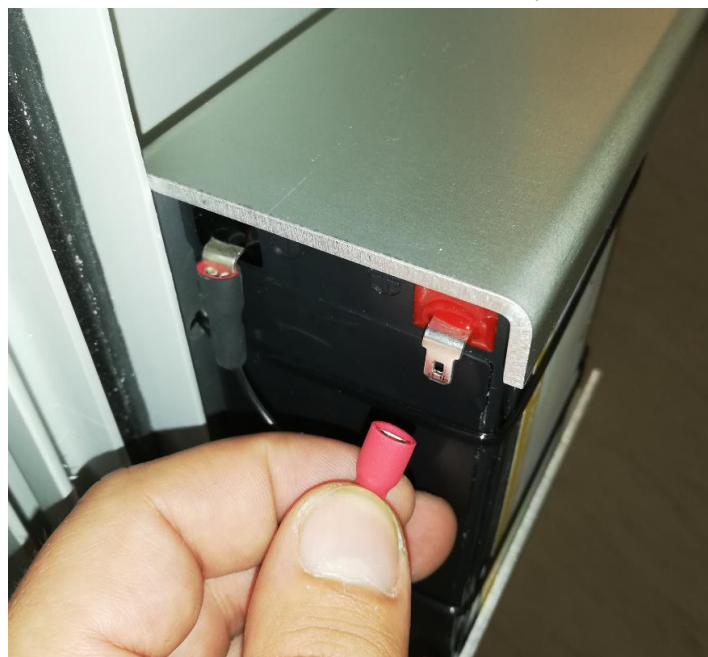
Connect all cable to the lower side of the electrical box:

- Weather station cable
- Solar panel cable
- Two MIRA cables



2.10 Connect battery in the electrical cabinet

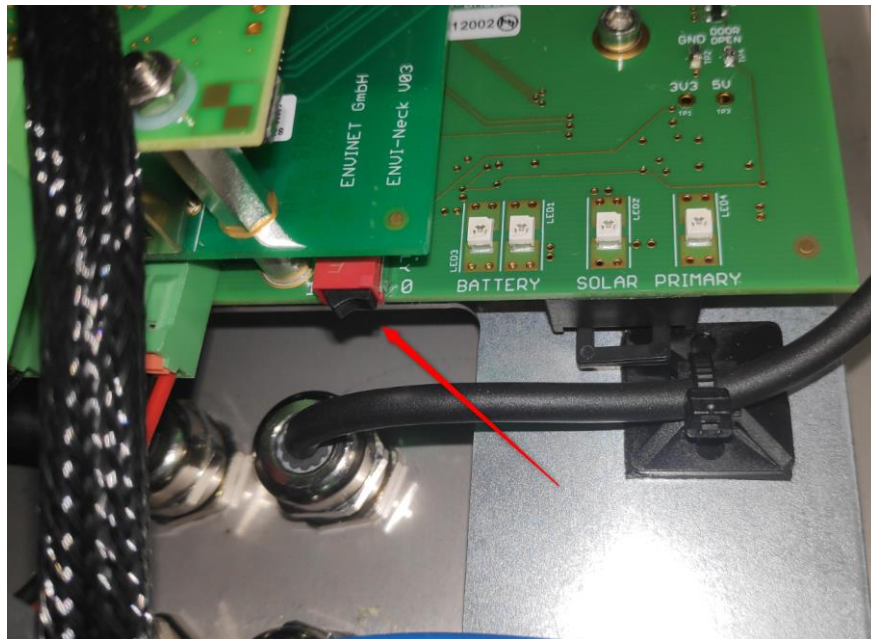
Now connect the external battery to the charge controller. There are two cables, one red, one black, coming for the board, which have to be connected to the battery. Be aware of the polarity!



2.11 Turn on solar charger

On the board in the electrical box is a micro switch with activates the solar charger. Please check, if this switch is turned on. In the picture the solar charger is off. In this case, please turn it on (to 1).

The battery LEDs should be on now, also the solar LED, if the panel gets enough sunlight. The LEDs are only on, if the electrical box is open. There is a door sensor mounted on the board. If there is not enough light in the box, the sensor indicates “door closed” and the LEDs get switched off. This can be checked with a flashlight.



2.12 Connect internal MIRA battery

The MIRAs are delivered with disconnected internal battery to prevent drainage. During installation the battery has to be connected again. This is done with the following steps:

- The lower black and the upper blue housing parts are connected with a bayonet lock. Turn both housing parts by 90° as shown in the picture.



- Now the blue cover can be removed entirely.
- Plug in the lateral disconnected cable on the battery pack to power the MIRA



- Now the blue cover can be placed back on the MIRA and locked
Attention: The blue cover has to be placed exactly the same way as it was before removal to ensure the bayonet lock closes correctly.

Instantly, the MIRA will start beeping and start the measurements.

3 End of Installation

Now the station is running and transferring the data to the NMC. Please lock the door of the electrical cabinet before leaving.