RMS light for DJI M3E & M4E
Quick Start Guide

I. What is the RMS light

The RMS light is a box with a Livoxtech MID-360 LiDAR sensor on top. The kit is meant to be mounted on a DJI M3E/M/T or M4E/T. The E-port of the drone is used to provide power to the LiDAR and the Raspberry Pi computer inside the box.

An Android smartphone with the Tinamu Inspect app installed is required to start and stop the recording of datasets. This guide steps you through mounting the RMS light on your drone and installing the Tinamu Inspect app on your smartphone. It also provides you guidance on how to get started to record datasets of high quality.

II. How to use the RMS light

Mount the RMS light on your drone

1. Remove the silicon covers (screw holes and E-port) from the top of the drone
2. Place the RMS light on top of the drone. Make sure to carefully match the E-port connection
3. Use the two knurled nuts to tighten the RMS light to the drone's top

Install the Tinamu Inspect App on your Android Smartphone

1. Scan the QR code on the bottom right of the page with the smartphone you want to install the app on
2. In case you get a warning about harmful downloads, hit the "Download anyway" button, if you received the manual from a Tinamu Team member
3. Once the download is done tap on the apk file to start the installation process

Record datasets with your RMS light

1. Power on the drone as usual. This also powers the RMS light
2. Place the phone in the corresponding holder on the remote controller
3. On your smartphone, go to Wi-Fi settings and connect to the *tinamu-mavic-lidar-xxx* network, password *tinamurms* (Note: it can take up to 2 minutes from powering the M3E until the Wi-Fi is visible)
4. In the message "Internet may not be available", click on "Always connect"
5. Start the Tinamu Inspect App, tap "Manual Recording", and follow the instructions
6. Review the next section for ensuring a smooth and reliable dataset collection

III.   Considerations about Flying with the RMS light

The capture area of the LiDAR has the shape shown in the illustration on the right.
Keep in mind that there is a blind spot in the center of the semi-sphere.

To achieve a successful scan, you need to follow these best practices:

1. Flying speed must be around **1.5- 2 m/s**
2. Flying **height** should be as high as possible (flying safely)
3. Flight pattern should be a zigzag
4. **Define a start recording location** in case of repetitive flights
5. Select an **open space** for initiating the scan
6. Start covering the **borders of the AOI** (critical part)
7. In case of boxes, fly **parallel and on top** of walls to avoid dead areas
8. In case of boxes, fly **without turning the drone** in the corners
9. **Avoid** flying **perpendicular to walls** to reduce the NO VISIBLE ZONES
10. **120 x 70 m** maximum cover area by each flight – start in the middle if possible
11. Try to fly smoothly and avoid quick speed / direction changes
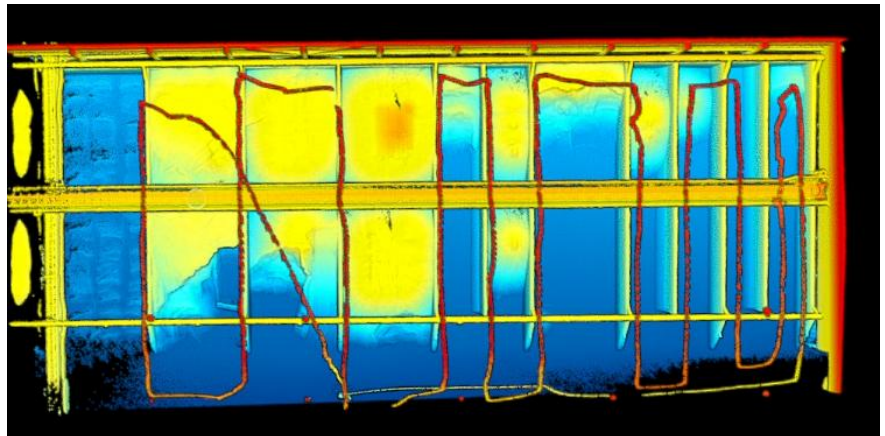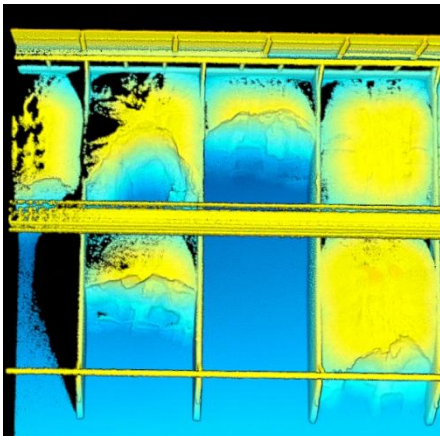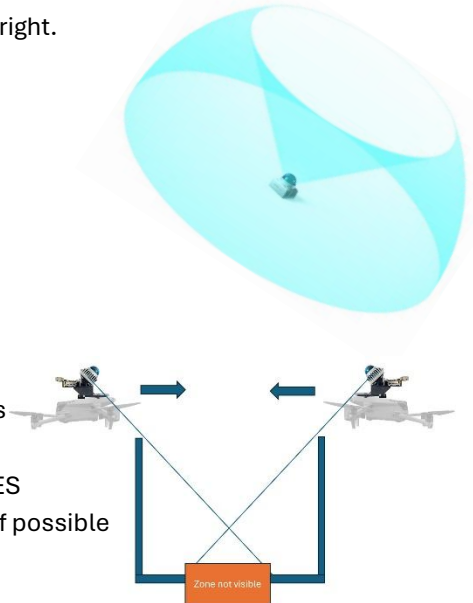
IV.   Support

In case of any issue / errors / crashes, please document the event with pictures and fill in the following TINAMU support form. We define the following groups of problems:

- **Issues:** Errors leading to inefficiencies / required additional work (e.g. flight repetition)
- **Incidents:** Errors leading to non-successful scans with required manual interventions
- **Hits:** Error leading to hits / small crashes w/o damaging components (potentially able to fly)
- **Crashes:** Drone crashed, and parts destroyed (replacement needed)

In case of any questions or need of support contact TINAMU customer service under support@tinamu.com