Lanternfish
User manual

1. Introduction

Lanternfish is a handheld instrument used to measure night sky brightness in MPSAS (magnitudes per square arcsecond).
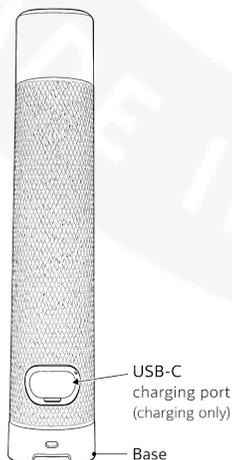
2. Key Features

- Sky brightness measurement (MPSAS)
- OLED display
- Single-button operation
- Wi-Fi connectivity with internal web interface
- Rechargeable battery via USB-C (charging only – no data transmission)
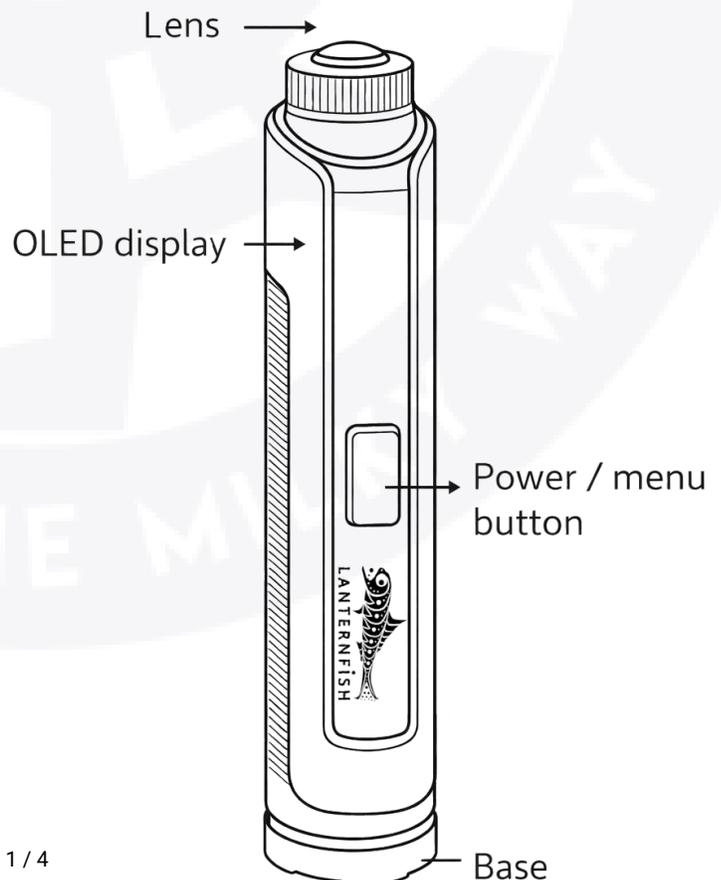- Automatic sleep / power off mode

3. Package Contents

- Lanternfish device
- USB-C charging-only cable
- User instruction sheet

Main external parts of the Lanternfish

4. Device overview

Lens

OLED display

Power / menu button

USB-C charging port (charging only)

Base

Base

5. Operating Instructions

The Lanternfish uses a single button with two types of operation:

Short press – a brief press and release. Used to open the menu and move between menu options.

Long press – press and hold for about 1 second or longer, then release. Used to enter a mode or power the device off.

5.1 Power On

Press and hold the button until the devices turns on (about 1 second).

After startup, Lanternfish automatically performs a short measurement sequence (Quick mode) and then powers off.

5.2 Main screen

During operation, the display shows:

- Sky brightness (MPSAS, a standard unit used to measure night sky darkness)
- Temperature
- Battery level (%)

Measurements are updated in real time.

All measurements are stored with date and time and can later be accessed through the Lanternfish internal web interface.

When taking measurements, point the device toward the sky and avoid blocking the sensor.

5.3 Menu

Use a **short press** to open the menu and move between options.

Use a **long press** to enter the selected mode. The menu contains three modes:

- **Period** – performs repeated measurements at regular intervals
- **Remote** – enables remote operation via Wi-Fi
- **Quick** – performs a short measurement sequence and then automatically powers off

5.4 Powering off

Use a long press to turn the device off from any operating mode.

The device must be powered off and turned on again to return to the main menu from any operating mode other than quick.

6. Charging

Lanternfish is powered by an internal rechargeable battery.

To charge the device, connect a USB-C cable to a standard 5 V USB power source.

The USB-C port is for charging only and does not support data communication.

7. Safety Instructions

- Do not expose the device to water or excessive humidity.
- Do not open or attempt to modify the device.
- Use only standard 5 V USB power sources for charging.
- Do not use the device if the enclosure is damaged.
- Keep the device away from extreme temperatures.
- This device contains a rechargeable battery. Do not dispose of it in fire.

8. Battery Safety

- Contains a rechargeable lithium battery.
- Do not expose to heat, flame, or direct sunlight.
- Do not puncture, crush, or disassemble.
- Dispose according to local regulations.

9. Technical Specifications

- Measurement unit: MPSAS (magnitudes per square arcsecond)
- Display: OLED
- Power supply: Internal rechargeable Li-ion battery
- Charging: USB-C, 5 V
- Wireless connectivity: 2.4 GHz Wi-Fi
- Operating temperature: 0 °C to +40 °C

- Storage temperature: –10 °C to +50 °C

10. Compliance & Certifications

This product complies with the essential requirements and other relevant provisions of the EU Radio Equipment Directive (2014/53/EU).

11. Maintenance

- Clean the sensor window with a soft cloth.
- Do not use solvents.
- Store in a dry place.

12. Disposal

This product must not be disposed of with household waste. Dispose of it through appropriate electronic waste collection channels.

13. Online Manual

For detailed instructions, Wi-Fi setup and advanced features, scan the QR code to access the full online manual.

14. Manufacturer / Responsible company

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