

Master the basics of your DWARF 3 telescope, including setup, accessory installation, and charging.

Note:

- Ensure your phone/tablet supports **Bluetooth 4.0** and **WiFi 5GHz**, and turn off VPN.
- First-time activation and firmware updates require an internet connection. Using your phone is recommended.

1. Unboxing & Quick View

Unbox your DWARF 3 telescope and familiarize yourself with its components.



What's included:

- DWARF 3 Smart Telescope x1
- Carrying Bag x 1

- Magnetic Solar Filters x 1
- Pouch for Solar Filters x 1
- USB-C Cable x 1
- Wipe Cloth x 1
- Built-in eMMC Storage: 128 GB (Embedded MultiMediaCard)
- Built-in Battery: 10,000 mAh (with external USB Charging Support)

Three Built-in Filters:

- **VIS Filter**
 - Spectral Range: 430–650 nm
 - Suitable for everyday photography.
- **Astro Filter**
 - Spectral Range: 430–690 nm
 - Ideal for astrophotography and low-light imaging.
- **Duo-band Filter**
 - Specifically designed to pass two specific wavelengths:
 - **H α (656.3 nm)**
 - **OIII (500.7 nm)**
 - Reduces moonlight and urban light pollution, making it perfect for capturing emission nebulae. Bandwidth (FWHM)
 - **OIII:** $\sim 30 \pm 3$ nm
 - **H α :** $\sim 15 \pm 3$ nm

Other Technical Specifications:

- Aperture Diameter: 35 mm (Tele) / 3.4 mm (Wide)
- Focal Length: 150 mm (Tele) / 6.7 mm (Wide) *Wide is a fixed lens, no focus function
- Equivalent Focal Length: 737 (Tele) / 45 mm (Wide)
- Sensor: SONY IMX678 - STARVIS 2
- Neural Processing Unit (NPU): 5
- Telephoto Video: 4K @ 30fps / 1080p @ 60fps
- Telephoto Picture: 3840 x 2160
- Wide-Angle Video: 1080p @ 30fps
- Wide-Angle Photo: 1920 x 1080
- Max Exposure Time: *currently 60 seconds in EQ Mode

Note: Future updates will add additional options for exposure times.

2. Power On/Off

- **Power On:** Short press the power button. You may need to plug in and charge up device.



- **Download and Install the DWARFLAB App**
 1. Before opening & use your App, ensure you have turned **off** any VPN connections, and verify your Bluetooth/GPS is turned on.



App Store

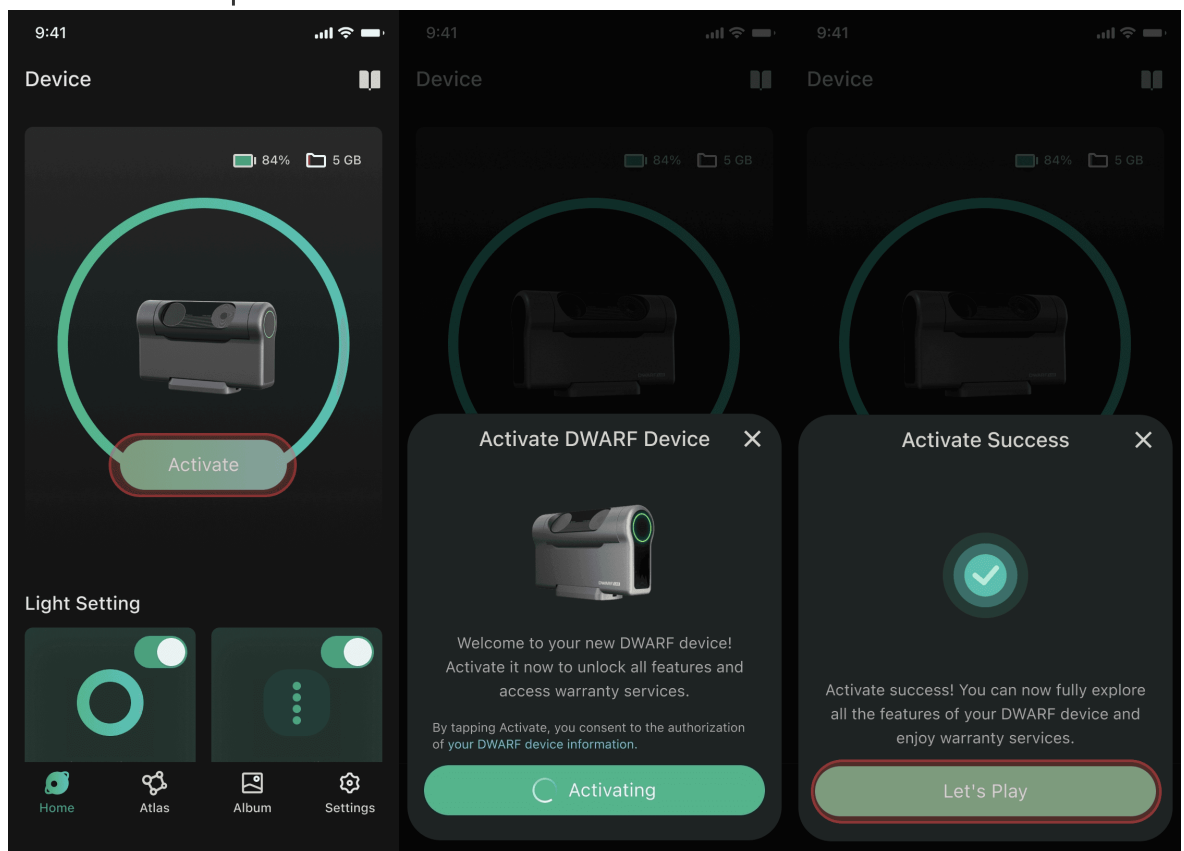


Google Play



From dwarflab.com

2. It is preferred you use a phone with mobile data on to complete the “Activation” process.



Notes:

- If you are on a tablet with **no** mobile data but only wifi internet, there will be an extra step to connect: Go to **Settings- Connection Settings-Enable STA Mode**. Then connect to your DWARF, then tap the activate button to proceed with activation as mentioned above.
- If you encounter activation failure, refer to [Trouble Shooting Guide For DWARF 3 Users](#) (2. Activation Failure)

- **Power Off:** Long press the power button.



3. Lens Movement

The DWARF 3 lens can rotate **340° horizontally** and **240° vertically**.

Note: If the lens is flipped to face the **backside** of the device, the captured image may appear **upside down**.

- Move the lens manually or control it via the DWARFLAB App.



4. Solar Filter Installation

- Always use solar filters when imaging the sun.



5. Tripod Installation

- DWARF 3 is compatible with any tripod that has a standard **1/4"-20UNC thread**, which is common for most camera tripods.



6. Battery and Charging

6.1 Charging Equipment & Interface

- Use a **USB-C to USB-C charger** supporting **PD2.0/PD3.0 fast charging** (12V/1.5A, 18W).

6.2 Charging Power

- **Fast Charging:** USB-C to USB-C cable (9V/12V).
 - Battery indicator flashes quickly, and a fast charge symbol appears in the app.
- **Slow Charging:** USB-A to USB-C cable (5V).
 - Battery indicator flashes slowly, and a slow charge symbol appears in the app.

6.3 Operating Environment

- Charge in temperatures between **0°C and 45°C** (recommended operating range).

6.4 Charging & Usage Time

- **Standby Mode:** 15h 50min.

- **Connected to App (Preview Mode):** 6h 42min.
- **Time-Lapse Mode (Wide-Angle):** 6h 17min.
- **Astro Mode (Telephoto Tracking):** 5h 38min.
- **Tracking Video Mode (4K Recording):** 3h 5min.

6.5 Battery Lifespan

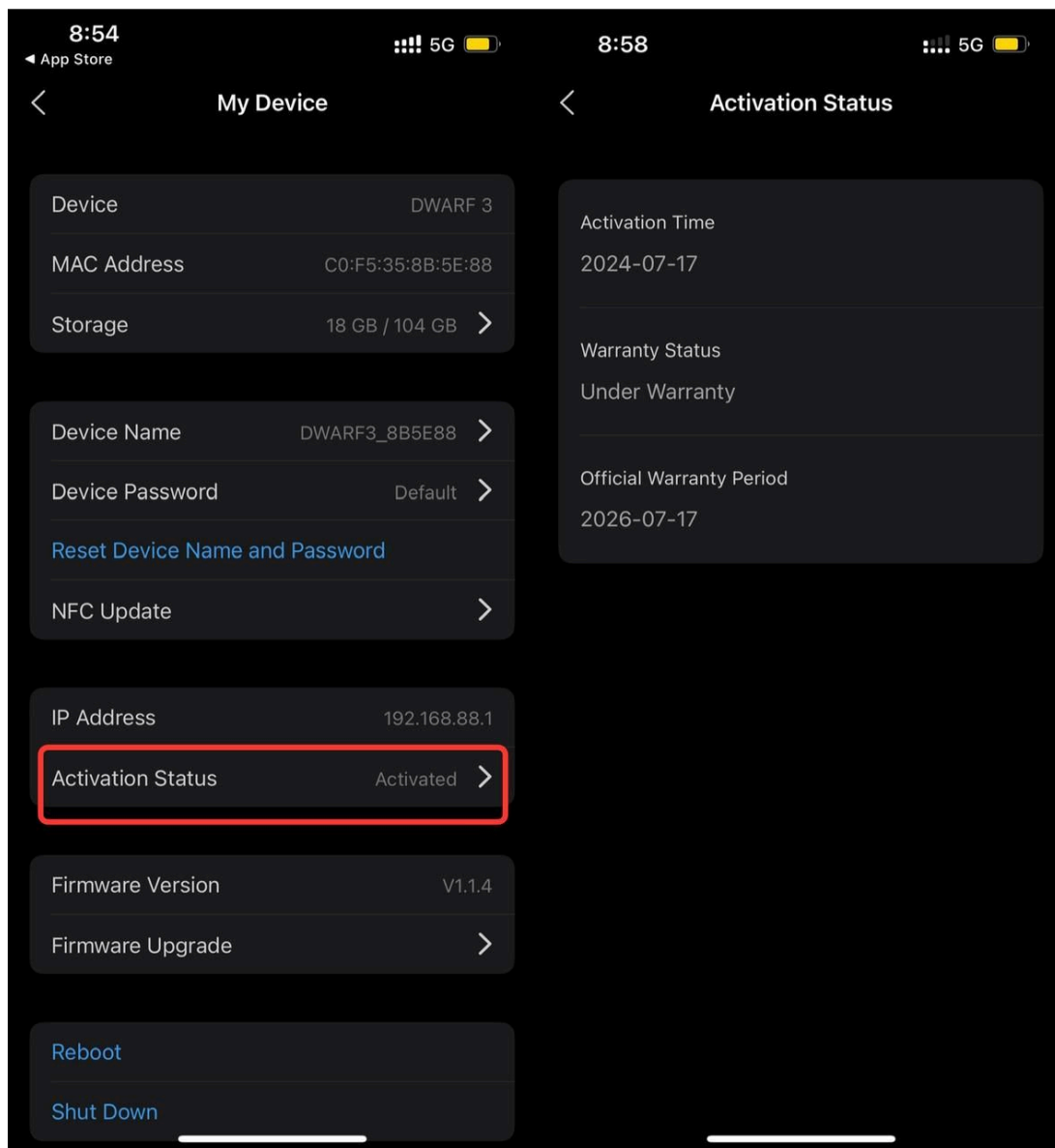
- The battery retains **80% capacity after 4 years** of regular use (fully charged/discharged **twice** a week).
- **Warranty:** 2 years.

6.6 Special Features

- Supports simultaneous use while charging.
- Can be charged with a power bank.

7. Warranty & Support

- **Warranty:** 2 years for non-human-induced quality issues.
- Activate your DWARF 3 on first use to enable warranty services.
- Check warranty status via the DWARFLAB app: **Settings > My Device > Activation Status**.



- For support, contact: support@dwarflab.com.