



SAFEAIR

Mavic 3 Parachute Manual
RC Version



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Important Notice

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Congratulations on your purchase of the SafeAir Mavic 3 Safety System!

This manual explains how the SafeAir Mavic 3 system works and how to properly operate the system on the ground and in the air. Be sure to take the time to read this manual carefully in order to increase your safety and the safety of those around you.

The SafeAir Mavic 3 system is a smart-parachute system that deploys autonomously after detecting a critical failure in your drone. The parachute slows the descent rate of your drone and reduces the kinetic energy upon impact.

Note – Using the SafeAir Mavic 3 System does not eliminate all risk of drone operation. Please fly responsibly and in accordance with the rules and regulations defined by authorities in the area where you are operating.

Visit the ParaZero website (www.parazero.com/support) on a regular basis for the latest information and updates.

General

ParaZero's SafeAir Mavic 3 is a low altitude, autonomous parachute-based safety system.

The SafeAir Mavic 3 System Kit is compatible with the Mavic 3 series.

The average measured descent rate of the Mavic with an open parachute is **3.9** meters per second (**12.8** feet per second).

The Minimum Flight Altitude is **19.11** meters (**62.7** feet).

Main Features

- Unique parachute deployment system that opens in a fraction of a second, even at zero speed.
- Autonomous emergency identification and activation capabilities.
- Electro-mechanic flight termination system.
- Audio-warning buzzer to alert bystanders of the falling drone.
- Remote control manual triggering capabilities.
- Access data logs via the desktop application.

Safety Instructions

The ParaZero SafeAir Mavic 3 is a drone safety system, designed to deploy instantaneously by using a powerful spring-based mechanism.

Be careful not to lean against, press or drop the system.

It is imperative to perform system updates on a regular basis through the desktop application. **The current version number is found on the product webpage: www.parazero.com/support under the software tab. A new device must be updated before first flight.**

Warning



Do not move the drone or system while the system is armed (green LED).

An angle breach may cause the system to deploy. The parachute and cover will be projected at high speed and may cause injuries.

Turn the system off immediately after landing.

Caution



The SafeAir Mavic 3 System is not intended for use in **Sport mode**.

The **CSC function** (Combination Stick Command) is not supported to instigate parachute deployment.

SafeAir System Package Content

- A. SafeAir Mavic 3 System and connected safety catch
- B. Safety insert
- C. Placement stamp x 2



- D. USB-C cable
- E. Alcohol pad



RC System Package Content

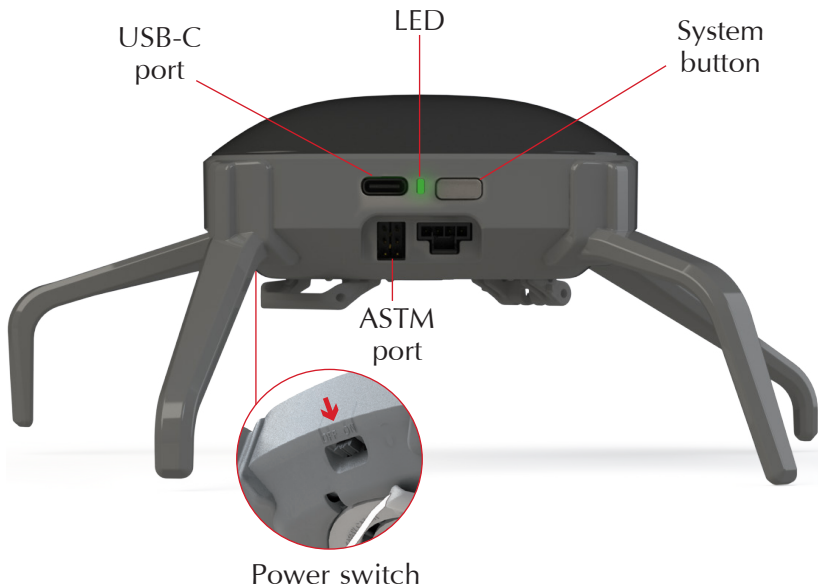


1. Remote controller



2. DANGER stickers

SafeAir System Ports & Switches



RC 2.0 System Ports and Switches



Installation **Step 1**

Before you start the installation, make sure to update your device using the desktop application. Place the drone with the battery facing towards you and unfold its arms



Caution



Follow installation instructions carefully. Systems that are not installed correctly may interfere with the spinning rotors.

Installation **Step 2**

Clean the upper surface of the drone, where the sticker should be placed using the alcohol pad. Remove adhesive backing and hold stamp to prepare placement.



Take the placement stamp and align the stamp's notch with the middle fin on the rear grate of the Mavic 3 (see photo).



Installation Step 3

Slide the placement stamp along the surface of the rear grate, pointed at an upward angle, being careful not to let the adhesive surface touch anything at this point.

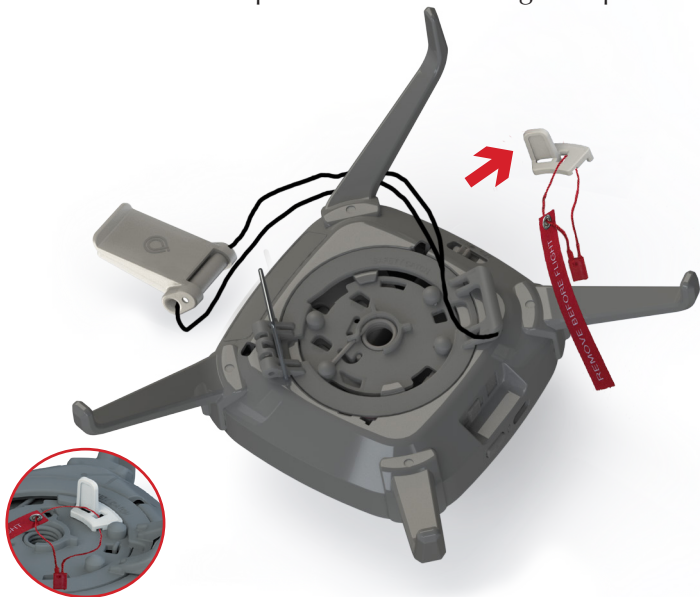
Continue sliding until you reach the end. This is the final attachment point.

Press firmly down on the adhesive stamp from all surface area, being careful to create a strong bond.



Installation Step 4

Remove the safety catch from the bottom of the system and store it in a safe place for reuse during transport



Installation Step 5

Place the harness cord under the center of the drone with the SafeAir Mavic 3 System placed upside-down to the left of the drone, while the string holder is adjacent to the drone



Installation Step 6

Slide the metal hook away from the base and place the SafeAir Mavic 3 System by matching the three plugs at the bottom of the system inside the corresponding sockets of the placement stamp, (See close-up on the next page)



Installation Step 7

Match plugs to sockets. Make sure both strings come out parallel from the left side after placing the system, and not caught by the placement



Installation Step 8

Hang the harness on the metal hook and lock the handle upwards, watch your fingers while doing so



Installation Step 9

Position the string at the bottom part of the drone as shown in the illustration to avoid sensor interference



Installation **Step 10**

Gently wiggle the system to confirm that it is securely in place.

If the harness cord is not tight enough, repeat the last step while placing the harness in a higher position.

Caution Overtightening the harness cord might harm the system.



Caution Do not lift the drone from the SafeAir System as this may cause the system to deploy unintentionally.



Installation **Step 11**

Place the DANGER sticker in the orientation shown below, so that it covers the ParaZero logo. Verify that the rotors can rotate freely



System Operation Step 1



Verify that the batteries are charged before each flight. To charge the SafeAir's battery, use the USB-C port. The minimum charging time before first flight is one hour.

Caution



Batteries that are not fully charged may not be able to operate towards the end of a long flight. If the LED turns orange when powering up the system, charge the system for at least 30 minutes before take - off.

System Operation **Step 2**

Before first use, charge the RC using the provided USB cable for at least one hour.

Monitor main screen's messages to verify proper operation of the RC and SafeAir systems.

Warning



1. The control keys are intended for advanced users.
2. The default SafeAir triggering mode is auto detection and triggering.

Warning



When the RC is turned off or there is no link between the RC and the receiver, manual triggering is not available.

Caution



Charge the RC while it is turned off.

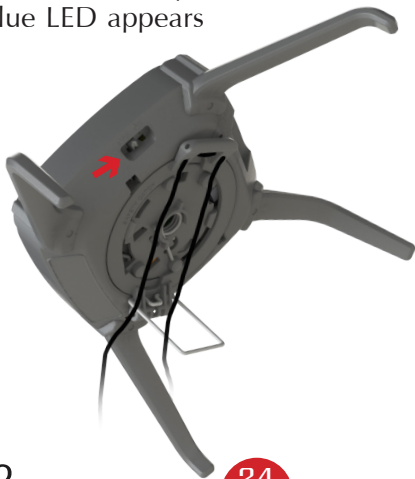
System Operation Step 3

Prior to takeoff, verify that the system is placed firmly in the center of the drone and that the drone's propellers can spin freely without touching the system



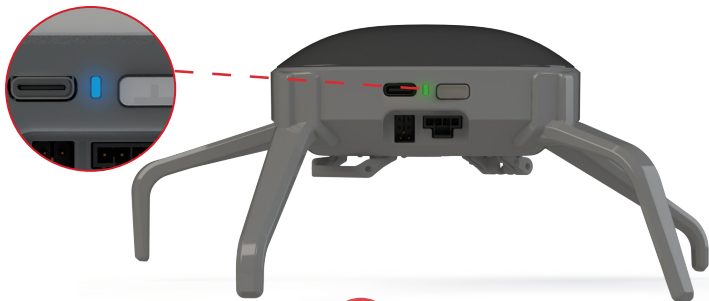
System Operation Step 4

To activate the system, verify that the system is on a level surface and turn the power switch to the ON position. If it is already ON, turn it OFF and then ON again. A starting sequence initiates, and the LED turns green and then yellow for about 20 seconds. Turn the RC ON. If the yellow LED flashes twice, then the system is not on a level surface. After the system is on and ready in Standby mode, a blue LED appears



System Operation Step 5

The system is now ready for flight. After first installation and when required, perform Mavic compass calibration. RC link verification - press the RC trigger switch and verify that the system LED blinks in yellow and/ or blue. When releasing the button make sure it returns to solid blue. Since the SafeAir is not armed, the parachute will not deploy. The system autonomously armed, detects take off (~3m above takeoff level), and switches to Armed mode. Once it's armed, a single beep will sound and the LED turns green. Note: Systems that are configured for manual RC triggering will not switch to Standby/ Armed mode unless an RC receiver is properly configured



System Operation **Step 6**

After landing, the system autonomously disarms, the LED turns blue a few seconds after rotors stop and two beeps will sound.

Turn off the rotors and switch the SafeAir's power switch to the OFF position before moving the drone.

Warning



As a precaution, always turn the system off before moving it. Failure to do so could initiate system deployment.

Inspect your system. Verify that the system is not damaged and that the rotor stoppers are intact.

Deployment

The SafeAir Mavic 3 includes an Autonomous Triggering System (ATS) that identifies most of the known critical failures and triggers the system autonomously. Should an emergency situation occur, the system deploys the parachute and stops the rotors. The system deploys the parachute, stops the rotors and sounds an audio-warning buzzer to alert bystanders of the falling drone.

In addition to the ATS, the SafeAir system may also be triggered manually by the RC signal. In order to manually trigger the system, press and hold the RC Trigger switch until the SafeAir system deploys.

The system can only deploy when it is in Armed mode (green LED). Following a deployment, the LED turns red. To switch to Standby mode, reset the system by turning the power switch OFF and then ON again. The LED should turn blue after approximately 20 seconds.

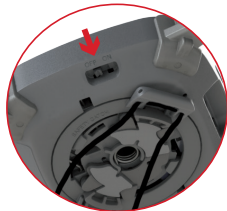
Repacking

Caution For professional SafeAir Mavic 3 Systems that comply with ASTM F3322-18 and are intended for flight over people, parachutes must be packed and repacked by ParaZero (or by an entity that has been certified by ParaZero).



After the system has deployed, make sure to turn the power switch to the OFF position. Contact us at support@parazero.com for the deployment analysis and repack procedures.

Important – The SafeAir Mavic 3 System withstands significant force during deployment. Systems that have been deployed five times must not be repacked and reused, and should be replaced.



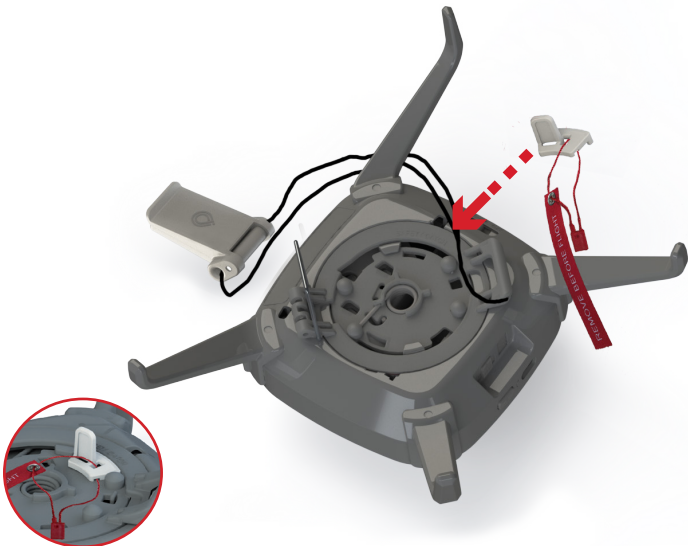
System Removal Step 1

Unlock the harness by lowering the handle and unhook the harness from the metal hook













System Removal Step 2


Remove the system from the drone. Insert the safety catch and store the system in a dry and clean place for reuse



SafeAir System Status and Troubleshooting

	LED	System Status	Corrective Action	
1	Green	Power up		 5 sec
2	Orange	Power up	Should charge battery	 5 sec
3	Red	Power up	Low battery, must charge battery	 5 sec
4	Steady Yellow	System initialization sequence		
5	Blue	Standby mode		
6	Steady Green	Armed mode		
7	Steady Red	System has deployed	Turn the power switch to the OFF position and follow the repacking instructions	
8	Flashing Red	Low battery	A one-hour charge gives an hour of flight time. (The red flashing LED may be accompanied by other colors)	
9	Flashing Yellow once	Remote Control (RC) error	Make sure the RC cable is connected to the predefined RC channel	
10	Flashing Yellow 2 times	System not level during initiation sequence	Ensure that the system is level	 twice

SafeAir System Status and Troubleshooting

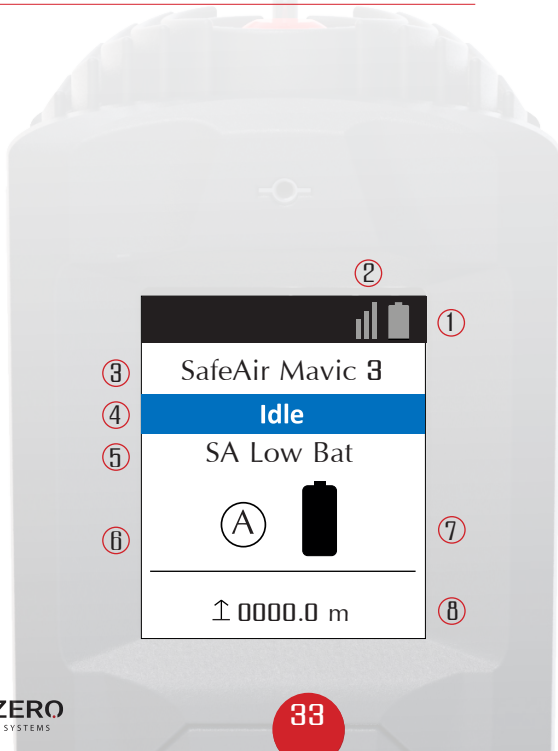
	LED	System Status	Corrective Action	
11	Flashing Yellow 3 times	Onboard storage error	Erase onboard storage using the ParaZero Desktop Application	 3 times

Other Specifications










Service Life (before repack required)	1 year
Maximum Altitude Above Sea Level	6000 meters (19,700 feet)
Maximum Speed	72 kilometers per hour (43.5 miles per hour)
Maximum Wind Speed	10 meters per second (19.5 knots)
Weight	185 grams (0.4 lbs.)
Average Descent Rate	3.9 meters per second (12.8 fps)
Minimum Flight Altitude	19.11 meters (62.7 feet)
Average Expected Kinetic Energy	8.2 Joules (6.1 foot-pounds)

Normal operating temperature range is 0°C - 40°C. When the system is fully charged and kept above 15°C, flight is permissible at temperatures as low as -10°C.






RC System Main Screen Messages










RC System Main Screen Messages

	Category	Icon/Label	Label Buzzer	Meaning
①	RC battery level			RC is charging
				Battery is at 80-100%
				Battery is at 60-80%
			Short beep every 20 seconds	Battery is at 20-60%
				Battery is critically low 0-20%
②	RC Signal strength			Signal is at 75-100%
				Signal is at 50-75%
			3 long beeps every 5 seconds	Signal is at 1-50%
			3 short beeps every 5 seconds	No signal
③	Paired SafeAir system	SafeAir Mavic 3 SafeAir Phantom SafeAir System Tail number		Indicates which system is paired to the RC. It's possible to assign the tail number for the SafeAir system via the desktop application.

RC System Main Screen Messages

	Category	Icon/Label	Label Buzzer	Meaning
4	SafeAir State		Short beep at power up, 2 short beeps when entering idle entering idle	Systems is in Idle state, ready to operate
			Long beep when system enters arm state	System is armed and monitoring flight
			Chirp sound for 5	System was deployed due to freefall detection
			Chirp sound for 5 seconds	System was deployed due to critical angle breach
			Chirp sound for 5 seconds	System was deployed manually
5	SafeAir/ RC messages	SA Pyro Error		System detected an issue with the parachute
		SA Orientation		System is not level
		SA Critical Bat		SafeAir battery is critically low
		SA Low Bat		SafeAir battery is low
		SA Flash Error		SafeAir flash storage error detected
		RC Low Bat		RC battery is low

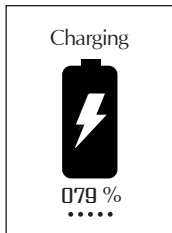
RC System Main Screen Messages

	Category	Icon/Label	Label Buzzer	Meaning
6	SafeAir Triggering Mode			Auto detection and triggering
				Manual triggering only
7	SafeAir battery level			Battery is at 80-100%
				Battery is at 60-80%
				Battery is at 20-60%
				Battery is critically low 0-20%
				System is connected to a power source
8	Current SafeAir Altitude	0000.0 m		The current altitude relative to the takeoff point. The display only updates when the system is armed. Refresh interval may vary

RC System Charging Instruction

Turn the power switch off and plug the RC to a charger via the USB C cable. The main screen shows the charging status. The percentage updates every few minutes.

The following indication means low power. Charge the RC when this indication shows.



RC System Specifications

Range	1 km or line of sight
Battery capacity	1.5 hours
RC frequency	888MHz and 915MHz, depending on region

CE and FCC Compliance information

FCC Compliance Notice

This device 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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The FCC Compliance Statement is available online at parazero.com/FCC-compliance.

EU Compliance Statement

The EU Declaration of Conformity is available online at parazero.com/EU-compliance.