

4 Symbols

Symbols that may appear on the product are listed below. Read and understand their meanings for better and safer operation of the product.

Symbol	Name	Description
V	Volt	Voltage
A	Ampere	Current
Hz	Hertz	Frequency
W	Watt	Power
min	Minute	Time
---	Direct current	Type or characteristic of current
Km/h	Kilometers per hour	Driving speed of the mower
	Safety alert	Indicates a potential personal injury hazard.
	Wet condition alert	Do not use the mower in rain or in wet conditions.
	Read user manual	To reduce the risk of injury, users must read and understand the user manual before using the product.
	Eye protection	Always wear protective eyewear or protective eyewear with side shields.
	Keep hands and feet away	Stay clear of the area under the cutting deck.
	Steep slope hazard	Do not mow on slopes of greater than 20°.
	Keep distance	Keep a distance of at least 100 feet from all bystanders.

Symbol	Name	Description
	Thrown objects	Stay away from the mower when it is running, as objects could be thrown by the blades in any direction.
	Keep bystanders away	Do not mow when people are around.
	Mower body warning	Do not ride or place any objects on the mower.
	Electric shock hazard	Switch off the power supply before working on the mower.
	Do not step	Do not step.
	Maintain safety devices	Do not open or remove safety shields while the mower is running.
	Pinch points	Moving
	Mind your hands	Mind your hands.

5 Product Introduction

5.1 Specifications

Weight	Weight (with 2 batteries)	170 kg (375 lbs)
Size without charging pile	Length	1330 mm (52 inches)
	Height	1012 mm (40 inches)
	Width	857 mm (34 inches)
Cutting deck	Number of blades	1
	Deck size	635 mm (25 inches)
	Cutting height	20~127 mm (0.8~5 inches)
Performance	Gradeability	≤20°
	Driving speed	0~6 km/h (0~3.7 mph)
	Battery voltage	48 V DC
	Battery capacity	4 kWh
	Battery life	5 h
	Max. mowing area per 3 days	90000 m ² (22 Acres)
	Max. mowing area per charge	13000 m ² (3.2 Acres)
	Water protection rating	IPX4
Smart driving	Automatic path planning	Yes
	Operation modes	Remote control
		Automatic

5.2 Mower Overview

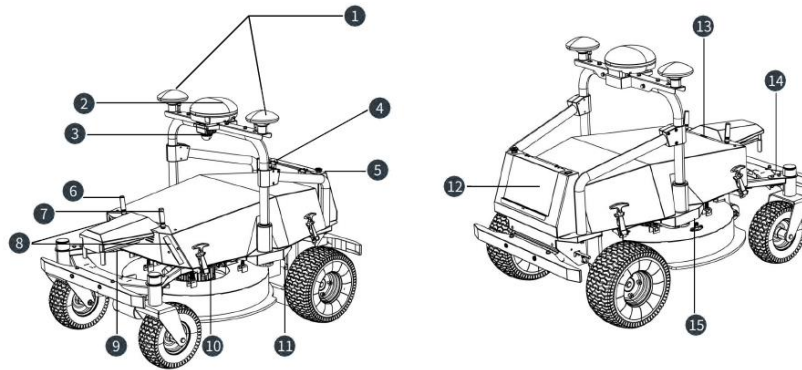


Figure2 Mower overview

Main components

No.	Name	No.	Name
1	GNSS antenna	9	Charging port
2	INS assembly	10	Blade motor
3	LiDAR	11	Drive motor
4	Power button	12	Control terminal
5	Emergency stop button	13	Raindrop sensor
6	Radio antenna	14	Bumper
7	Wi-Fi antenna	15	Deck height adjuster
8	Headlights		

5.3 Headlights

The headlights are located on the front of the mower. Tap on the display or use the remote controller to turn on/off the headlights. 🚗

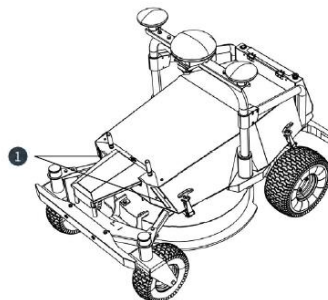


Figure3 Headlights

5.4 Anti-scalp wheel

The anti-scalp wheel ❶ comes standard on FJDynamics mowers. It is designed to minimize scalping when mowing on rough and uneven terrain.

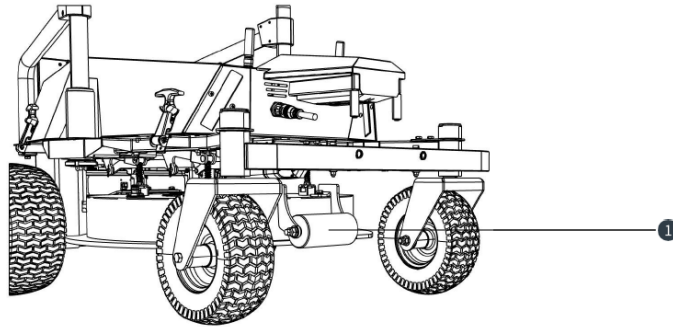


Figure4 Anti-scalp wheel

5.5 Manual Release of Electromagnetic Brakes

When a power failure occurs or the batteries are depleted, you can release the electromagnetic brakes of the drive motors manually so that you can push the mower out of the operation area. While the mower is running, ensure that the electromagnetic brakes are engaged.

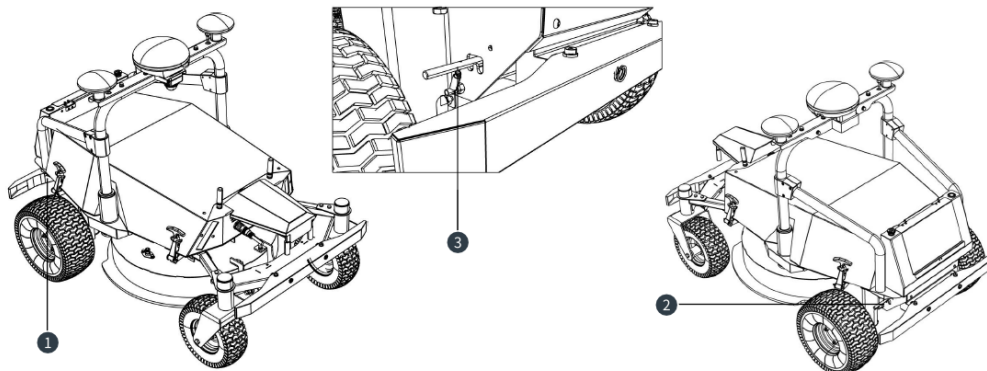


Figure5 Manual release levers of brakes

No.	Name
1	Lever to manually release the electromagnetic brake of the right drive motor
2	Lever to manually release the electromagnetic brake of the left drive motor
3	Lever to manually release the brake

Switch the lever to the other position to release the electromagnetic brake of the drive motor, and switch it back to engage the brake.



Note: After maintenance, return the electromagnetic brakes to the engaged state.



WARNING

Do not operate the mower when the electromagnetic brakes are released. Ensure that the electromagnetic brakes are engaged before operation. Failure to do so could cause serious damage to the mower and void the warranty.

6 Assembly

6.1 Packing List

The actual packing list may vary.

No.	Name	Qty.	Remarks
1	FJD RM21 Autonomous Mower	1	
2	Charging pile	1	
3	Base plate of charging pile	1	
4	Controller assembly-Wi-Fi supported	1	
5	Tool kit	1	
6	Hook wrench 68-80	1	In the tool kit
7	Hex wrench 5 mm	1	In the tool kit
8	Open-end wrench 6×7	1	In the tool kit
9	Hex wrench 4 mm	1	In the tool kit
10	Open-end wrench 13×16	2	In the tool kit
11	L-type socket wrench 24 mm	1	
12	Certification	1	
13	Warranty card	1	

6.2 Installing the Batteries

1. Disconnect the cables from the four ports of RTK, 4G antenna bracket on both sides.

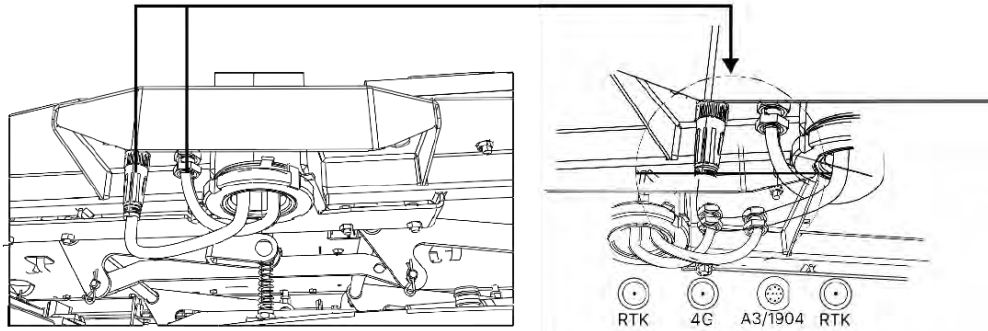


Figure6 Disconnect cables from ports

2. Loosen the retaining ring with the hook wrench.

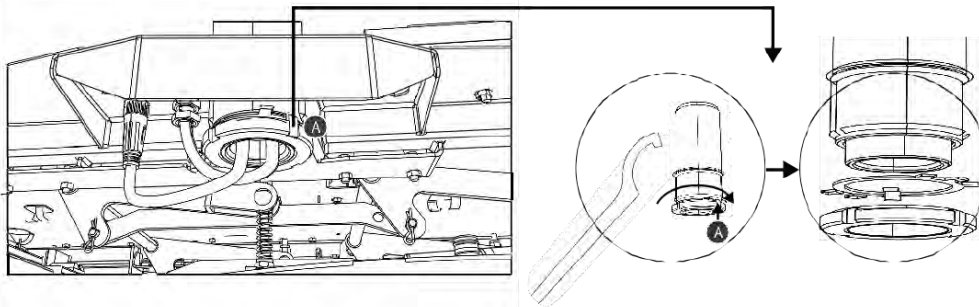


Figure7 Loosen the retaining ring

3. Remove the screws ❶ from both sides of the shell and remove the bolts ❷ from the bottom of the antenna bracket.

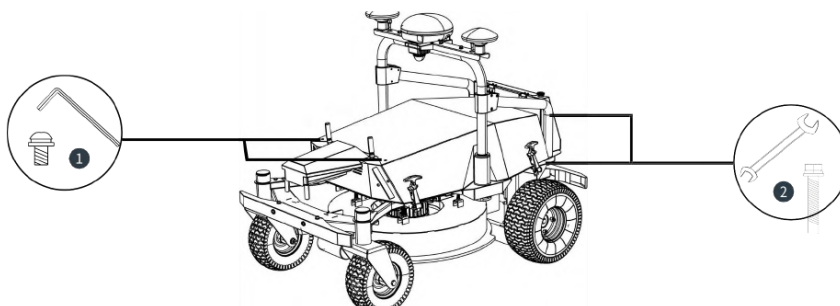


Figure8 Remove the screws and bolts

4. Pull out the antenna bracket.

Note: Put aside the antenna bracket carefully to avoid any damage to devices.

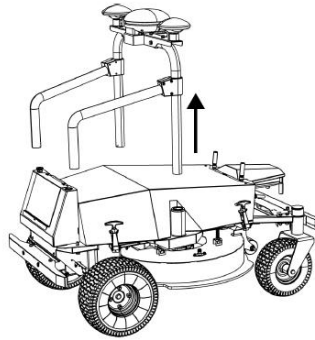


Figure9 Remove the antenna bracket

5. Open the four buckles on both sides of the shell and remove the shell.

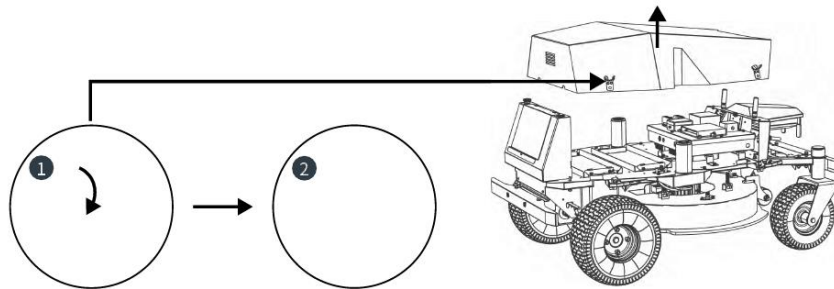


Figure10 Remove

6. Put in the batteries, tie the elastic strap, and connect the cables.

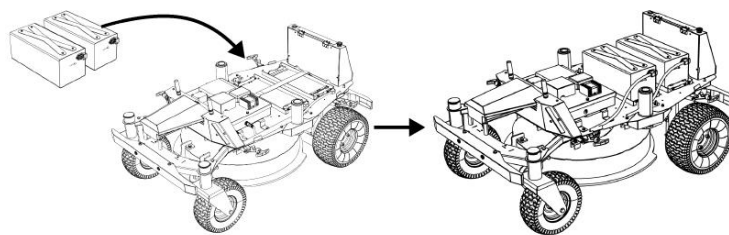


Figure11 Put in the batteries

7. Ensure that the connections are firm before installing the shell.

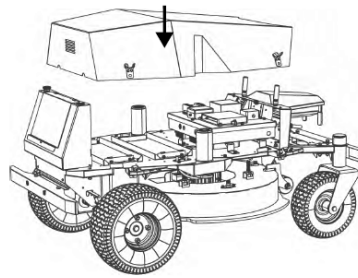


Figure12 Put back the shell

8. Install the antenna bracket, tighten the antenna bracket bolts and shell screws, and then close the buckles.

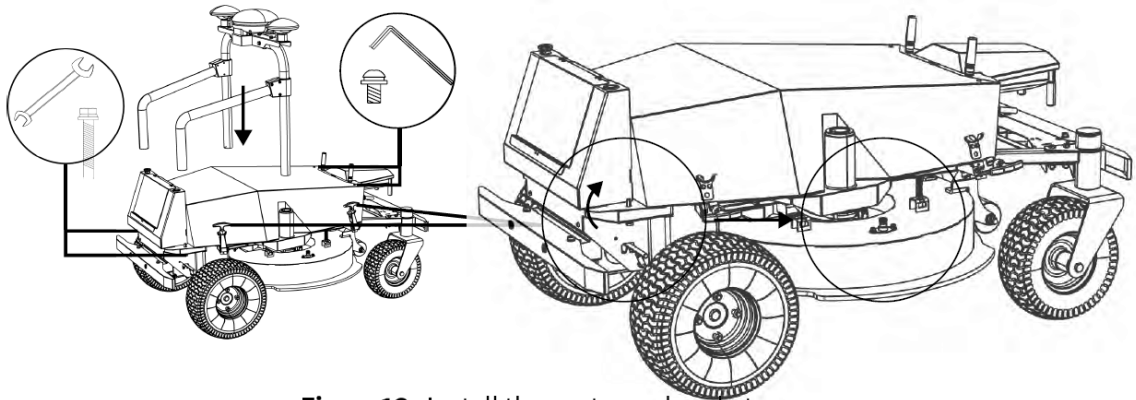


Figure13 Install the antenna bracket

9. Install the retaining rings and gaskets onto both sides of cables to the ports.

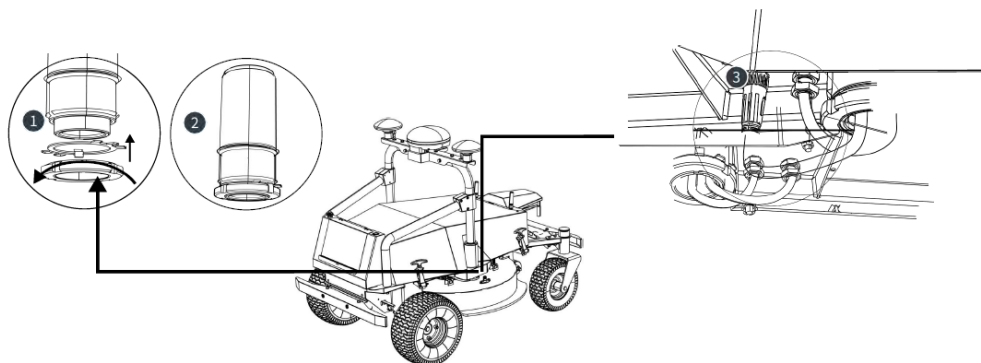


Figure14 Fix the bracket and connect the cables

6.3 Installing the Charging Pile

- Place the charging pile on level ground. Avoid uneven terrain and slopes.
- Ensure that there are no obstacles in the charging pile.

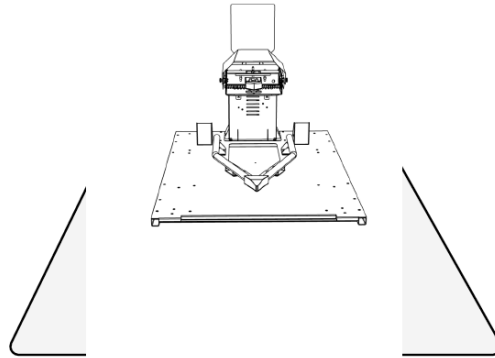


Figure15 Select the installation position

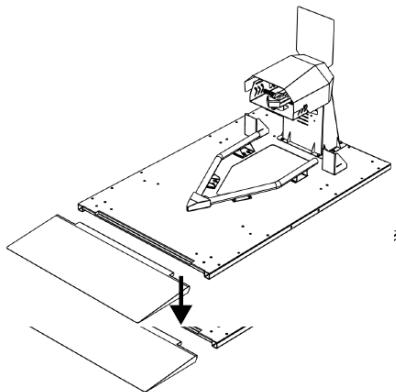


Figure16 Assemble the base plate

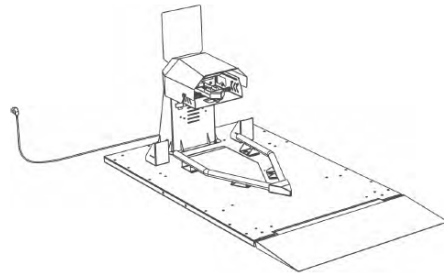


Figure17 Plug in the power

7 Operation

7.1 Safety Instruction



Understand proper use of the mower and read this manual before any operations. Start with slow maneuvers to familiarize yourself with the mower operations before working at the normal speed.



Approach depressions or raised obstacles at a slow speed. Keep the blade sharp and ensure that spare blades are available for replacement. Dull blades and blades improperly sharpened may lead to various problems. For details about blade sharpening, see section 11.4 "Blade Maintenance". Check blade sharpness on a regular basis.



Power off the mower before working under it. Turn off the blade switch on the screen, and press the power button to turn off the mower. Ensure that the indicator is off. Wear gloves when handling the blade. Always check for blade damage if the mower hits a rock, a twig, or other foreign objects during an operation.

- **Cooling down the motors**

The motors slow down when its temperature exceeds the overheat protection threshold. When this occurs, wait for 30 to 60 minutes until the motors cool down. If the motor temperature continues increasing, the drive will forcibly stop the motors.

7.2 First Start

1. Press the power button and wait for the system to start.
2. Select the language when starting the system for the first time, and then tap Next.

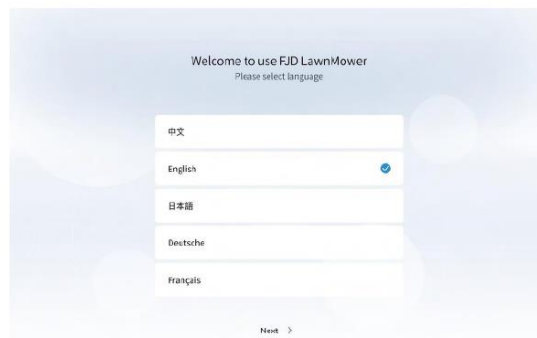


Figure18 Select the language

3. Select the Wi-Fi network, enter the password, and wait until the network is connected. Tap Skip to access the registration/login screen.

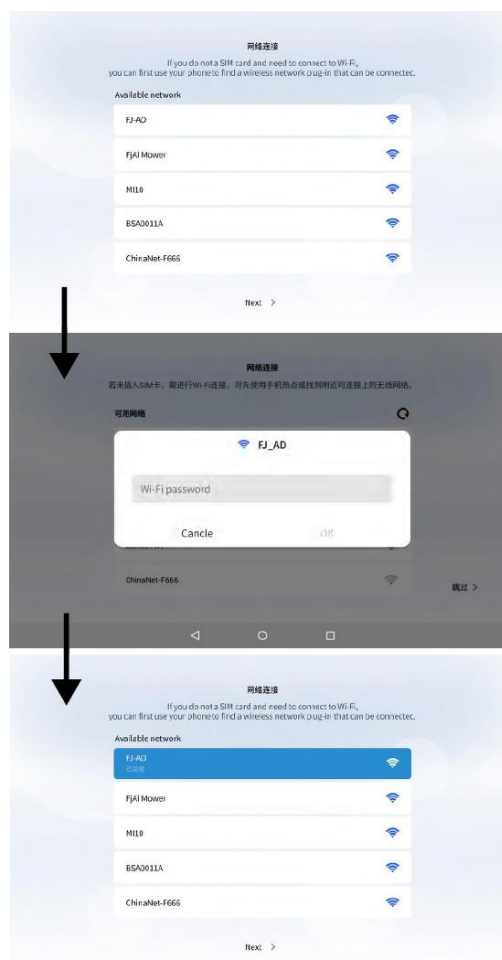


Figure20 Connect to the network

7.37.3 Login and Registration

Login

Registered users can enter the username (email address or phone number) and the password or verification code to log in.

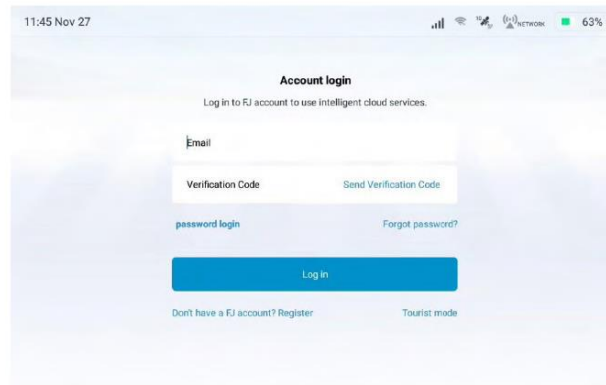


Figure21 Login with the verification code

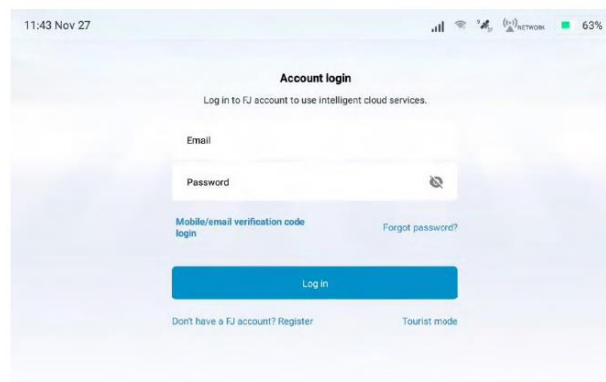


Figure22 Login with the password

Registration

New users need to register with the system. Tap Don't have an account? Register to access the registration screen. Then, enter the email address/phone number, verification code, and password, confirm the password, select "I have read and agree to the User Privacy Agreement", and tap OK to complete registration and access the home screen.

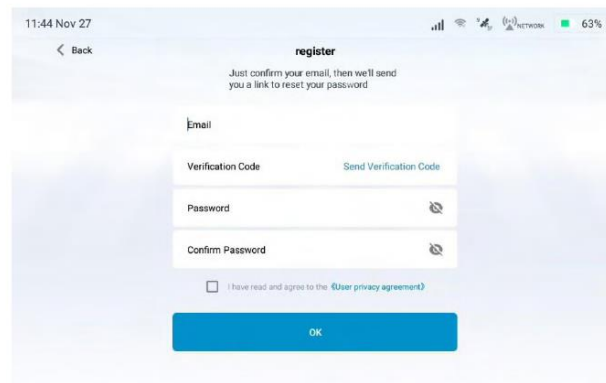


Figure23 User registration

Forgot password

If you already have an account but forget the password, tap **Forgot password?** to access the password resetting screen. Then, enter the email address/phone number, verification code, and new password, confirm the new password, and tap **OK**.

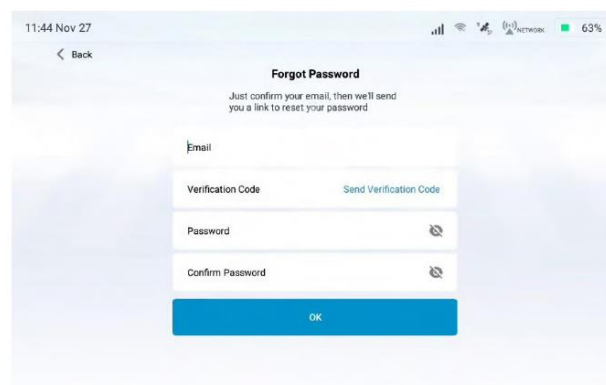


Figure24 Forgot the password

Home screen

The home screen uses a simple and intuitive user interface design to show the mower status.



Figure25 Home screen

No.	Name	Descriptionscription
1	System time	The system time and time zone can be set in the Android system settings.
2	Basic status	Shows the status of the radar, remote controller, 4G network, Wi-Fi, Bluetooth, satellites, and RTK, and battery level.
3	Speed limit	Sets the speed limit for the mower.
4	Speed	Real-time speed of the mower.
5	Battery level	Battery level of the mower. Tap to show the battery details.
6	Mower status	Shows the operating status by highlighting certain parts, such as the blade and headlights. The driving direction is also displayed.
7	Blade speed	Sets the blade running mode.
8	Blade switch	Tap to start or stop the blade. Before the blade starts, a message appears for your confirmation.
9	Headlight switch	Tap to turn on or off the headlights.
10	Obstacle avoidance switch	Tap to turn on or off the obstacle avoidance function.
11	Cutting height	Press and hold A, B, or C to adjust the cutting height.
12	Settings	Tap to access the settings screen.
13	Home screen	Tap to return to the home screen.
14	Auto operation	Tap to switch to the auto operation mode.