



YARD FORCE®

LAWN & GARDEN EQUIPMENT

Model SA500ECO

GB

ROBOMOWER

Original Instructions



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SUMEC UK

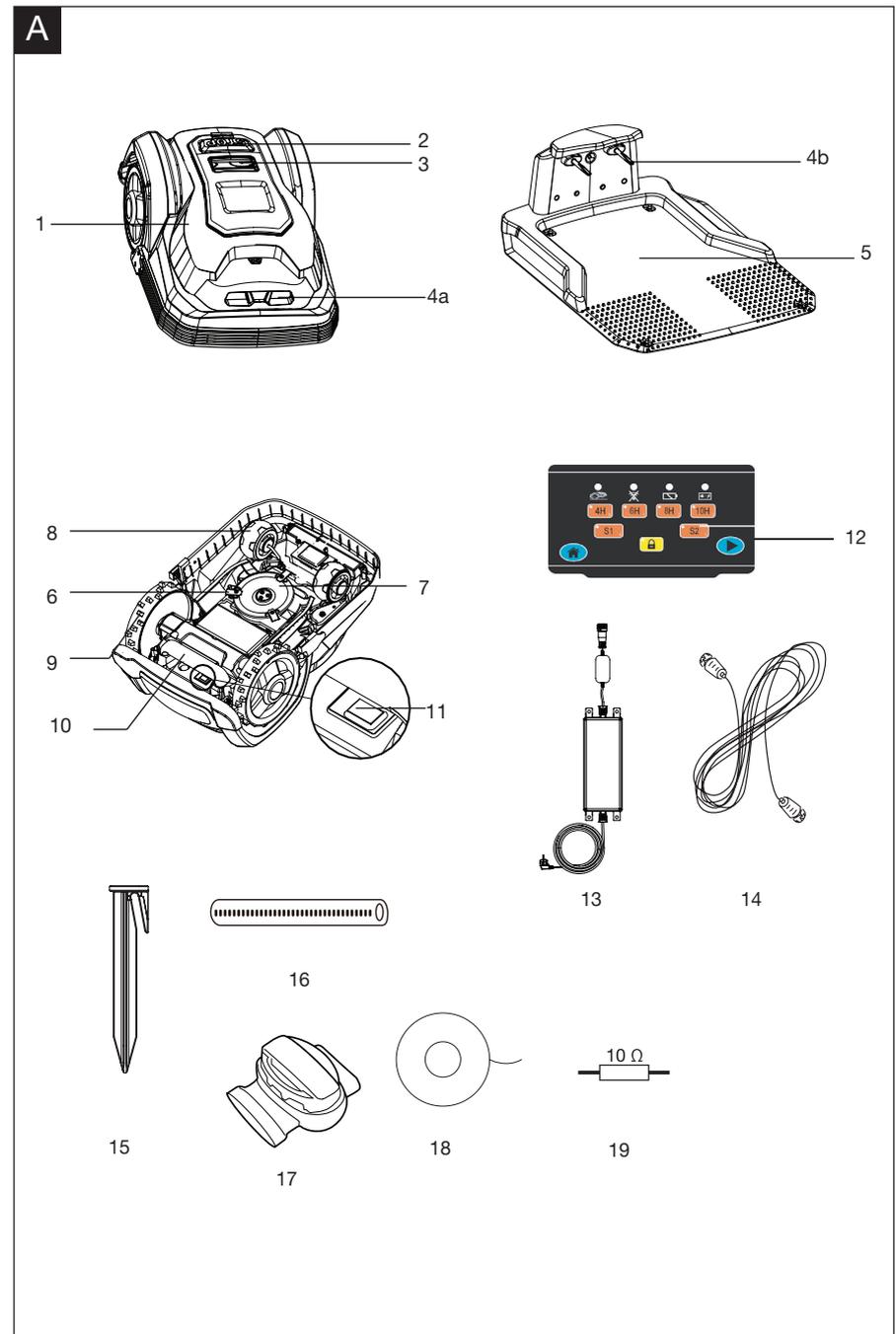
UNIT A&B ESCRICK BUSINESS PARK

ESCRICK, YORK

YO19 6FD



Read this manual carefully prior to assembling and operating the Robomower. It is dangerous to operate this product without being familiar with these instructions. Keep this manual in a safe place and have it ready for future reference.



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INTRODUCTION

Congratulations on the purchase of your new device. During production, this equipment has been checked for quality and subject to a final inspection. The functionality of your equipment is therefore guaranteed. It cannot be ruled out that residual quantities of water or lubricants will remain on or in the equipment/hose lines in isolated cases. This is not a fault or defect and it represents no cause for concern.



The operating instructions constitute part of this product. They contain important information on safety, use and disposal.

Before using the product, familiarise yourself with all of the operating and safety instructions. Use the product only as described and for the applications specified. Keep this manual in a safe place and in the event that the product is passed on, hand over all documents to the third party.

The Robomower is exclusively designed for mowing lawns. It is only intended for private use and is not suitable for commercial use.

INTENDED PURPOSE

Any other use that is not specifically approved in these instructions can result in damage to the Robomower and could be a serious danger to the user.

This appliance **MUST NOT** be used by children and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

The owner or operator is responsible for accidents or harm to others people and their property.

The manufacturer cannot be held liable for damage caused by other incorrect operation of the Robomower or if it is not used in line with its intended purpose.

GENERAL DESCRIPTION

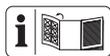
Scope of delivery

Carefully unpack the mower and check that all the subsequently listed parts are present:

- Robomower
- Charging station
- Transformer
- Extension cord
- Boundary wire
- Boundary wire connector B (blue)
- Fixing pegs
- Spare blades
- Measurement ruler (on the color box)
- Cement resistor
- Manual

GENERAL DESCRIPTION

Overview



The illustration of the principal functioning parts can be found on the front and back foldout pages.

- 1 Robomower x 1
- 2 STOP button
- 3 Display and keypad
- 4a: Charging contacts (Robomower)
- 4b: Charging contacts (charging station)
- 5 Charging station x 1
- 6 Blade (3 per each)
- 7 Blade holder
- 8 Front wheel
- 9 Rear wheel
- 10 Carrying handle with safety switch
- 11 Main power switch
- 12 Control panel
- 13 Transformer x 1
- 14 Extension cord x 1
- 15 Fixing peg x 120
- 16 Measurement ruler (on the color box) x 2
- 17 Boundary wire connector x 3
- 18 Boundary wire x 1 (100m)
- 19 Cement resistance x 1

Functional description

This Robomower is an autonomous robot used to cut lawn grass. It will remain within an area designated by a boundary wire, start work following a programmed schedule, and return to its charging station as needed. The three sharp blades ensure clean cuts with minimal damage to the plant, leaving behind tiny snippets as natural fertilizer.

TECHNICAL DATA

| | | |
|-----------------------------------|---|--|
| Max cutting area | | 500 m ² |
| Battery |  | 862615 18650-20Q Lithium-Ion battery, 28 V/2.0 Ah, 56Wh |
| Power supply | | FY3201500 Input 100-240V AC, 50/60 Hz Output 32 V DC, CC1.5A |
| Typical mow time on one charge | | 60 min |
| Rated voltage | | 28 V DC |
| Rated power |  | 50 W |
| No load cutting speed |  | 3500 min ⁻¹ |
| Cutting width |  | 18 cm |
| Blade model / part number | | 846210 |
| Cutting height adjustment | | 5 Settings |
| Cutting height, min-max | | 20 mm-60 mm |
| Number of blades | | Three (Pivoting) |
| Charging time | | 60 min |
| Recommended time per day* | | Please see note 1 below. |
| 300 m ² | | 4 hours |
| 500 m ² | | 6 hours |
| Degree of protection: | | |
| Robomower | | IPX4 |
| Charging station | | IPX4 |
| Power supply | | IP 67 |
| Robomower weight |  | 8.5 Kg |
| Charging Station weight | | 2 Kg |
| Robomower size, L x W x H | | 570 X 390 X 260 mm |
| Package size, L x B x H | | 780 X 510 X 330 mm |
| Gross weight | | 18 kg |
| Measured sound power level | | |
| Measured sound pressure | | 46.6 dB(A) , K=3.0 dB(A) |
| Guaranteed sound power level | | L _{WA} = 67 dB(A) (K=0.35 dB(A)) |

The sound values have been determined according to noise test code given in EN 50636-2-107, using the basic standards EN ISO 11203 :2009 and EN ISO 3744:2010.

The noise figures quoted are emission levels and are not necessarily safe working levels. Factors that influence the actual level of exposure of work-force include the characteristics of the work room, the other sources of noise, i.e. the number of machines and other adjacent processes and the length of time for which an operator is exposed to the noise. Also the permissible exposure level can vary from country. This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.

* Note 1: The recommended time per day stated in this specification is just for reference. It depends on the condition of blades, the type of the grass being cut, the growth condition, humidity, and whether lawn area is flat. A more complex lawn with trees, flower beds, paths and slopes may require a longer work time.

SAFETY PRECAUTIONS

This section covers the basic safety instructions when working with this machine.

General notes on safety

-  This machine can cause serious injury if it is not properly used. Please read these operating instructions carefully and familiarise yourself with all the control elements before operating this machine.
Keep these operating instructions in a readily accessible place so that this information is always at your disposal.
Please note that despite all measures to integrate safety measures into the construction, the safety devices and supplemental safety measures, a residual risk remains when using this machine.

Symbols used in the manual

-  Warning symbols with information on damage and injury prevention.
-  Warning symbol with information on the danger of electric shock.

Symbols on the machine

-  Caution!
-  These instructions must be read.

SAFETY PRECAUTIONS



Danger of injury due to flung-out material! Keep bystanders well away from the machine.



WARNING - Do not ride on the machine.
CAUTION - Do not touch rotating blade.



WARNING – Remove the disabling device before working on or lifting the machine.



WARNING – Keep your hands and feet away from the rotating blades. Never place your hands or feet close to or under the body when Robomower is in operation.



Return any discarded batteries to your local dealer, collector or recycle point.
It is not permitted to dispose of this product as normal household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.



Guaranteed sound power level value is 67dB.

SAFETY PRECAUTIONS

Warning Symbols on the charger



Warning!



Before use, refer to the corresponding paragraph in the manual.



Double insulation



Pole orientation



Waste electrical products should not be disposed of with household waste. Recycle where facilities exist. Check your local authority or retailer for recycling advice.



CE conformity mark

SAFETY PRECAUTIONS

Warning Symbols on the battery pack



Li-Ion

Batteries contain Li-Ion and should not be disposed with general household waste. Contact your local authority for disposal advice.



Do not throw into water.



Do not throw on to fire.



Do not subject the battery to strong sunlight over long periods and do not leave it in high temperatures.(max.45 °C).



Waste electrical products should not be disposed of with household waste. Recycle where facilities exist. Check your local authority or retailer for recycling advice.

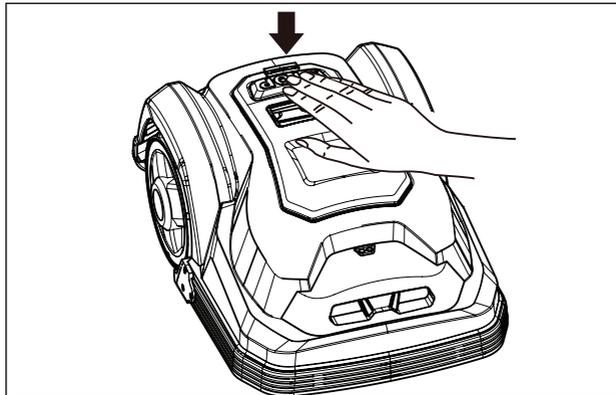
SAFETY PRECAUTIONS

Additional safety instructions for Robomowers

Do not store anything heavy on the top of the Robomower or charging station both during storage or when in use.

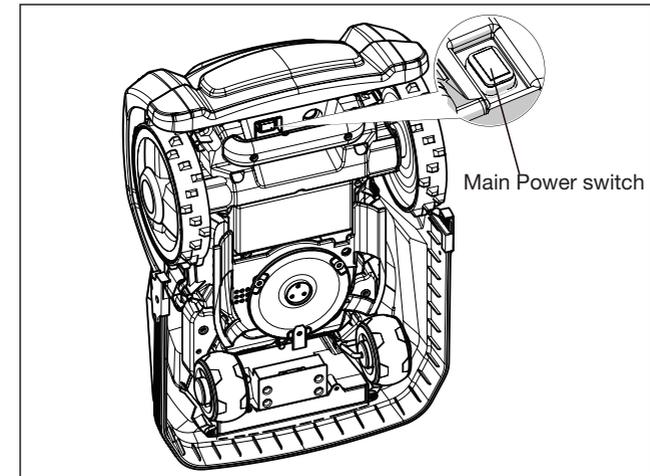
Never use the device if the main power switch (11) is damaged or does not work properly. Never bypass the main power switch. Set the main power switch to OFF for storage or when the device is not in use. Use the original packaging when transporting the Robomower, especially for long distances.

If you need to move the Robomower from or within the working area, first press the STOP button (2) to stop the device.

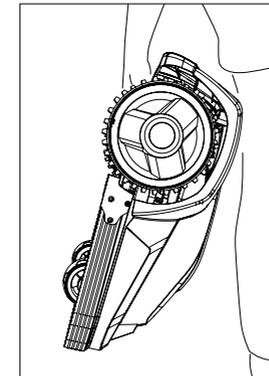


SAFETY PRECAUTIONS

Secondly, ensure that the main power switch (11) is switched OFF before you lift up your Robomower.



Thirdly, close the top cover, and carry the Robomower by the carrying handle (10) at the rear under the mower, keeping the blade disc away from your body as shown.

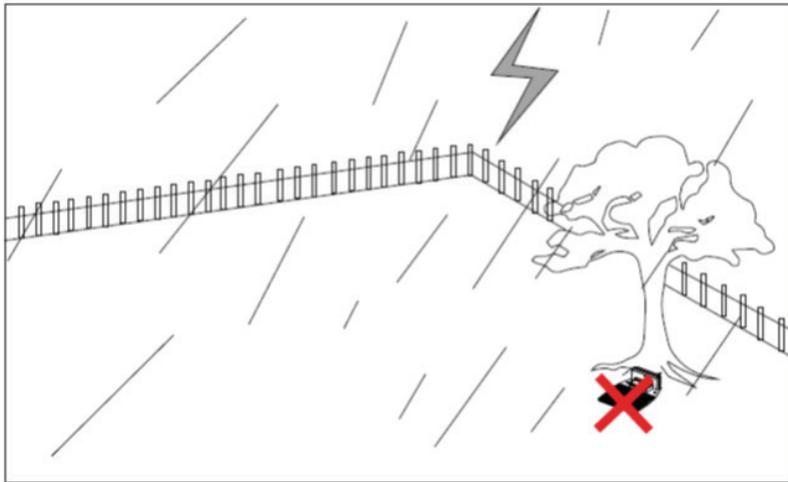


Note: The carrying handle (10) includes two safety switches. Lifting the device by the carrying handle will trigger the switches, deactivating the Robomower.

SAFETY PRECAUTIONS

Lightning Protection

In order to prevent lightning damage to the machine, do not place the charging station under tall trees.



Operating the machine:

 **WARNING!** This machine can cause serious injuries. Follow instructions below to reduce risk of accident and injury.

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

Preparation:

- Read the instructions carefully and make sure you understand them fully. Be familiar with the controls and the proper use of the machine.

SAFETY PRECAUTIONS

- Never allow children, persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge or people unfamiliar with these instructions use the machine.
- Local regulations may restrict the age of the operator. Children should be supervised to ensure that they do not play with the appliance.
- The operator or user is responsible for accidents or hazards occurring to other people or their property.
- Ensure the correct installation of the perimeter boundary system as instructed.
- Periodically inspect the area where the machine is to be used and remove all stones, sticks, wires, and other debris which could cause damage to the machine or be unsafe.
- Periodically visually inspect to see that the blades, blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.
- On multi-spindle machines, take care as rotating one blade can cause other blades to rotate.
- Never leave the machine to operate unattended, especially while other people such as children and pets are in the area.
- Never use the machine to level out uneven patches.

SAFETY PRECAUTIONS

- If the blades no longer cut correctly or if the motor is overloaded, check all the parts of your equipment and replace the worn parts. If a more extensive repair is required, contact the customer service centre.

Use:

- Never operate the machine with defective guards or without safety devices, for example deflectors and/or grass catchers, in place.
- Do not put hands or feet near or under rotating parts.
- Never pick up or carry the machine while the motor is running.
- Turn OFF / Power OFF the machine
 - before clearing any blockages.
 - before checking, cleaning or maintaining the machine.
- Start Robomower according to the instructions. When the main power switch (11) is in the ON position, make sure you keep your hands and feet away from the rotating blades.
- Never lift the Robomower or carry it around with the mains switch is in the ON position.
- Do not let persons use the mower who do not know how it works or behaves.
- Do not put anything on top of the Robomower or its charging station.

SAFETY PRECAUTIONS

- Do not use the Robomower with defective blade discs, body, defective blades, screws, nuts etc.
- Avoid operating the machine in wet grass. Doing so can cause additional wear and tear, and will increase the amount of cleaning required.

Work interruptions:

- After the machine has been turned off, the cutting cylinder will continue to rotate for a few seconds. Keep hands and feet well away.
- Only remove blockages when the machine is standing completely still. Ensure that the grass ejector opening (if any) is clean.
- Switch off the power when the machine is transported, lifted or tilted.
- Never leave the machine unattended. Children should be supervised to ensure that they do not play with the appliance.



CAUTION!

The following below outlines measures to avoid damage and harm to both the Robomower and people using it.

Taking care of your machine:

- Switch off the power when the machine is to be carried across uneven surfaces, for example steps.

SAFETY PRECAUTIONS

- Inspect the machine before each use. Never operate the machine if safety devices (e.g. impact protector, parts of the cutting facility or bolts) are missing, worn out or damaged. Check the power cable and starting lever (if any) for damage. To avoid imbalance, all tools and bolts must be changed as complete sets.
- Only use spare parts and accessories that have been supplied or recommended by the manufacturer. The use of alien parts results in the immediate loss of all guarantee claims.
- Ensure that all nuts, bolts and screws are firmly tightened and that the machine is in a safe working condition.
- Never try to repair the machine yourself, unless you have been trained accordingly. All work that has not been listed in these instructions must only be carried out by authorised servicing agencies.
- Treat the machine with the greatest care. Always keep the tool clean. Follow the maintenance instructions.
- Never overload the machine. Always work within the specified capacity range. Do not use low-power machines for heavy-duty work. Do not operate the machine for purposes for which it is not intended.

Electrical safety:



CAUTION!

The following states how to avoid accidents and injuries due to electric shock:

SAFETY PRECAUTIONS

- Before each use, carry out a visual inspection of the power and extension cord for any signs of damage or ageing. Damaged mains power cables increase the risk of electric shock.
- Connect the machine to a power socket with a residual-current circuit breaker that has a rated current of no more than 30 mA.
- Always keep the extension cable well away from the cutting tools. Should the power cable become damaged during work, instantly disconnect the power cable from the mains. **DO NOT TOUCH THE POWER CABLE BEFORE IT HAS BEEN DISCONNECTED FROM THE MAINS!** Risk of electric shock.
- The supply cord cannot be replaced. If the cord is damaged the appliance should be scrapped.
- Keep extension cable away from blades and other moving parts. They may damage the cable and result in contact with live parts.
- Check that the mains voltage is the same as indicated on the rating plate.

Maintenance and storage

- Keep all nuts, bolts and screws tight to be sure the machine is in a safe working condition.
- Replace worn or damaged parts for safety.
- Ensure that only the recommended replacement cutting blades are fitted.

SAFETY PRECAUTIONS

- Ensure that batteries are charged using the charger supplied or recommended by the manufacturer. Incorrect use may result in electric shock, overheating or leakage of corrosive liquid from the battery.
- Servicing of the machine should be carried out according to manufacturer's instructions.
- In the event of leakage of electrolyte, flush with water/neutralising agent, seek medical help if it comes into contact with the eyes.
- Store the appliance with battery pack fully charged at room temperature (around 20°C).
- Every deep discharge cycle decreases the capacity of battery pack. To prolong battery life, it is recommended to charge the battery every 6 months over extended periods of time without use.

Transport

The original packaging should be used when transporting the Robomower over long distances.

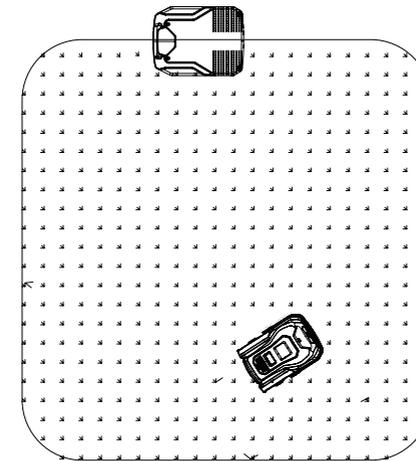
To safely move from or within the working areas:

- Press the STOP button to stop the mower.
- Move the main switch button to the OFF position if you intended to carry the mower.
- Carry the Robomower using the handle below at the rear. Carry the mower with the blade disc away from the body.

SAFETY PRECAUTIONS

Robomower basic operating principles

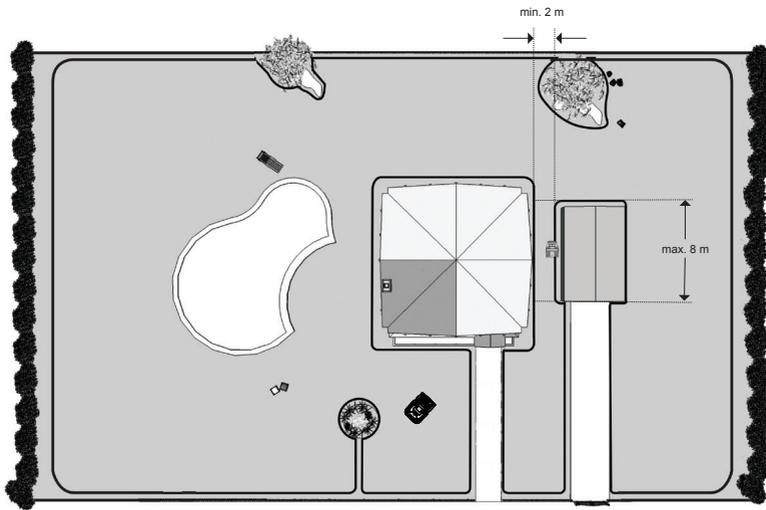
- The Robomower chooses its working direction randomly. It will mow your garden completely without leaving behind any uncut part within the area restricted by the chosen boundary.



- You define the work area by installing the supplied boundary wire. Once the Robomower detects the boundary wire, it will stop, move backwards and continue mowing in a different direction. It is important to ensure that the boundary is complete. Any objects you wish to protect within the boundary, such as a garden pond, trees, garden furniture or flower beds can also be protected by the boundary wire. The boundary wire must form one complete loop. If the Robomower encounters an obstacle, such as a person, tree, pet or other general garden obstacles, it will stop, move backwards and continue mowing in a different direction.

SAFETY PRECAUTIONS

- If you need a narrow corridor to connect two patches of lawn within the boundary, the corridor should be at least 2 metres wide and max. 8 m long.

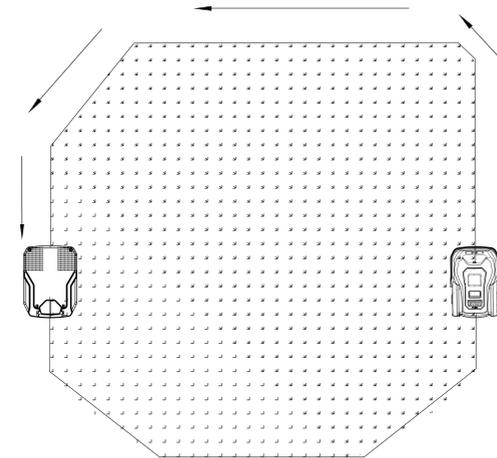


Note: If your Robomower loses ground contact while hitting an obstacle, the blade disc will stop immediately to avoid any potential damage.

SAFETY PRECAUTIONS

Locating the charging station

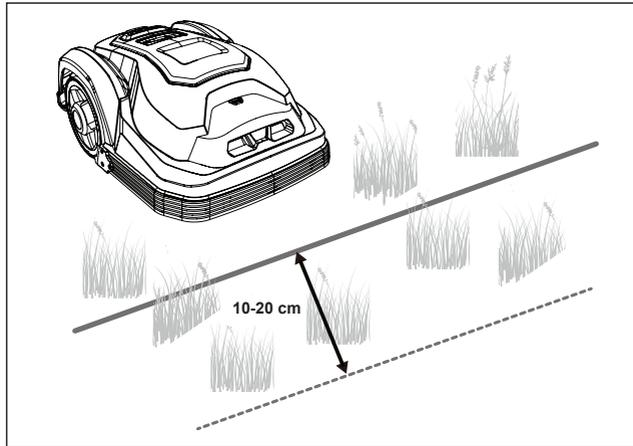
- When the battery is running low, the Robomower will automatically return to the charging station. It will approach the closest boundary wire and follow it anticlockwise (without cutting) back to the charging station. When fully charged, the Robomower will automatically resume the interrupted working cycle. The launch direction from the charging station - clockwise - is hard-wired into the design and is impossible to change.



Recognising the boundary wire

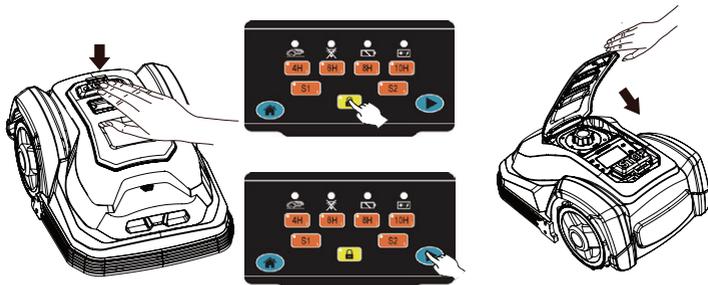
- Note that before stopping and changing the direction, the Robomower will overrun the boundary wire by 10 to 20 cm. Please keep this in mind when planning the boundary wire installation.

SAFETY PRECAUTIONS



Starting and stopping while mowing

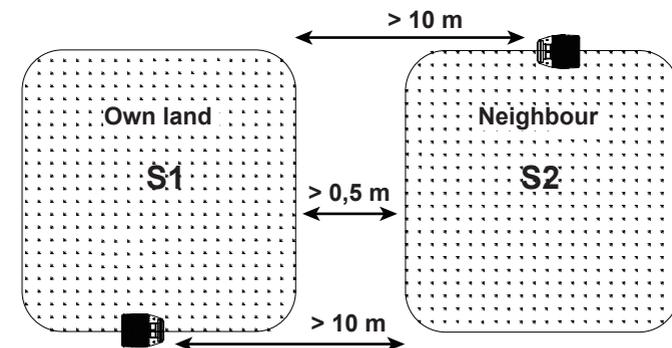
- If you want to stop the Robomower at any time during cutting, please press the STOP button (2). Pressing the STOP button will also open the top cover, providing access to the control interface. The Robomower will not start working again until you have closed the top cover.



SAFETY PRECAUTIONS

Robomower mowing limitations

- Out of the box, the Robomower is set to work 7 days a week. You can adjust the daily working time to match your garden.
- In case a neighbor is using the same Robomower, you need keep a 0.5 m distance between your and your neighbour's boundary wires. Otherwise, the two devices might interfere with each-other. Additionally, keep your charging station more than 10 m away from your neighbour's boundary wires. Last not least, ensure that the adjacent boundary wires use different signals. Please refer to section "Signal setting" in order to select signal S1 or S2 for your installation.

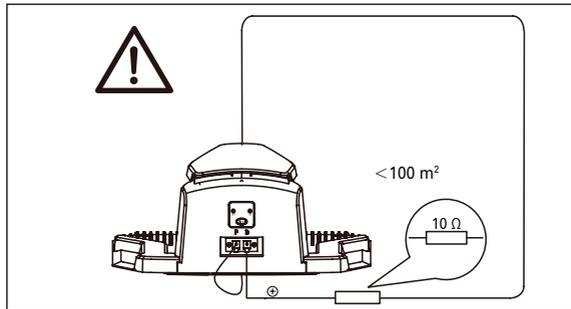


Below is a table showing the signal distances for each Robomower. Please note your model and use this information as your guide when designing the boundary layout.

| Model | Max field | Max. distance to wire |
|----------|--------------------|-----------------------|
| SA500ECO | 500 m ² | 11,5 m |

SAFETY PRECAUTIONS

NOTE! When the working area is less than 100 m² or total boundary wire less than 40 m, please integrate the supplied 10 Ω / 20 W cement resistance to the boundary wire.

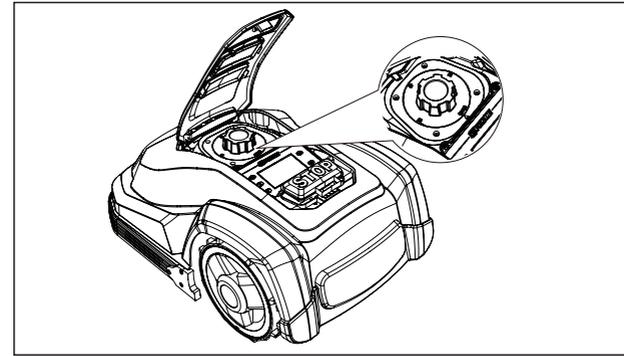


Robomower cutting information

- The Robomower has a cutting height setting between 20 mm to 60 mm. If the grass height exceeds 60 mm, cut it to 60 mm or below before using the Robomower. Otherwise the load on the unit will be too large and the cutting efficiency will suffer, we recommend using an ordinary lawn mower or trimmer. Once the installation is complete, adjust the cutting height to the desired setting. Always start in a high cutting position and work your way down to the cutting height you want. Before adjusting the cutting height, always press the STOP button (2) to interrupt the cutting. Then turn the large dial to adjust the cutting height.

Note: Only adjust the cutting height while the Robomower is switched off.

SAFETY PRECAUTIONS



- Do not use the Robomower during lightning or thunder storms. In case of damage to the electronic circuitry, unplug the charging station and - if possible - disconnect the boundary wire.

The Robomower cutting efficiency relies on sharp blades, so please keep them in good condition.

ASSEMBLY INSTRUCTIONS

Installation Guide

This chapter explains how to install the Robomower. Please read this completely before you start the installation.

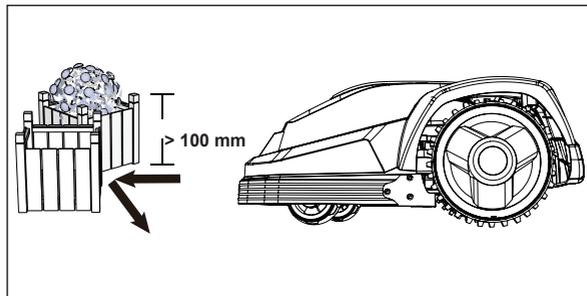
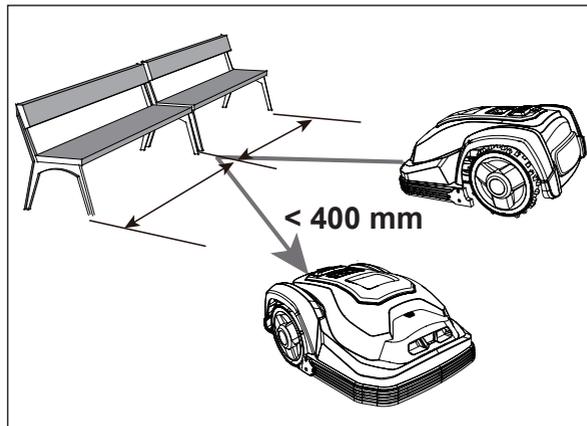
Introduction

We recommend creating a draft of your lawn, including all obstacles and how these should be protected. This makes it easier to find a good position for the charging station and how to correctly place the boundary wire around your garden perimeter protecting bushes, flower beds etc. You will also need some tools, like a hammer and wire cutters, pliers or scissors.

Cutting limitations

The Robomower is equipped with collision sensors. These will detect any rigid and fixed obstacles higher than 100 mm, such as walls, fences and garden furniture.

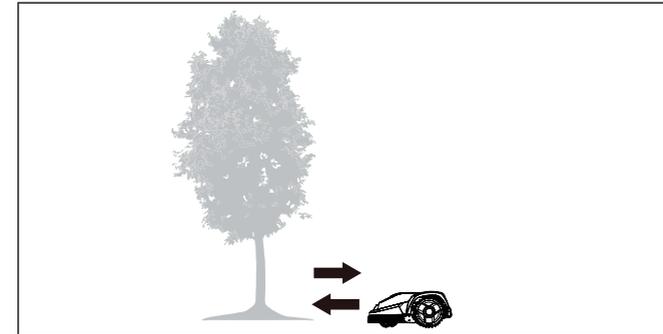
When triggered, the Robomower will stop, reverse backwards and then continue mowing in a different direction. Still, protecting the obstacles running the boundary wire accordingly is the recommended long-term solution.



ASSEMBLY INSTRUCTIONS

Trees

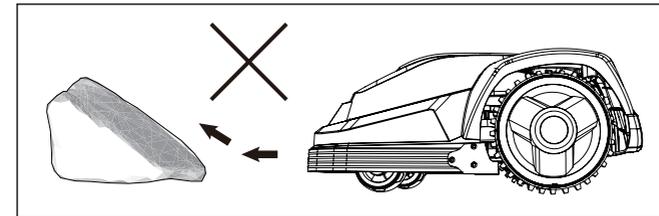
Uneven lawn areas may cause the blades to touch the ground. We recommend leveling lawn before using your Robomower or excluding uneven areas with the boundary wire.



Stones

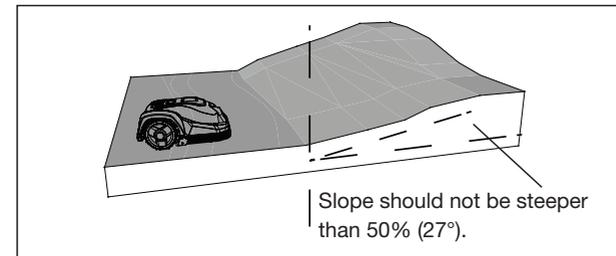
We recommend clearing the lawn of small (less than 100 mm high) rocks and stones and any stones with a round or sloped edge. The Robomower might try and climb such rocks instead of recognising them as a barrier.

A Robomower getting stuck on such a stone requires user intervention to restart mowing. Contact with stones can result in damage to the blades.



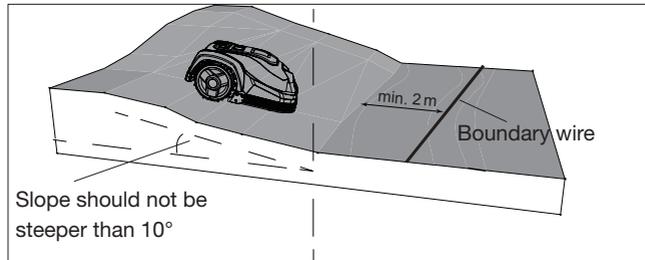
Slopes

The Robomower can navigate slopes up to a maximum of 50% incline or decline.



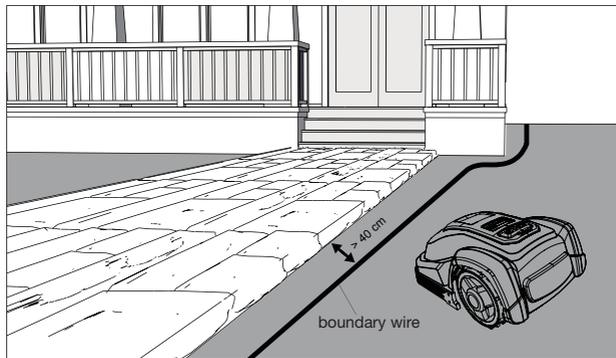
ASSEMBLY INSTRUCTIONS

The boundary wire should never run perpendicular to a gradient of more than 10°. Likewise, please allow a corridor of at least 2m between a 10° or steeper slope and the boundary wire. Otherwise, the faster downhill speed may cause the Robomower to overshoot the boundary wire, especially on wet and slippery ground.



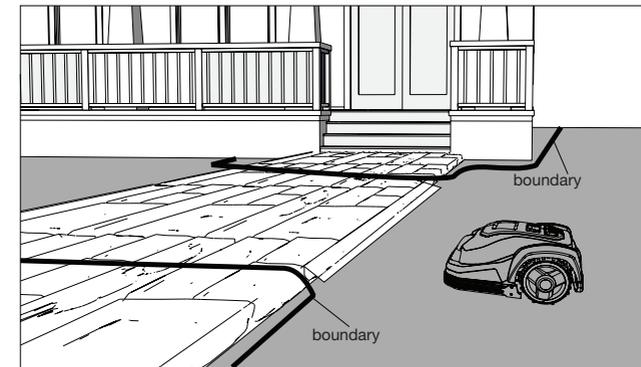
Paths, Driveways and Roads

If an elevated driveway crosses your lawn, better keep it outside the boundary wire. Please allow a safety distance of 40 cm between driveway and boundary wire.



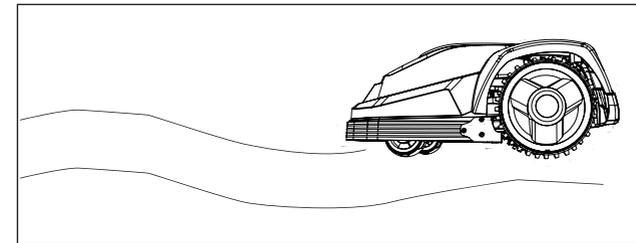
ASSEMBLY INSTRUCTIONS

If the driveway and lawn are at the same level, feel free to use the boundary wire to create a corridor. This allows your Robomower to cross the driveway and reach the opposite lawn.



Uneven lawn surfaces

Uneven lawn areas may cause the blades to touch the ground. We recommend leveling the lawn before using your Robomower or excluding uneven areas with the boundary wire.

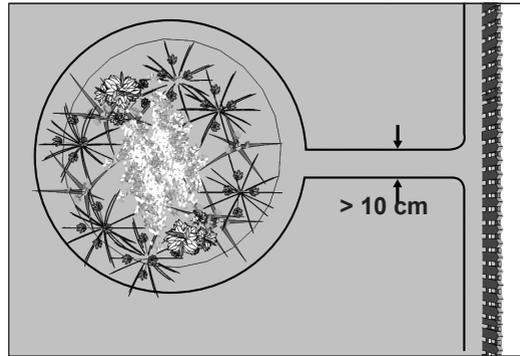


ASSEMBLY INSTRUCTIONS

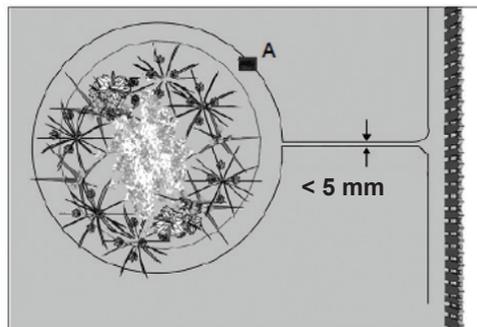
Flowerbeds

Use the boundary wire to exclude any flowerbeds from the cutting area. There are two options for the two lengths of boundary wire running between the flowerbed and the outer boundary:

- 1) Keep the distance between the parallel wires above 10 cm. This way, the Robomower will recognise the boundary wire as an ordinary obstacle. When cutting, it will "bounce" off it as usual. When following the boundary wire back to the charging station, it will take the detour around the flower bed.



- 2) Alternatively, keep the distance between the two parallel wires below 5 mm. Do not cross the wires - see below. This way, the Robomower will not recognise the wires and travel across them unhindered. This option requires placing an obstacle on the boundary wire around the flowerbed. Place the obstacle, e. g. a large rock or pole, near position A indicated on the below illustration. The obstacle must be surrounded by a flat area of about 1 m x 1 m, without any slopes. This obstacle will allow the machine to exit the circle.

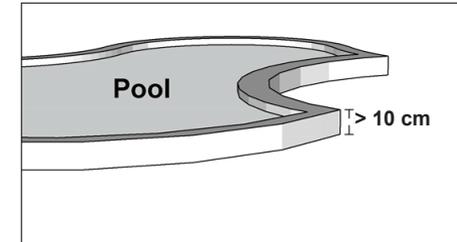


ASSEMBLY INSTRUCTIONS

Ponds and Pools

While the Robomower is protected against rain and spray water, being submerged is likely to cause severe damage to the electronic parts.

Therefore, it is imperative to exclude any pools from the cutting area. For added safety, we recommend placing a fence around the pool.

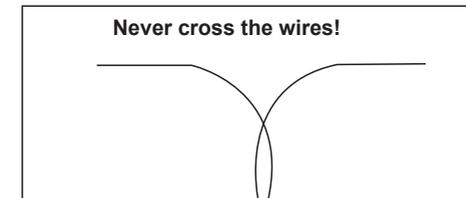


General Dos and Don'ts

Do not run the boundary wire parallel directly above an ordinary power cable.

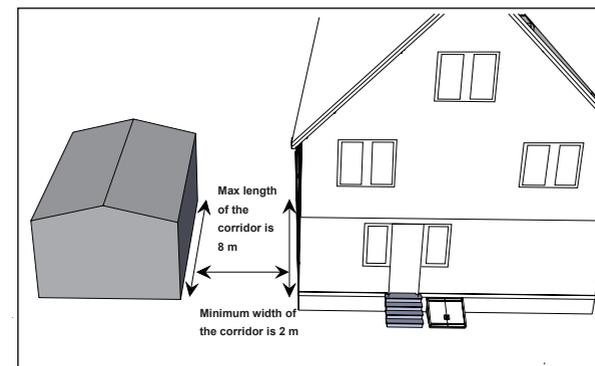
The power cable's electric field may distort the boundary signal.

Never cross two boundary wires! This will distort the radio signal and cause erratic behavior of the Robomower.



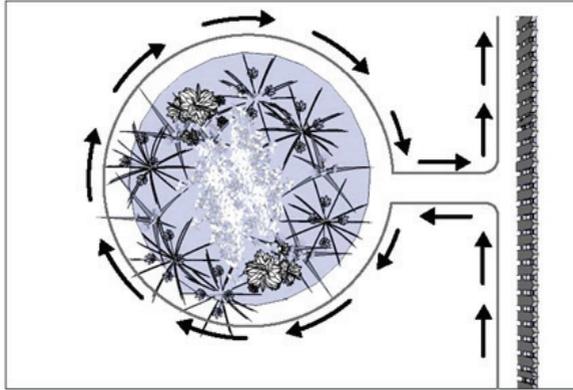
If you have created a boundary corridor inside your working area, the corridor should be at least 2 m wide and a max length of 8 m.

If a corridor is too narrow or too long, the Robomower might not be able to navigate it from one end to the other.



ASSEMBLY INSTRUCTIONS

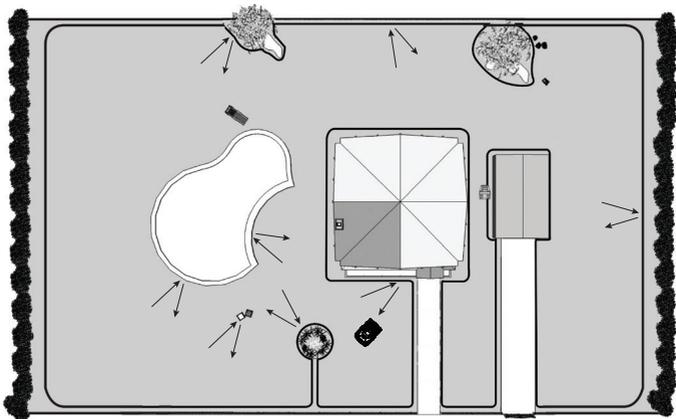
Keep in mind that flowers, bushes and surrounding shrubbery will change in size over a season. Please keep sufficient space between boundary wire and other plants to avoid interference year-around.



Marking out the Robomower's working area

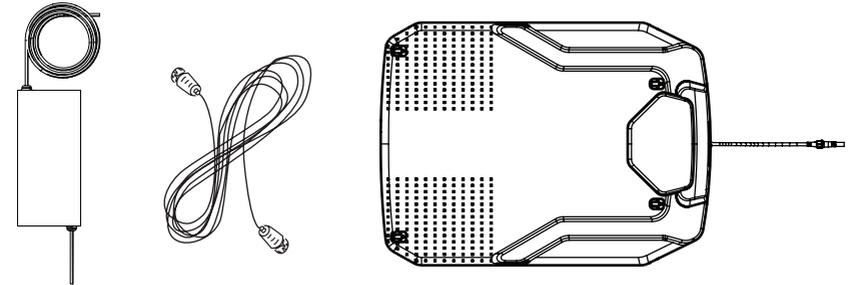
You have now understood the basic principles of how the Robomower works. The next step is to mark out the working area with boundary wire by referring to your garden plan. This is a very important part of the installation, so please take care. Starting from the charging station, the boundary wire must be one continuous loop without any breaks or crossings. Connecting the end to the charging station's second connector will complete the circuit.

Where appropriate, use the included ruler to check the 40 cm required distance. Firstly, locate the best position for your charging station. Be aware that it needs a permanent connection to the mains, so take into account the location of the nearest power outlet.



ASSEMBLY INSTRUCTIONS

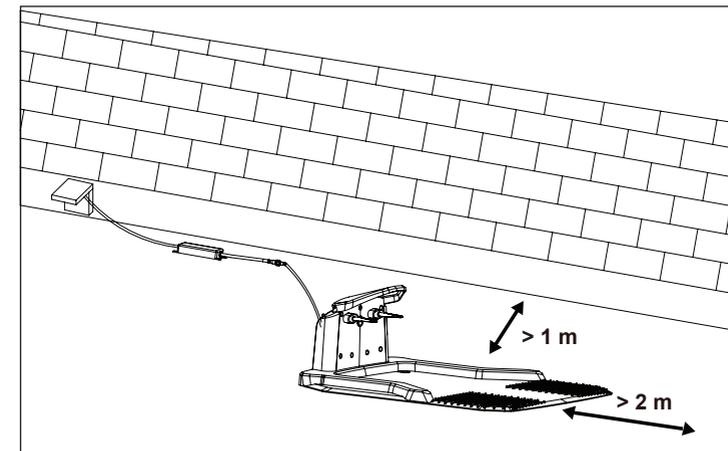
The included supply cord has a length of 9 m. The charging station (5) must be placed on a flat surface, at ground level.



Both the front and back of the charging station must be accessible to the boundary wire. To ensure the Robomower can return to the charging station smoothly, leave 2m of straight wire to the front of the charging station and 1m to the side facing the cutting area. Use a shaded location for the charging station, as a lower temperature while charging is beneficial to the battery.

Important: Place the charging station on an even, flat surface away from ponds, pools or stairs.

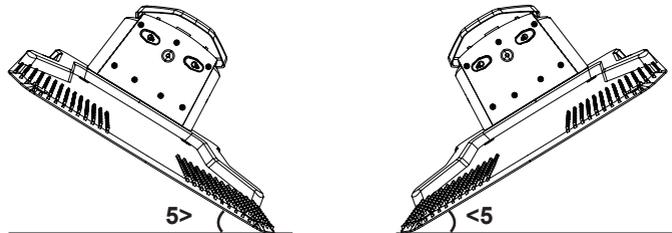
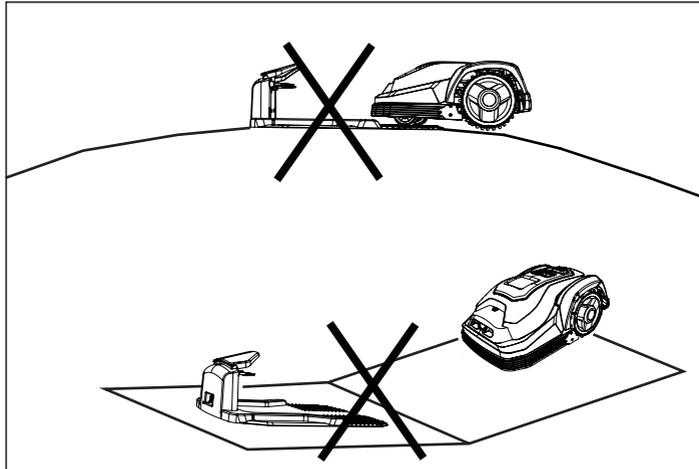
We recommend suitable protection from the elements, for example a robot port or garage.



Pay attention to protect cable!

ASSEMBLY INSTRUCTIONS

Do not place the charging station too close to a slope, such as at the top of a hill or the bottom of a furrow. Avoid left and right inclination in excess of 5 degrees.



If your lawn has a soft or uneven surface, we recommend fortifying the area around the charging station with a grass protection mesh. Otherwise, the repeated stress of the rear wheels can damage the turf.

Once the position of the charging station is confirmed and mains electrical connection is laid out, please do not connect to main power yet. Finish all boundary layout work before connecting the charging station to the power supply.

ASSEMBLY INSTRUCTIONS

Pegging out the boundary wire

We strongly recommend mowing the lawn to 60 mm or less before laying out the boundary wire. Burying the boundary wire is entirely optional. Still, the closer to the ground you lay out the boundary wire, the lower the chance of tripping over it or damaging it when mowing the lawn.

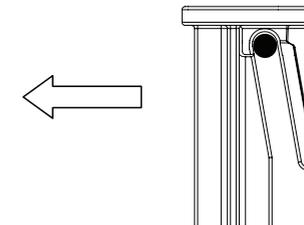
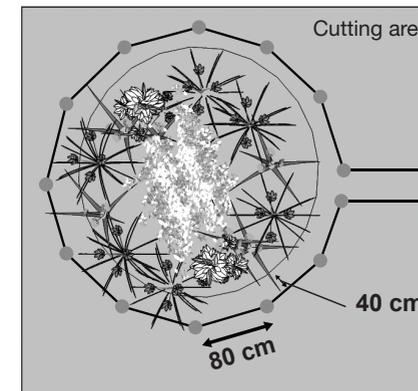
In a very short time, the wire will be covered by grass. As the voltage is only 32 V, there is no risk of electric shock.

Unpack the boundary wire (18) and locate the free end. Mark the desired path of the boundary wire with the fixing pegs (15).

Use the included ruler (16) to ensure the required 40 cm distance between wire and obstacles.

The recommended distance between two pegs is about 80 cm in straight lines, and less in tight curves. Note that the pegs' hook and wire slit always faces the outside of the boundary. When first planting the pegs, do not drive them fully into the ground. Use a light hammer to drive them in a little bit. Also locate the fixing pegs (item 15) and lay each one on the lawn at approximately the correct distance from lawn edges (40cm) and obstacles.

There is a gauge supplied for this (item 16).



The pegs should be knocked into lawn with wire location to boundary outside like shown.

Once all pegs are in position, lay out the boundary wire. Start from the charging station. Run the wire through the peg's hook and wire slit one-by-one. Do not tighten the boundary wire too much to prevent wire damage. Carefully prevent any kinks, knots, etc.

When cutting the wire, we recommend leaving at least 1 m spare wire to allow for adjustments.

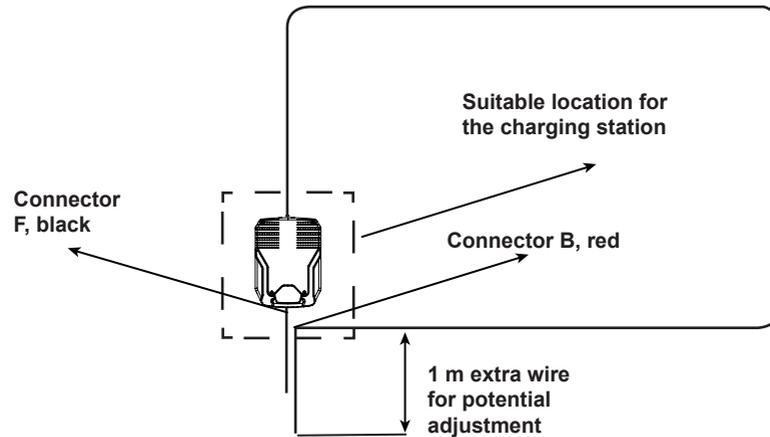


Note: The pegs are not suitable for fixing the boundary wire on hard surfaces, e.g. when running the boundary wire across a driveway. Instead, use appropriate screws and plugs. Be sure to use insulation washers to protect the wire insulation.

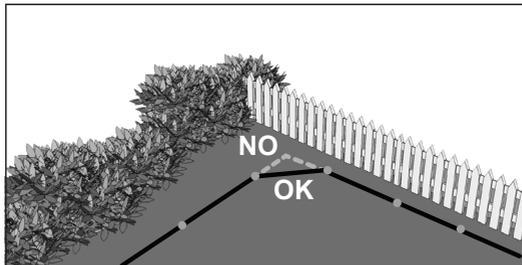
ASSEMBLY INSTRUCTIONS

Only use the included waterproof boundary wire connectors (17) to join together two pieces of boundary wire.

See below for some further sketches giving more distance guidelines.



Avoid right angles when running the boundary wire around a corner. Instead, separate into two 45° angles.



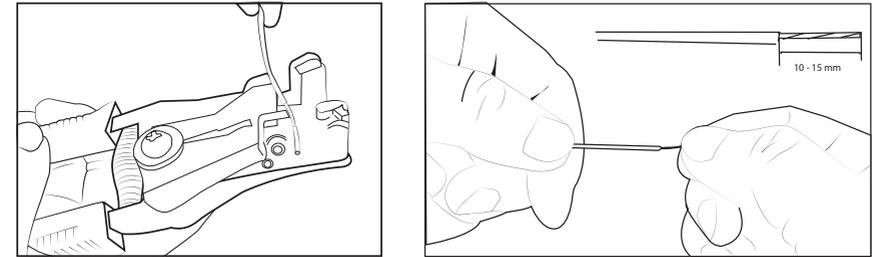
In case the included boundary wire is too short for your garden, more is available from our service provider.

The wire's total length must not exceed 300 m.

ASSEMBLY INSTRUCTIONS

Prepare the boundary wire for the charging station

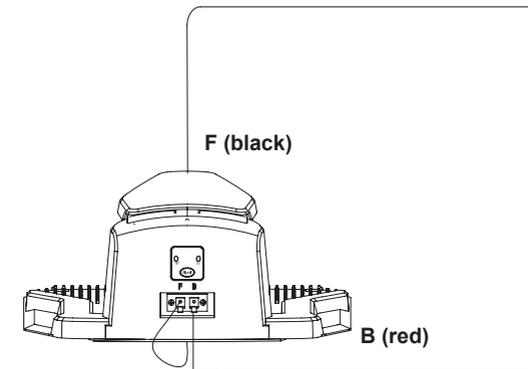
Use a wire stripper to remove 10-15 mm insulation from each end. Twist the threads tight.



NOTE ! If the enclosed working area is less than 100 m² or the total total boundary wire length is less than 40m, connect a 10 Ω / 20 W cement resistance to the boundary wire.

Connect the charging station to the boundary wire

Place the charging station on the end of the boundary wire so that the wire runs lengthwise below the middle of the charging station. Connect that end to the left (black) connector marked "F" (front). Connect the other end to the right (red) connector marked "B" (back).



IMPORTANT INFORMATION

Double check that the charger connections are as shown below. Even if there is a blue light, if the connectors are wrongly connected the machine will not work.

ASSEMBLY INSTRUCTIONS

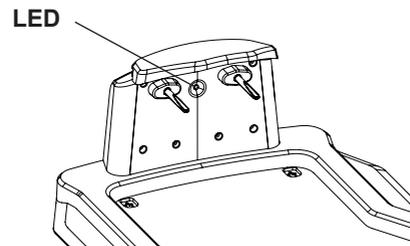
After connecting the "F" and "B" connectors to the charging station, the charging station can be fixed down with the boundary pegs.

Before fixing the charging station, please check again that the above mentioned conditions are met:

- Even surface within range of power supply
- 2 m straight boundary in front,
- Inclination less than 5 %
- Surplus boundary wire tucked under the charging station for protection, outside the boundary and laid out in slopes (not rolled-up).

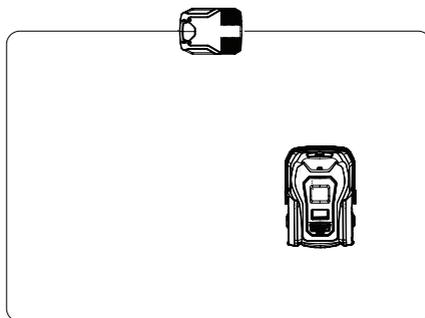
Once the charging station is fixed, connect the charger extension cable (14) to charging base. Now, connect the power supply to the mains outlet. After a brief self-test, one blue LED on the charging station should light up. If all LEDs stay dark, double-check the mains outlet and the power supply. If other than a single blue LED lights up, please refer to the chapter on troubleshooting.

Turn on and test the installation



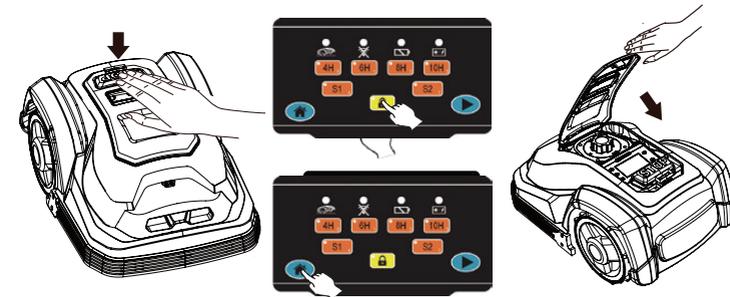
Once the blue LED confirms all is OK, test the Robomower's function. Check the LED regularly to ensure fixing the boundary wire has not affected the connection. Then place the Robomower in the working area, a few metres beside the charging station.

Set the main power switch (11) to "ON". The Robomower will power-up and start a self-test, but not start working at this time.



ASSEMBLY INSTRUCTIONS

Press down on the large STOP button (2) to open the top cover and access the controls. Activate the button marked " " (situated on the left part of the display) and press down the top cover to close it.

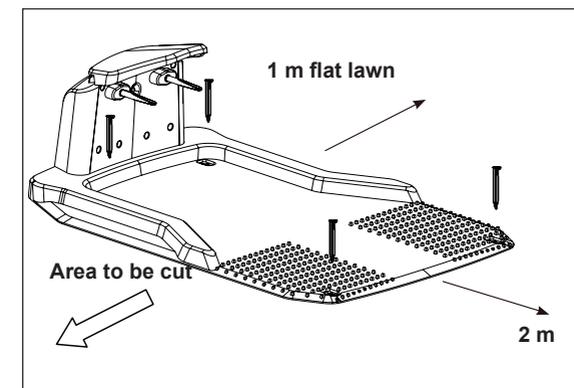


Once closed, the Robomower will automatically return to the charging station by locating and following the boundary wire in anti-clockwise direction. If the Robomower fails to dock correctly, move the charging station to a more suitable position.

Once the device has docked, the  symbol will start flashing. This indicates that the battery is charging correctly.

After initial installation, the Robomower will remain in the charging station until the battery is fully charged.

Successful docking and charging indicates that you have found a suitable position for the charging station. It is now time to fix it in position by fully driving the pegs into the ground. Take care not to damage or kink the surplus wire stored under the charging station.



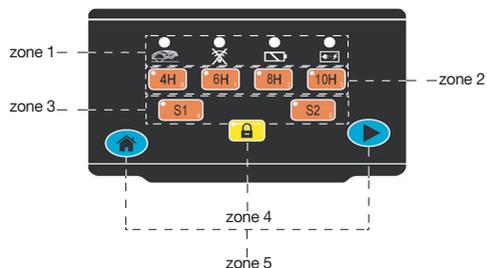
OPERATION

Control Panel

Once the Robomower is fully charged, it is ready for programming.

While the default factory settings will suit the majority of users, it is worth familiarising yourself with the options available.

To start programming, press down on the large STOP button (2) to open the top cover and access the controls.



The control panel has five functional areas.

- Zone 1: Status indicator LEDs
- Zone 2: Working time setting
- Zone 3: Signal setting
- Zone 4: Locking button
- Zone 5: Home & start button

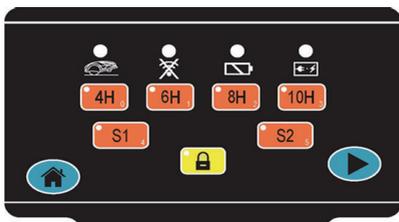
Lock and Unlock

Unlock

A blinking LED above the lock button [🔒] indicates that the control panel is locked. To unlock the control panel, enter the PIN code.

There is no factory-default PIN. Instead, press the lock button [🔒] four times.

If the LED goes out, the PIN entry was successful and the control panel was unlocked.



OPERATION

Lock

Using the main power switch (11) will automatically lock the control panel.

You can also manually engage the lock. To do this, simply press the lock button [🔒] on the unlocked control panel, and close the top cover. The Robomower is now locked and cannot be used again without unlocking.

In case of rebooting or unlocking the mower, please note that the Robomower will remain in the preset work time.

Change PIN code

The analog keyboard

The panel is equipped with a 5 keys numerical keyboard.

Use "4H" for 0, "6H" for 1, "8H" for 2, "10H" for 3, "S1" for 4, and "S2" for 5.

Changing the PIN Code

- 1) Switch OFF the main power switch (11)
- 2) Press and hold the lock button [🔒].
- 3) Hold down the lock button [🔒] while switching ON the main power switch (11). After about 6 seconds, all LEDs on the control panel will start flashing fast.
- 4) Release the lock button [🔒].
- 5) Within 6 seconds, enter your new PIN-Code.

The Robomower will confirm the changed PIN with a single beep.

All LEDs will go out and the Robomower will reboot. Once the LED of the lock button [🔒] flashes, the reboot is complete. You can now unlock your Robomower with your new PIN.

Note: If you do not remember your PIN code, please set a new PIN as described above. It is not possible to reset the device to the default PIN code of "4x [🔒]"

OPERATION

Status indicator LEDs

Lift signal

 A red LED above this symbol shows that the lift sensor has triggered.

Note: Vibrations or collisions can also trigger the lift sensor.

If this sensor is triggered for less than one second, the Robomower will resume its work schedule immediately.

When triggered more than 1 but less than 8 seconds, it will only restart working after a brief pause. In case the lift signal last more than 8 seconds, the Robomower's anti-theft system triggers. The device will lock itself and an alarm will sound.

Boundary wire signal

The boundary wire emits an electromagnetic signal. The Robomower uses this signal to determine if it is within the cutting area.

 The red LED above this symbol flashes when the device does not receive the "within boundary" signal. In this case, the Robomower stops mowing immediately.

Low battery remain symbol

 This LED will turn on when the battery charge is low. In this case, the Robomower will immediately return to the charging station.

Charging

 This LED will flash while the battery is charging. A continuous LED indicates a fully charged battery.

While charging, the boundary signal receiver is powered off to save energy. This can cause the "boundary wire signal" LED to turn on.

OPERATION

Working time setting



The above buttons let you choose the mower's daily working hours.

Please refer to the below table for the recommended working time per day, depending on the working area.

The currently set working time is indicated by the illuminated button.

A flashing button means that the device has already worked the respective hours that day.

Note: The average working time with a fully loaded battery is less than the minimal working time setting of 4 h. When the Robomower returns to the charging station, the clock does not stop. The charging time counts as working time.

| Recommended time per day(hour) | |
|--------------------------------|---------|
| 300m ² | 4 hours |
| 500m ² | 6 hours |

After the working time is selected, the corresponding LED will be lit up LED flash means out of working time.

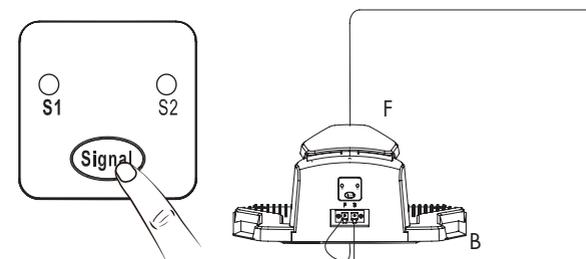
Signal setting



To avoid interference with a second Robomower, there are two different boundary signals available.

Be sure to choose the same signal (S1 or S2) for the charging station and the Robomower.

Use the control at the back of the charging station to switch between signal S1 and S2.



OPERATION

Press S1 or S2 on the control panel to match the Robomower's signal to the charging station's. The button of the currently active signal is illuminated.



Home & start button

Press the START button and close the top cover and the Robomower will begin cutting. When the programmed work time is passed, the device will return to the charging station.

Important note:

The Robomower will start working again on the following day and at the same time of day when the start button was pressed initially.

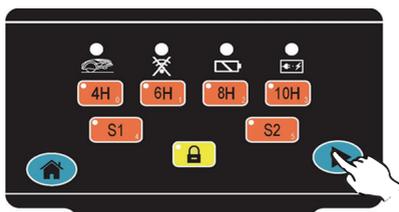
Example: You start the Robomower on Monday at 15:30 with a working time of 4 h. The device will work on Monday until 19:30 and then return to base. On Tuesday 15:30, the Robomower will automatically start again working for the same 4 h. This will continue every day until interrupted by the user.

HOME

Pressing the HOME button and closing the lid will send the Robomower back to base for a complete recharge. Note this will not stop the current programming. If the working time has not run out when charging is complete, the device will start cutting again. It will also start working again on the following day.

STOP

To interrupt the automatic working schedule, press the STOP button to open the top cover, and close it again without pressing any control button. The Robomower will beep four times to confirm the interruption. It will not resume working without further user commands.



OPERATION

Edge cutting

As the first cutting action of each day, the Robomower will trim the lawn edge. Therefore, while cutting, it follows the boundary wire in clockwise direction.

This function only engages when the Robomower launches from the charging station.

Charging Information

The Robomower will go back to charging station by itself in the following situations:

1. When you press the  button and close the keypad top cover.
2. When the working time is reached.
3. When less than 30 % battery charge is remaining.

Note: If the Robomower fails to dock to the charging station, it will return to the cutting area and try again.

Note: If the ambient temperature around charging station is higher than 40 °C, the device will stop charging to protect the battery. Once the temperature drops sufficiently, charging will resume automatically.

CLEANING/MAINTENANCE



Work that has not been described in these instructions must be carried out by a servicing agency authorised by the manufacturer. Only use original parts.

Maintenance

Check and clean your Robomower regularly and replace worn parts if necessary. Preferably use a dry brush, a damp cloth or a sharpened wooden piece.

Never use flushing water.

Following these maintenance instructions can extend your Robomower's service life.

Battery Life

The Robomower has a maintenance free Li-ion battery, with an estimated life of more than 2 years (depending on treatment and usage).

Winter Storage

During winter, keep your mower, charging station and power supply in a dry place.

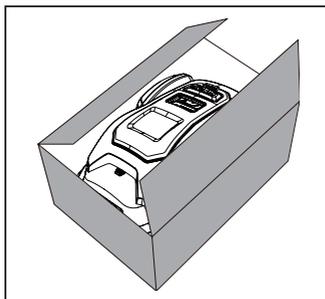
We recommend a shed, garage or preferably store it indoors.

Prepare your device for winter storage as follows:

1. Fully recharge the battery.
2. Set the main power switch to "OFF".
3. Thoroughly clean your Robomower.
4. Unplug the power supply from the mains outlet.
5. Disconnect the power supply from the charging station.
6. Disconnect the boundary wire from the charging station. Lift up the charging station, and clean it. The boundary wire can remain outside. However, it is imperative to protect the wire against corrosion. We recommend a water-free grease or suitable sealing tape.

If available, repack the product in the original packaging.

Alternatively, our service centre offers a winter service for your device. This will include a check-up of all parts and - if available - a software upgrade.



CLEANING/MAINTENANCE

Preparing for spring

After winter storage, please clean the charging contacts on both the Robomower and the charging station.

Use a fine abrasion paper or a brass brush; this will help to achieve the best charging efficiency and avoid any charging interference.

Cleaning and Maintenance

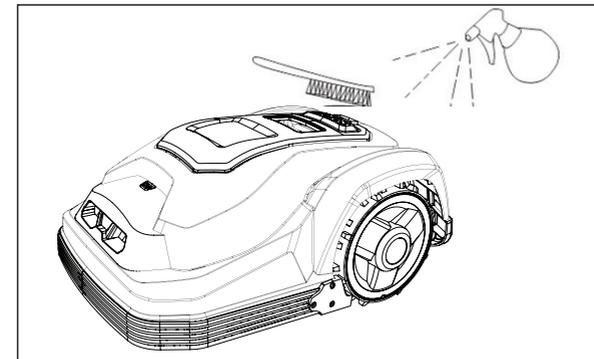
It's important to keep your Robomower clean.

The mower will deal with slopes easier when the wheels are clean. Sharp cutting blades need less power and create cleaner cuts.

Remember to turn off the main power switch (11) before any maintenance. Use protective gloves when handling the blades! Never use a high pressure washer, garden hose or running water when cleaning the device.

Cleaning the mower body

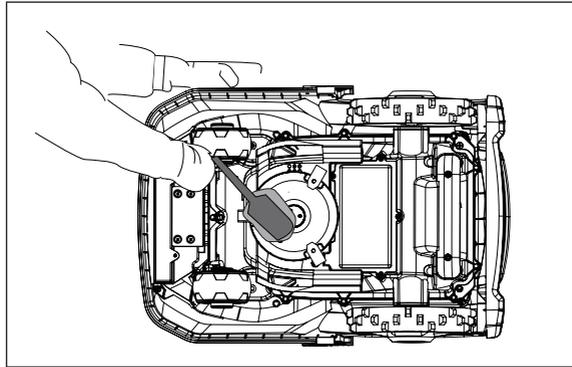
As your Robomower is battery powered you need take care when cleaning. Remove rough dirt with a soft brush. Use a manual water spray with mild household detergent for intensive cleaning. Wipe off any residue after cleaning with a moist rag.



CLEANING/MAINTENANCE

Cleaning the underside

Ensure the main power switch (11) is in OFF position. Wear protective gloves. Turn the Robomower onto its side to expose its underside. Clean the blade disc and frame using a soft brush or damp cloth. Rotate the blade disc to make sure that it moves freely, and check that the blades can turn on their pivots and no grass is obstructing them.



Clean the contact pins and the charging strips

Using wire wool, metal cleaner or very fine grade emery paper, clean the contact pins and the charging strips on your mower and charging station. Remove any debris, leaves, or grass clippings around the contact pins and charging strips to ensure efficient charging.

Reversing or replacing the blades



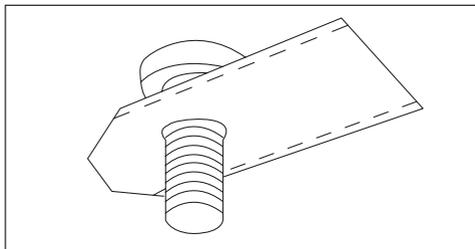
WARNING!

Ensure the Robomower is completely shut off before cleaning, adjusting or replacing the blades. Always wear protective gloves.



WARNING!

To ensure maximum cutting efficiency and safety, always use recommended replacement blades and blade mounting parts when replacing.



CLEANING/MAINTENANCE

Your Robomower has three blades, fixed to the blades disk.

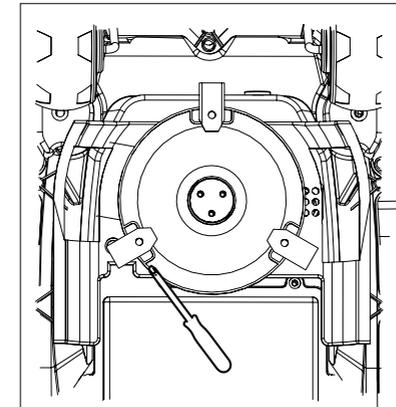
Unless damaged by hard obstacles, these blades can last for up to five months of everyday use.

Weekly inspection of the blades and the fixing screws is required. Note that the blades are double-edged. Once the first side is blunt, loosen the fixing screw. Turn the blade upside-down and fix it again with the fixing screw. After tightening the fixing screw, verify that the blade can rotate freely around the screw.

A set of spare blades is included with the Robomower. More are available from customer support. The blade's spare part number is 846210.

Only use original spare parts. For best performance and avoiding imbalance, always turn or replace all three blades at the same time.

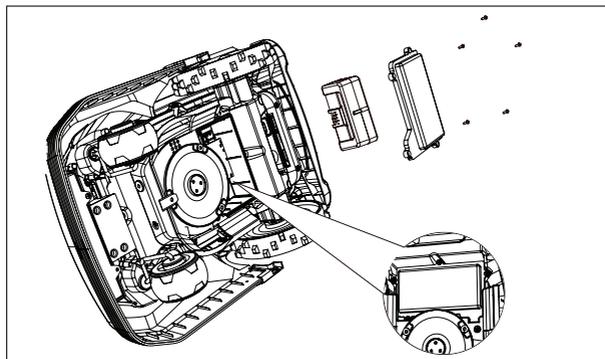
Replacing the battery



While the actual battery life will depend on usage and environmental factors, the typical service life is several years. Spare batteries are available from customer support. To replace the battery, please follow the instructions below.

- 1) Ensure the main power switch (11) is turned OFF. Clean the underside as instructed.
- 2) Set the Robomower to the lowest cutting height.
- 3) Turn the mower upside-down. Remove the 5 screws fixing the battery compartment's lid. Note one screw is partially covered by the blade protector and is only accessible through a service hole.
- 4) Pull out the battery and disconnect it from the Robomower.
- 5) Carefully clean the lid and the edge of the battery compartment. Debris may allow excessive water entering the battery compartment, causing major damage to the device.
- 6) Connect and insert the replacement battery, close the compartment and fix the lid with 5 screws. Do not turn on the Robomower before placing it back on its wheels - beware of sharp blades!

CLEANING/MAINTENANCE



Short-time storage

- Store the machine in a dry place well out of reach of children.
- Do not wrap nylon sacks around the machine, as this could result in the formation of moisture.

TROUBLESHOOTING

Troubleshooting for the charging station

| | LED | Description |
|---|---------------------|---|
| 1 | Blue light on | Normal |
| 2 | Blue flash, Red off | Charging station internal error; boundary wire OK |
| 3 | Red flash, Blue off | Charging station OK; boundary wire connection is poor or broken |
| 4 | Red and Blue flash | Charging station internal error; boundary wire connection is poor or broken |

Troubleshooting for the Robomower

| Nr. | Message | Symptom | Action |
|-----|--|---|--|
| 1 | NONE | Robomower cannot dock with charging station | <ol style="list-style-type: none"> 1. Check if boundary wire under and in front of the charger is straight line. 2. Check that the charging station's position is suitable as explained in this manual. |
| 2 | NONE | Robomower runs in circles while mowing or while following boundary wire back to charging station. | <ol style="list-style-type: none"> 1. Verify that no power cable runs parallel and in close proximity the boundary wire. If necessary, reposition the boundary wire. 2. Check if a front wheel is stuck. 3. If a neighbor has a similar Robomower, the signals may interfere. Try setting your charging station and Robomower to the alternative boundary signal. 4. Driving motor may be damaged, please contact customer support |
| 3 | NONE | The Robomower is very noisy. | <ol style="list-style-type: none"> 1. Inspect the blade fixing screws; tighten if necessary. 2. Inspect the blades for damage; replace if necessary. 3. Grass too high. Increase cutting height. Alternatively, mow the lawn with an ordinary lawnmower firstly, choosing a cutting height just above the desired cutting height. 4. Cutting motor failure, please call after sales service |
| 4 | NONE | Mower remains at or returns to charging station when pressing START and closing the lid. | <ol style="list-style-type: none"> 1. Check if the mower already completed the programmed working time for that day. 2. Check if the battery is very low |
| 5 |  LED flash | Lift-sensor triggered | <ol style="list-style-type: none"> 1. Too-high and dense grass (taller than 60 mm) may cause the Robomower to lift. Mow the lawn with an ordinary lawnmower. 2. Check the mower is free from obstructions. |

TROUBLESHOOTING

| Nr. | Message | Symptom | Action |
|-----|--|--|---|
| 6 |  LED flash | The Robomower does not receive the boundary wire signal. (Robomower placed inside boundary area.) | <ol style="list-style-type: none"> 1. Verify that the charging station indicator light is blue. If not, refer to installation instructions and charging station troubleshooting. 2. Verify that both charging station and Robomower are set to the same signal, S1 or S2. 3. Check if the boundary wire is connected in the correct direction. 4. Switched, the sensor will state "outside" when inside the boundary, and vice-versa. To verify, disconnect the boundary wire from the charging station, and reconnect it the opposite way. |
| 7 |  LED flash | Battery voltage is too low to perform normal mowing. | <ol style="list-style-type: none"> 1. Normally if voltage is low, the mower should automatically return to the charging station. 2. If not, please carry your mower manually to charging station when it has stopped on the lawn. |
| 8 |  LED flash | Charging | Wait for battery to recharge. |
| 9 | | Reset factory defaults | <ol style="list-style-type: none"> 1. Switch OFF the device. 2. Place Robomower on flat, even surface. 3. While pressing and holding the START button, switch ON the device. 4. The Robomower will boot up. All LEDs flash. 5. Release START button. Factory reset is complete. <p>Note: The Robomower must stand on a flat surface, because the inclination sensors are also zeroed.</p> |

DECLARATION OF CONFORMITY

To the provisions of Council Directives

We
SUMEC UK Co.,Ltd.
Unit A&B, Escrick Business Park
Escrick, York YO 19 6FD

Declare that the product:

Machine Description: Robomower
 Machine Type: SA500ECO
 Charger Model: FY3201500
 Function: Cutting grass

Complies with the essential health and safety requirements of the following directives:

EC Machinery Directive: 2006/42/EC
 EC Directive of Electromagnetic Compatibility 2014/30/EU
 EC Noise Directive 2000/14/EC & 2005/88/EC
 WEEE Directive (2012/19/EU)
 RoHS Directive (2011/65/EU)

Standards and technical specification referred to:

EN 60335-1:2012+A11;
 EN 50636-2-107:2015;
 EN 62233:2008;
 EN 55014-1:2006+A1+A2;
 EN 55014-2:2015
 EN 61558-1:2005+A1
 EN 61588-2-16:2009+A1
 EN 60529 1991+A1: 2000
 EN 61000-3-2:2014
 EN 61000-3-3:2013
 EN 50581:2012

Authorized Signatory

Date: 11.10.2017

Signature: _____

M. Hall

Place: York
 Name: Mariana Hall
 General Manager

SUMEC UK
 Unit A&B Escrick Business Park
 Escrick, York
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