

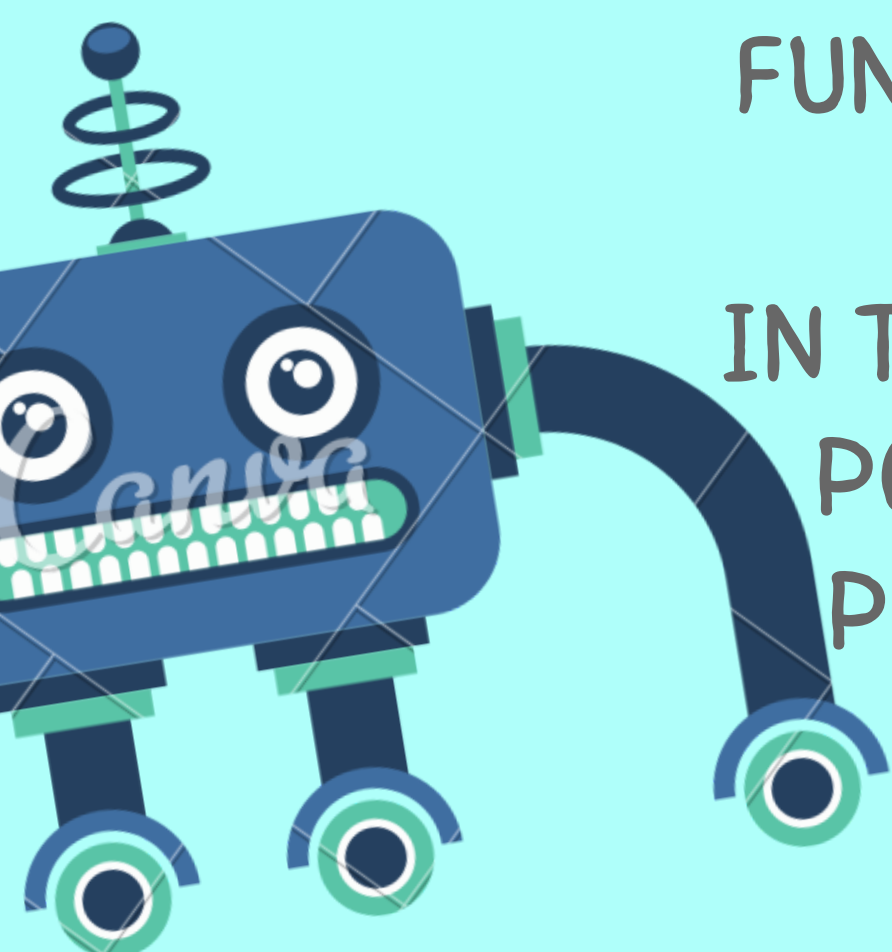


A ROBOTIC MOWER IS AN EXPENSIVE DEVICE, SO YOU CERTAINLY DO NOT WANT YOUR ROBOTIC MOWER TO BE STOLEN. BUT WHAT CAN PREVENT A THIEF FROM SIMPLY WALKING INTO THE YARD AND GRABBING THE ROBOTIC MOWER? WHICH FUNCTIONS PROTECT THE ROBOTIC MOWER AGAINST THEFT? I HAVE ALREADY DEALT WITH THIS IN DETAIL AND WOULD LIKE TO SHARE MY FINDINGS WITH YOU HERE.

HOW IS A ROBOTIC MOWER PROTECTED FROM THEFT? THE FOLLOWING METHODS AND TECHNIQUES ARE AVAILABLE TO PROTECT THE ROBOTIC MOWER AGAINST THEFT:

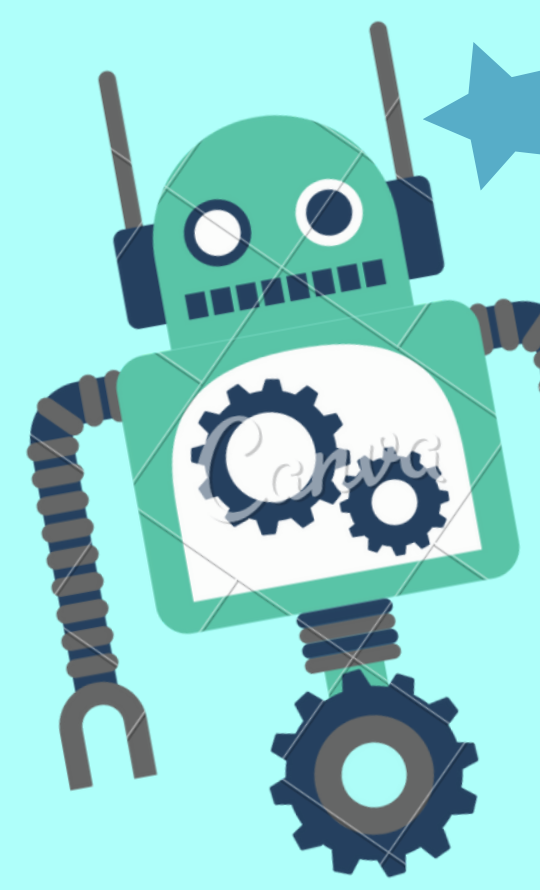
PIN PROTECTION AUDIBLE ALARM SIGNAL LIFT SENSOR BLOCKING FUNCTION INSTALLATION LOCK TIME LOCK FUNCTION GPS TRACKING GEOFENCING THEFT INSURANCE DEVICE REGISTRATION WITH THE MANUFACTURER THEFT-PROOF ROBOTIC MOWER GARAGE VISUAL PROTECTION MANY OF THESE FUNCTIONS ARE USED IN COMBINATION WITH EACH OTHER.

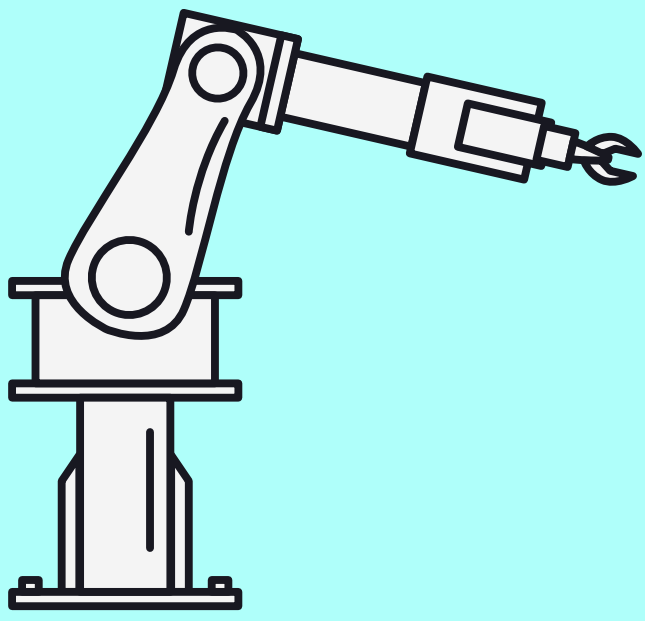
IN THE FOLLOWING, I WILL EXPLAIN EACH OF THESE POSSIBILITIES AND FUNCTIONS FOR THE THEFT PROTECTION OF A ROBOTIC MOWER IN DETAIL.



Razaz mahboub

SMART METHOD





1-WITH THE INSTALLATION PROTECTION MENTIONED BELOW, FOR EXAMPLE, YOU MUST ENTER THE PIN IF YOU WANT TO INSTALL THE ROBOTIC MOWER ON A CHARGING STATION FOR THE FIRST TIME. THIS IS TO PREVENT THIEVES FROM BEING ABLE TO INSTALL THE ROBOTIC MOWER SOMEWHERE ELSE AFTER TAKING IT.

HOWEVER, THE PIN HAS ANOTHER FUNCTION: WHEN THE UNIT IS STOPPED (BY PRESSING STOP) OR WHEN IT IS LIFTED, THE PIN MUST BE ENTERED. IF THIS IS NOT DONE WITHIN A CERTAIN TIME, AN ALARM WILL SOUND.

YOU MUST ALSO ALWAYS USE THE PIN IF YOU WANT TO CHANGE SETTINGS ON THE ROBOTIC MOWER.

2- AUDIBLE ALARM SIGNAL THE ROBOTIC MOWER'S AUDIBLE ALARM SIGNAL IS INTENDED TO ALERT YOU IF SOMEONE ATTEMPTS TO STEAL THE ROBOTIC MOWER.

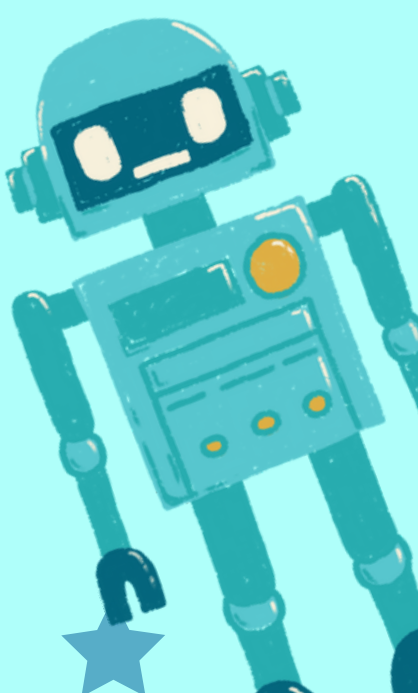
THIS ALARM SIGNAL CAN SOUND IN VARIOUS SITUATIONS.


THE ALARM WILL ALWAYS SOUND WHEN THE ROBOTIC MOWER HAS BEEN LIFTED AND THE PIN HAS NOT BEEN ENTERED WITHIN A PERIOD OF USUALLY 10 SECONDS. THE SAME APPLIES TO STOPPING THE ROBOTIC MOWER VIA THE STOP BUTTON. WHEN YOU LIFT OR STOP THE ROBOTIC MOWER, YOU WILL FIRST HEAR A CLICK TO REMIND YOU TO ENTER THE PIN CODE.

THE ALARM SIGNAL ALSO WORKS IN COMBINATION WITH GEOFENCING. WITH GEOFENCING, WHICH IS AVAILABLE TO ROBOTIC MOWERS WITH GPS, THE ROBOTIC MOWER MAY ONLY MOVE A CERTAIN DISTANCE AWAY FROM A FIXED POINT IN YOUR YARD. THE ROBOT COMPARES ITS CURRENT GPS COORDINATES WITH THE COORDINATES OF THE POINT.

IF IT MOVES TOO FAR AWAY FROM THIS POINT, THE ALARM SOUNDS WHILE THE ROBOTIC MOWER SIMULTANEOUSLY SENDS A WARNING MESSAGE VIA APP OR SMS.

SMART METHOD





3- LIFT SENSOR AND TILT SENSOR I HAVE ALREADY BRIEFLY MENTIONED THE LIFTING SENSOR IN CERTAIN PLACES. THIS IS A SPECIAL SENSOR IN THE MOWER WHICH DETECTS WHEN THE ROBOTIC MOWER IS LIFTED. THERE IS ALSO A TILT SENSOR THAT DETECTS WHEN THE ROBOTIC MOWER TIPS OVER.


THESE SENSORS SERVE SEVERAL PURPOSES AT ONCE. FIRSTLY, THEY HELP ENSURE BODILY SAFETY, BECAUSE IF THE ROBOTIC MOWER IS TIPPED OR LIFTED, THE MOWING UNIT IS AUTOMATICALLY SWITCHED OFF SO THAT NOBODY CAN BE INJURED.

BUT THE SENSORS ARE ALSO A USEFUL FUNCTION FOR THEFT PROTECTION. IF THE ROBOTIC MOWER IS LIFTED BY A THIEF, THE MOWER LOCKS ITSELF. IF THE PIN IS NOT ENTERED WITHIN 10 SECONDS, THE ALARM WILL SOUND TO ALERT YOU THAT SOMEONE IS PROBABLY TRYING TO STEAL THE ROBOTIC MOWER.

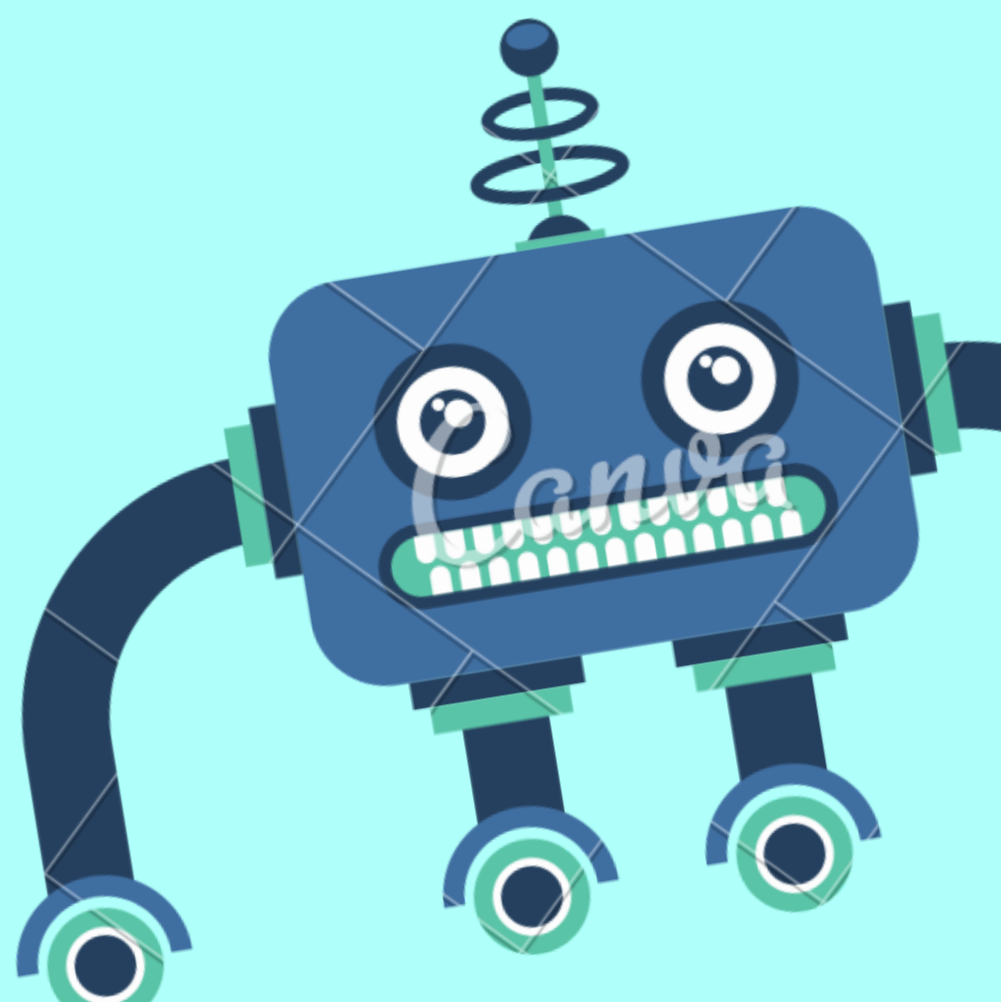
ONLY WHEN THE PIN IS ENTERED AGAIN DOES THE ALARM STOP AND THE ROBOTIC MOWER UNLOCKS AGAIN.

4- LOCKING FUNCTION THE LOCKING FUNCTION IS NOT A THEFT PROTECTION DEVICE IN THE STRICTEST SENSE, BUT IT IS INTENDED TO PREVENT A POTENTIAL THIEF FROM BEING ABLE TO USE THE DEVICE AFTER A THEFT. THE LOCKING FUNCTION WORKS IN COMBINATION WITH THE LIFTING SENSOR AND GEOFENCING.

5- INSTALLATION LOCK THE INSTALLATION LOCK WORKS IN CONJUNCTION WITH THE PIN FUNCTION. IF THE UNIT IS TO BE INSTALLED ON A NEW CHARGING STATION, THE PIN MUST BE ENTERED. THIS IS TO PREVENT THE UNIT FROM BEING INSTALLED ON A NEW CHARGING STATION AFTER A THEFT.



SMART METHOD





6- TIME LOCK FUNCTION IN PARTICULAR, HUSQVARNA AND MCCULLOCH UNITS HAVE A TIME LOCK FUNCTION. THIS IS AN INTEGRATED TIMER FOR 30 DAYS. EVERY 30 DAYS, AFTER OPENING THE COVER, THE PIN MUST BE RE-ENTERED TO USE THE DEVICE. OTHERWISE, IT SIMPLY LOCKS AND CANNOT BE USED AGAIN UNTIL THE PIN IS ENTERED. HOWEVER, IF THE COVER IS NOT OPENED (BECAUSE NOTHING IS CHANGED IN THE SETTINGS), THE ROBOTIC MOWER WILL CONTINUE TO MOW BEYOND THE 30 DAYS WITHOUT HAVING TO RE-ENTER THE PIN CODE.

7- GPS TRACKING MOWING ROBOTS THAT HAVE A GPS MODULE OFTEN HAVE THE POSSIBILITY TO USE GPS TRACKING. WITH GPS TRACKING, THE POSITION OF THE DEVICE CAN ALWAYS BE DETERMINED EXACTLY. THIS CAN, FOR EXAMPLE, BE DISPLAYED ON THE SMARTPHONE VIA APP, OR ON A COMPUTER. THIS MAKES IT A GREAT ADVANTAGE TO HAVE A ROBOTIC MOWER THAT IS EQUIPPED WITH GPS TRACKING. ONE PROBLEM, HOWEVER, IS THAT IT CAN BE SWITCHED OFF BY REMOVING THE ROBOTIC MOWER'S BATTERY. THEN THE GPS MODULE IS NO LONGER SUPPLIED WITH POWER AND THE GPS SIGNAL GOES OUT.

8- GEOFENCING GPS IS ALSO USED FOR GEOFENCING. HERE, HOWEVER, IT IS NOT A MATTER OF LOCATING THE ROBOTIC MOWER, BUT RATHER OF TELLING IT WHERE IT IS ALLOWED TO BE AND WHERE IT IS NOT. YOU DETERMINE A POINT IN YOUR YARD, WHICH IDEALLY SHOULD BE AS CENTRAL AS POSSIBLE. AT THE SAME TIME, YOU TELL THE ROBOTIC MOWER HOW FAR AWAY FROM THIS POINT IT IS ALLOWED TO GO. THE ROBOTIC MOWER KNOWS THE GEO-COORDINATES OF THIS POINT AND CONSTANTLY COMPARES THEM WITH ITS CURRENT POSITION. FROM THIS IT CALCULATES HOW FAR IT HAS MOVED AWAY FROM THE POINT. IF IT HAS MOVED TOO FAR AWAY, FOR EXAMPLE BECAUSE A THIEF HAS STOLEN IT, IT LOCKS ITSELF AND AN ALARM SOUNDS, WHICH CAN ONLY BE DEACTIVATED AGAIN WITH THE PIN.

★ FURTHERMORE, ROBOTIC MOWERS EQUIPPED WITH THE GEOFENCING FUNCTION ARE USUALLY ALSO ABLE TO INFORM THEIR OWNER VIA SMS OR SMARTPHONE APP WHEN THEY ARE OUTSIDE THE "GEOFENCE".

WHY IS IT CALLED "GEOFENCE"? YOU CAN THINK OF IT AS A VIRTUAL FENCE, BASED GEOGRAPHICAL POSITION. IT FORMS A VIRTUAL CIRCLE IN A CERTAIN RADIUS AROUND THE CENTER, THE CENTER YOU HAVE CHOSEN. THIS FENCE CANNOT BE CROSSED BY THE ROBOTIC MOWER WITHOUT TRIGGERING AN ALARM AND BLOCKING ACCESS.



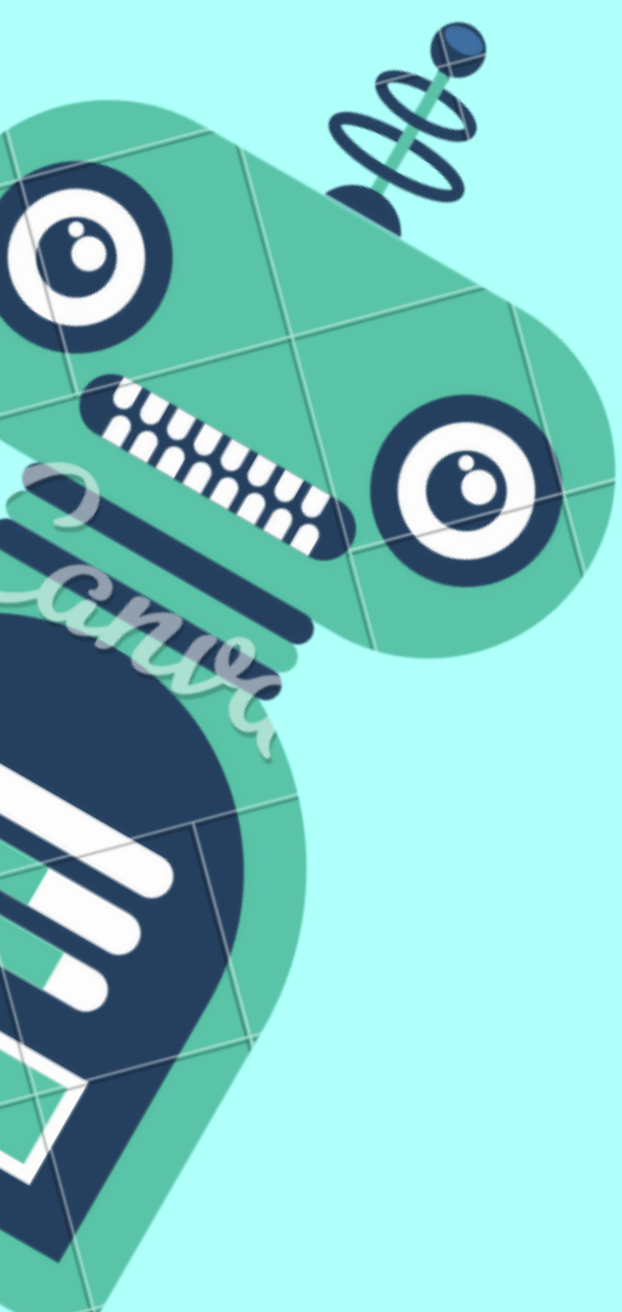
9- THEFT INSURANCE EVEN WITH ALL OF THIS TECHNOLOGY, THERE IS NO GUARANTEE THAT A THIEF WILL NOT SOMEHOW MANAGE TO GET THEIR HANDS ON YOUR ROBOTIC MOWER. THEREFORE IT IS NOT A BAD IDEA TO HAVE INSURANCE AGAINST THEFT.

10- REGISTRATION OF THE DEVICE WITH THE MANUFACTURER ANOTHER WAY TO PROTECT YOURSELF AGAINST THEFT IS TO REGISTER YOUR DEVICE WITH THE MANUFACTURER. MANY MANUFACTURERS OFFER THIS OPTION. THE WHOLE THING WORKS AS FOLLOWS:

THE DEVICE IS REGISTERED TO YOU. IF THE NEW ILLEGAL OWNER – BE IT THE THIEF HIMSELF OR THE UNLUCKY PERSON WHO BOUGHT THE DEVICE AT AUCTION – HAS A SERVICE CASE, FOR EXAMPLE BECAUSE SOMETHING IS DEFECTIVE IN THE ROBOTIC MOWER, THE REGISTRATION OF THE ROBOTIC MOWER IS AUTOMATICALLY CHECKED BY THE SERVICE EMPLOYEE. IF THE SERVICE TECHNICIAN FINDS THAT THE REGISTERED OWNER DOES NOT MATCH THE CURRENT OWNER, THE SITUATION IS CAREFULLY CHECKED AND ANY THEFT IS DETECTED. WITH A BIT OF LUCK, THE DEVICE WILL THEN BE RETURNED TO YOUR ADDRESS.



SMART METHOD



11- THEFT-PROOF ROBOTIC MOWER GARAGE ONE WAY TO PROTECT THE ROBOTIC MOWER FROM THEFT WHILE IT IS IN THE CHARGING STATION IS TO USE THEFT-PROOF GARAGES. THESE ARE DESIGNED IN SUCH A WAY THAT IT IS IMPOSSIBLE FOR A THIEF TO GET TO THE ROBOTIC MOWER.

THERE ARE TWO DIFFERENT TYPES OF GARAGES THAT CAN BE CONSIDERED FOR THIS: THEFT-PROOF GARAGES WITH A LOCKING ROLLING SHUTTER, AND UNDERGROUND GARAGES.

THEFT-PROOF GARAGES WITH A ROLLING SHUTTER ARE MADE OF A ROBUST MATERIAL, E.G. METAL, AND ARE SECURELY LOCKED DURING THE REST PERIODS OF THE ROBOTIC MOWER. THESE GARAGES ARE USUALLY EQUIPPED WITH A TIME LOCK THAT CAN BE PROGRAMMED TO OPEN EXACTLY WHEN THE ROBOTIC MOWER IS SCHEDULED TO START MOWING.

THE GARAGE WILL THEN REMAIN OPEN DURING THE MOWER'S OPERATION. WHEN THE DAILY MOWING WORK IS FINISHED AND YOUR ROBOTIC MOWER IS BACK IN THE GARAGE, THE ROLLING GATE CLOSSES AND NO THIEF CAN GET AT THE ROBOTIC MOWER ANYMORE.

12- VISUAL PROTECTION YOU CAN ALSO REDUCE THE CHANCES OF YOUR ROBOTIC MOWER BEING STOLEN BY TAKING SMALL MEASURES SUCH AS TRYING TO SHIELD YOUR MOWER'S CHARGING STATION AND/OR GARAGE FROM VIEW. FOR EXAMPLE, IT HELPS TO PLACE THE CHARGING STATION IN A PLACE THAT IS NOT EASILY VISIBLE.

EVEN SIMPLE ROBOTIC MOWER GARAGES THAT ARE NOT THEFT-PROOF CAN HELP, AS THEY TOO OFFER A CERTAIN DEGREE OF PRIVACY PROTECTION. ESPECIALLY CLOSED ROBOTIC MOWERS GARAGES MADE OF WOOD OFFER A GOOD VIEW PROTECTION AND CAN ALSO EASILY BE MISTAKEN FOR A DOGHOUSE.

SPECIAL PRIVACY FENCES CAN PROVIDE ADDITIONAL PRIVACY PROTECTION SO THAT NOT EVERY POTENTIAL THIEF CAN SEE THE ROBOTIC MOWER DIRECTLY. ON TOP OF THAT, PRIVACY FENCES USUALLY BLEND IN QUITE WELL WITH THE YARD SCAPE AND CAN EVEN ENHANCE THE LANDSCAPE'S LOOK IN THE END.

