

# markoja

## USER MANUAL

### EPS-RP rotary parking system



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## 1. Introduction

This manual is intended only for EPS-RP rotary parking systems of Markoja d.o.o. and cannot be used for other parking systems.

Graphic symbols used in the manual:



Warning. Refers to situations that could endanger life or health or lead to significant property damage.

Pictures and drawings in this user's guide are provided for reference only and may differ from the actual look at the rotating parking.

Required surface for installation of rotary parking system is 35m<sup>2</sup>, regardless of the EPS-RP model.



## 2. EPS-RP Rotary Parking description

EPS-RP rotary parking is a system which multiplies the capacity of parking spaces on the existing parking area. The vehicle is parked on the parking platform which is then moved to upper position by rotating movement, thus releasing the parking space for other vehicles.

EPS-RP models are:

- EPS-RP6            6 parking spaces
- EPS-RP8            8 parking spaces
- EPS-RP10          10 parking spaces
- EPS-RP12          12 parking spaces

EPS-RP rotary parking is solely intended for parking of vehicles with maximum dimensions:

Maximum vehicle weight:	2500 kg
Maximum vehicle height:	1900 mm
Maximum vehicle length:	5100 mm
Maximum vehicle width:	2200 mm

Maximum vehicle height includes antenna, roof rails and roof rack. The maximum width of the vehicle indicates the width of the vehicle with the open side-view mirrors.

Parking of vehicles that are exceeding the above-mentioned values is not allowed.

Rotational parking is an independent parking system - vehicles can enter or leave the parking lot independently of other vehicles parked on a rotary parking.

Parking platforms are marked with numbers. Parking platform numbers are located at the front and on both sides of each platform.

### 3. Use of Rotary parking

Users of the EPS-RP Parking System must act in accordance with safe operation instructions as described in Chapter 5. Each use that not comply with the safe operation instructions is considered as a misuse.



**Warning! If you notice any malfunction or damage to the system, use the emergency STOP button to force the system to stop. Secure the parking system against unauthorized startup and contact authorized service provider. Do not use the parking system.**

### 3.1. Position of the rotary parking operator and system startup

A person who manages a rotating parking lot, an operator, must be in front of the control box during rotary parking operation. In this way, the operator is out of the danger zone, has good visibility of the parking system rotation and may, in case of emergency, immediately stop the operation of rotary parking. The danger zone is the zone within and/or around the unit where there is a danger to the health or safety of any person in the zone.

Starting the rotary parking system can only be done when all persons and animals have left the danger zone.



**WARNING! During the rotation of parking platform there is a danger from crushing. Before starting of rotary parking, make sure all people are out of the reach of potentially dangerous parts of the device.**



### 3.2. Control of rotary parking system

#### 3.2.1. Control box

The rotating parking control is performed by a control box located on the left column of the rotating parking entrance.



Figure 1: Operation manual and warning signs on the access side of the rotating parking system

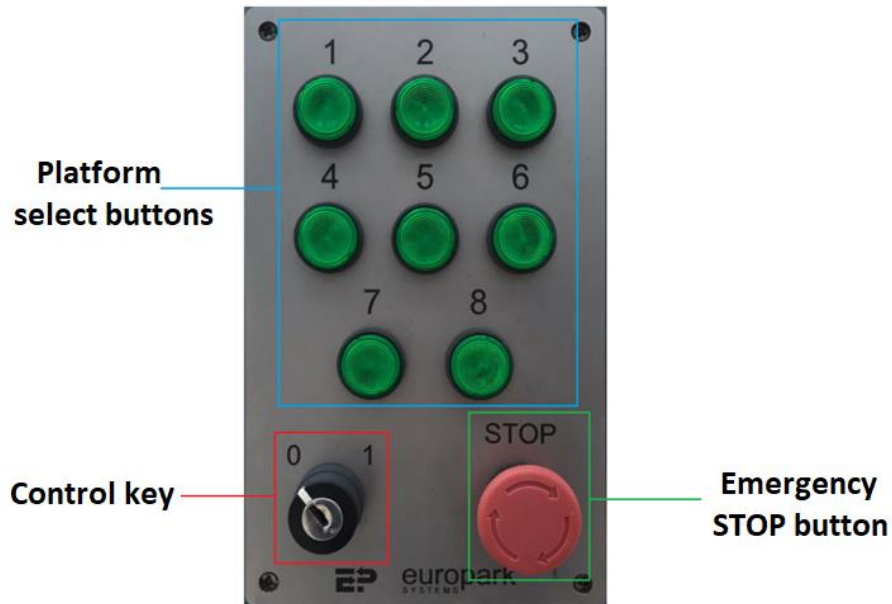


Figure 2: Control box

The control box contains:

- platforms select buttons
- control key
- emergency STOP button.

### 3.2.1.1. Platforms select buttons

The control box contains, depending on the model, 6, 8, 10 or 12 green platforms select buttons. The button number represents a particular parking platform.

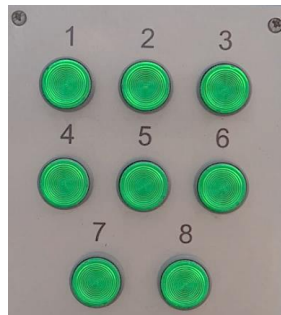


Figure 3: Platform select buttons

After pressing the button, the selected platform moves to the zero position to allow the vehicle to enter or exit the platform.

### 3.2.1.2. Control key

The control key enables or disables system control.

The control key positions are:

- Position "0" - parking system cannot be controlled
- Position "1" - parking system can be controlled.

The system usage can start by inserting the key and unlocking the control box of the system.

Rotary parking can only be operated by placing the control key in position "1". If the parking system is started, it is possible to remove the key from the control box during the rotation, but the rotation cycle continues until the selected platform arrives in the zero position. Thereafter, it is not possible to control the system until the control key is reinserted and set to position "1".



Figure 4: Control key – position "0"



Figure 5: Control key – position "1"

### 3.2.1.3. Emergency STOP button

In case of any danger when using the system, press emergency STOP button to immediately stop the system operation.



Figure 6: Emergency STOP button

If the STOP button is pressed, the same remains in the latched position and prevents the system from starting. Restarting the system is possible when the button is unlatched by turning it clockwise.

## 3.3. Platform selection

If there is no free parking platform at level 0, the operator can call the free platform and allow the parking of the vehicle.

The parking platforms are called by the number, pressing the corresponding green section button. The parking platform numbers are located on the front and on both sides of each platform.

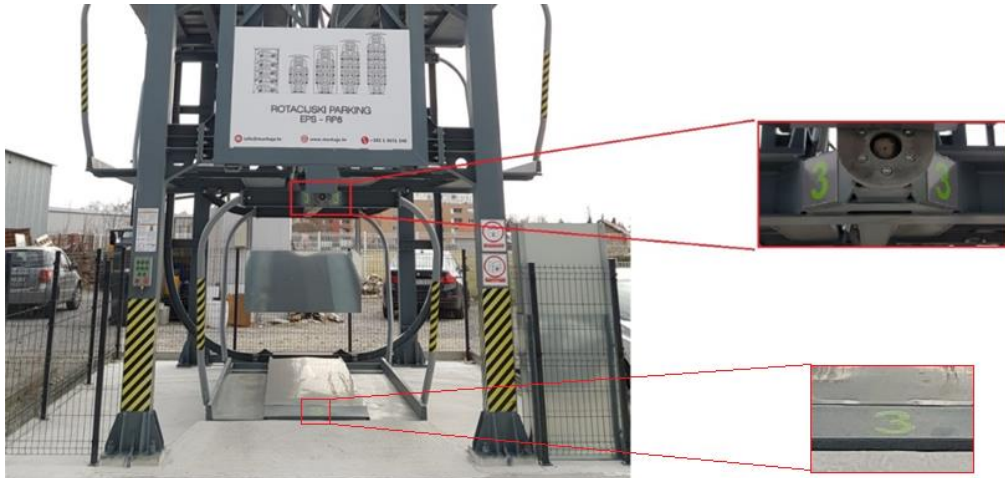


Figure 7: Platform number marking – front side

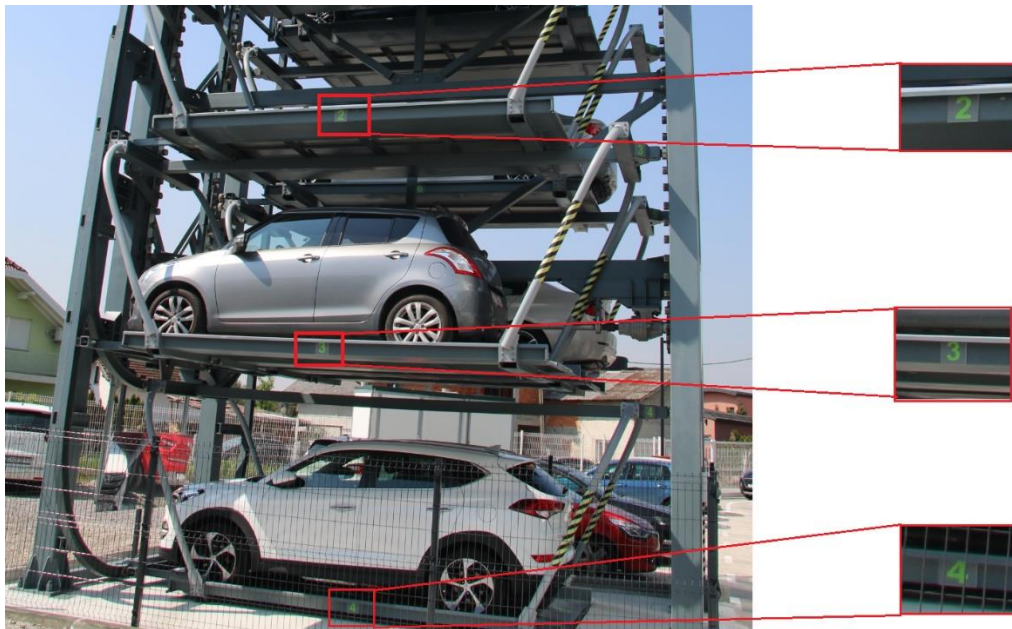


Figure 8: Platform number marking – side marking

When a designated platform is called, the green button is lit until the called platform reaches the lowest position on the rotary parking at level 0. When the green light turns off, the selected platform has reached level 0 and it is ready to load or unload vehicles.

The green blinking of a single button on the control box indicates a platform that currently passes through a level 0 but is not intended to stop at that level.

After parking is complete, set the control key to position "0" and remove it from the control box to prevent unauthorized use and unwanted system start.

### 3.4. Vehicles entering and exiting the rotary parking

#### 3.4.1. Vehicles entering the rotary parking



**WARNING! Prior to entering a vehicle in a rotary parking, it is necessary to check the maximum permissible mass of the vehicle and the maximum vehicle dimensions.**

Before parking a vehicle on a platform, it is necessary to remove the remains of snow and ice from the vehicle and all passengers and animals must exit the vehicle. Passengers and animals should not exit the vehicle on the platform.

If there is a luggage in the vehicle, it must be unloaded before the vehicle enters the rotary parking - it is not allowed to unload the goods from the vehicle on the parking platform.

It is not allowed to enter a parking platform with snow chains on the vehicle due to possible damage to the platform.

If necessary, remove the roof boxes, roof rails and the antenna from the vehicle.

Vehicles on a rotary parking are parked on a free parking platform at level 0. The EPS-RP system has - depending on the model - 6, 8, 10 or 12 parking platforms. If there is no free parking platform at level 0, it is necessary to call it (see chapter 3.3).





Figure 9: Free parking platform at level "0"



Figure 10: Occupied parking platform at level "0"

Vehicles must always enter parking platform with the front side.

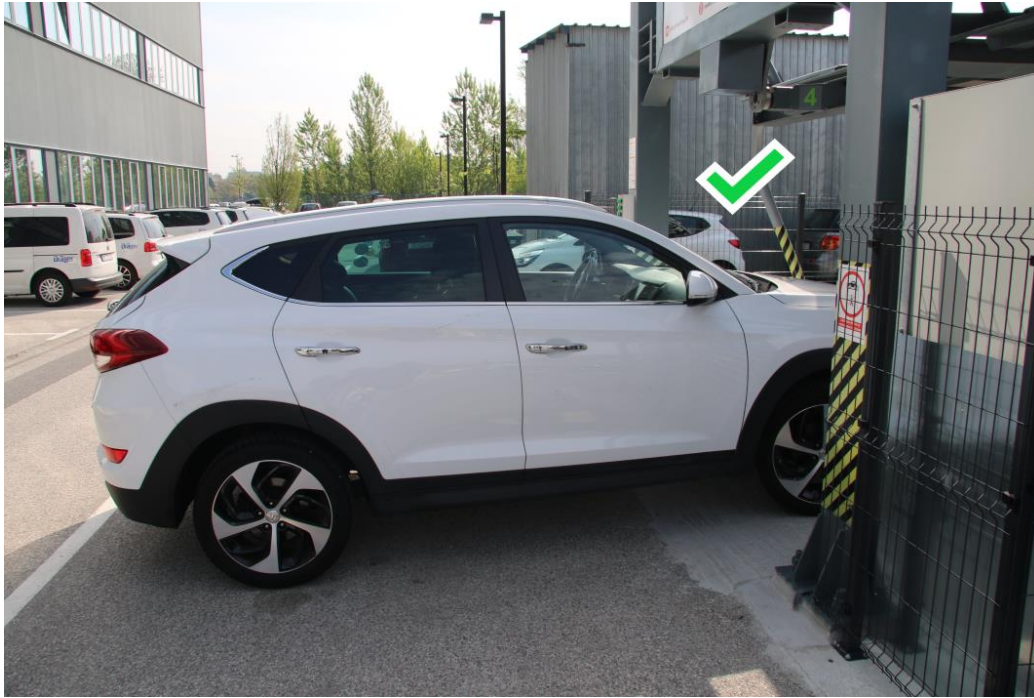


Figure 11: Correct entry at the rotary parking with the front side of the vehicle



Figure 12: Incorrect entry at the rotary parking with the back side of the vehicle



The maximum vehicle speed when entering a rotating parking space is 5 km / h (walking speed). Excessive braking and acceleration must be avoided on the parking platform. When entering the parking platform, the vehicle wheels must be positioned within the wheel lane of the parking platform.



Figure 13: Wheel lanes at the parking platform



Figure 14: Correct positioning of the wheels during vehicle entry





Figure 15: Correct positioning of the wheels on the wheel lanes

Mirror on the front of the rotary parking allows the driver additional control of the correct entry of the vehicle on the parking platform and positioning within the wheel lanes.

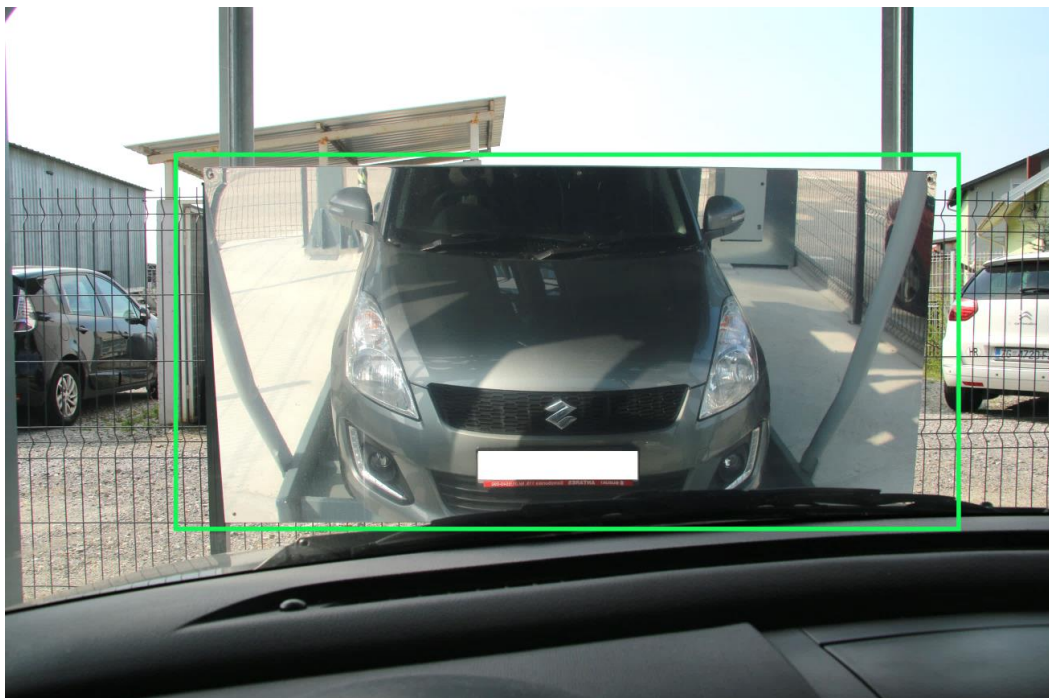
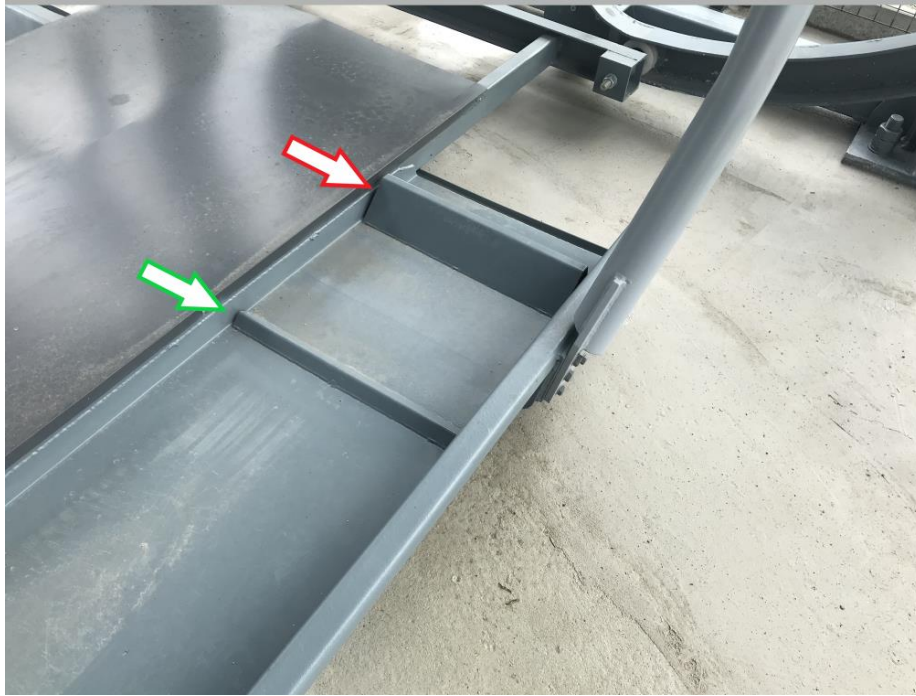


Figure 16: Mirror on the front of the rotary parking for wheel positioning control

There are two safety barriers on the wheel lanes of the parking platform - the first (small) barrier and the second (large) barrier - which are given for correct wheel positioning and parking on parking platform.



*Figure 17: Safety barriers on the wheel lanes*

The vehicle is being parked until the front wheels pass the first safety barriers. The vehicle must be stopped when the front wheels are located between the first and the second safety barriers on the wheel lanes.



Figure 18: Correct positioning of the wheels between two barriers



**WARNING! The vehicle must not cross over the second safety barrier on the lane. Moving the vehicle over second barrier can result in driver injuries and serious vehicle and rotary parking damage.**

A mirror in the interior of the rotary parking allows the driver to further control the position of the vehicle on the parking platform.

After the driver has stopped the vehicle on the parking platform, the vehicle must be put in the first gear (P position in case of automatic transmissions) and hand brake applied. When the vehicle is parked, the driver must leave the vehicle, lock it out and leave the parking space.

### 3.4.2. Vehicles exiting the rotary parking

If the parked vehicle is not on the platform at level 0 of rotary parking, it is necessary to call the appropriate parking platform (see chapter 3.3).

Vehicles from the rotary parking exit the parking platform at level 0, slow driving backwards (up to 5 km/h). Before moving backwards, it is necessary to check whether there are any persons, objects or other vehicles waiting for the entrance.

While exiting the rotary parking, it is not allowed to stay on the access ramp.



#### 4. Emergency stop



**WARNING! In case of danger, press the emergency "STOP" button on the control box for forced stop.**

Restarting the system is possible when the button is unlatched by turning it clockwise.

Before restarting, make sure there is no risk of restarting the system.



## 5. Basic instructions for safe operation

Basic instructions for safe operation are:

- The rotary parking system can only be operated by adults who have read this manual. It is forbidden to handle rotary parking by unauthorized persons, especially children
- If you notice any malfunction or damage to the system, use the emergency STOP button to force the system to stop. System usage is forbidden
- Always make sure that no people, animals, or objects are inside the working area before starting the system
- People, animals and objects should be at a safe distance during system operation
- Passengers and animals must not enter or leave the vehicle on a parking platform
- Vehicles must always enter parking platform with the front side
- The maximum speed of the vehicle when entering and exiting the parking platform is 5 km/h
- Using the device as a car and/or passenger lift is prohibited.
- It is not allowed to unload the goods from the vehicle on the parking platform
- Operator must be in front of the control box during rotary parking operation where he has good visibility of the parking system rotation
- Parking of vehicles that are exceeding the maximum allowed values is prohibited
- The parking system must not be loaded in excess of its nominal load bearing capacity
- Placing damaged vehicles, vehicle parts, or other objects on the platform is not allowed.

Each system has "Warning Signs" and "Rotating Parking Instructions" at the front.



Figure 19: Warning sign for forbidden climbing on platform



Figure 20: Warning sign for forbidden entry during system operation

Basic instructions example:

<b>ROTARY PARKING BASIC INSTRUCTIONS</b>	
<b>Read the instructions carefully before use</b>	
<b>SECURITY MEASURES</b>	
<ul style="list-style-type: none"> <li>• EPS-RP rotary parking is solely intended for parking of passenger cars. It is not allowed to lift the goods and persons on the parking platform.</li> <li>• Access to rotary parking is permitted only from the front.</li> <li>• Always make sure that no people, animals, or objects are inside the working area before starting the system.</li> <li>• Before starting of rotary parking, make sure all people are out of the reach of potentially dangerous parts of the device.</li> </ul>	<ul style="list-style-type: none"> <li>• Vehicles must always enter parking platform with the front side. The vehicle is being parked until the front wheels pass the first safety barriers. The vehicle must be stopped when the front wheels are located between the first and the second safety barriers on the wheel lanes.</li> <li>• The maximum speed of the vehicle when entering and exiting the parking platform is 5 km/h. Excessive braking and acceleration must be avoided on the parking platform.</li> <li>• Passengers and animals should not exit the vehicle on the platform.</li> <li>• After parking is complete, set the control key to position "0" and remove it from the control box to prevent unauthorized use and unwanted system start.</li> </ul>
 <p style="text-align: center;"><b>UNAUTHORISED ENTRANCE IN PARKING SPACE IS PROHIBITED!</b></p> <p>Rotary parking maintenance can only be performed by authorized person. Before maintenance starts:</p> <ul style="list-style-type: none"> <li>• Switch off the main switch in the control cabinet and secure it from the undesired activation.</li> <li>• Turn the control key to „0“ and remove it from control box to prevent unwanted power on.</li> </ul>	
<b>ROTARY PARKING USAGE</b>	
 <p style="text-align: center;"><b>Entering the rotary parking</b></p> <p>Prior to entering a vehicle in a rotary parking, it is necessary to check the maximum permissible mass of the vehicle and the maximum vehicle dimensions.</p> <ul style="list-style-type: none"> <li>• Before parking a vehicle on a platform, it is necessary to remove the remains of snow and ice from the vehicle</li> <li>• It is not allowed to enter a parking platform with snow chains on the vehicle</li> <li>• It is not allowed to unload the goods from the vehicle on the parking platform.</li> <li>• Always place the vehicle on the platform in such a way that it does not interfere with the parking sensors installed at the front and rear of the platform.</li> <li>• Parked vehicle must be put in the first gear (P position in case of automatic transmissions), hand brake applied and engine turned off.</li> <li>• Be sure to lock the parked vehicle</li> </ul>	 <p style="text-align: center;"><b>Rotary parking control</b></p> <ul style="list-style-type: none"> <li>• The rotating parking control is performed by a control box (picture above) located on the left column of the rotating parking entrance.</li> <li>• Rotary parking can only be operated by placing the control key in position "1".</li> <li>• The parking platforms are called by the number, pressing the corresponding green section button. The green button is lit until the called platform reaches the lowest position at level 0. The green blinking of a single button on the control box indicates a platform that currently passes through a level 0.</li> </ul>
 <p style="text-align: center;"><b>WARNING!</b> During the rotation of parking platform there is a danger from crushing.</p>	 <p style="text-align: center;"><b>WARNING! In case of danger, press the emergency "STOP" button on the control box for forced stop.</b></p> <ul style="list-style-type: none"> <li>• Restarting the system is possible when the button is unlatched by turning it clockwise</li> <li>• After the parking is finished turn the control key to „0“ and remove it from control box to prevent unwanted power on.</li> </ul>
<p style="text-align: center;"><b>Maximum permissible mass of the vehicle and the maximum vehicle dimensions</b></p> <p><b>max. vehicle weight: 2500 kg</b> <b>max. vehicle height: 1900 mm</b> <b>max. vehicle length: 5100 mm</b> <b>max. vehicle width: 2200 mm</b></p> <p>Parking of vehicles that are exceeding the above-mentioned values can be damaged during parking or system operation.</p> <p><u>Maximum vehicle height includes antenna, roof rails and roof rack. The maximum width of the vehicle indicates the width of the vehicle with the open side-view mirrors.</u></p>	<p>In the event of a fault or failure of the parking system please contact:</p>

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Slika 1: Basic instructions example