PARKLIO™ CHAIN
USER MANUAL

Automatic with remote control on your smartphone

24VDC chain barrier for residential and collective use

Up to 20m width passage barrier

High usage factor

Obstacle detection

Self-learning of open/close distances (encoder)

Electronic soft start-soft stop

Use of external limit switches (encoder)

Housing for battery backup

Downloadable application for your smartphone

A temporary digital key for your visitors

Parklio

Thank you for the confidence you have shown us by purchasing our product.

Please read this manual first!

Dear Customers,

We hope that all your expectations of this product will be fulfilled. Parklio™ Chain is manufactured using the latest technologies and has undergone rigorous quality control procedures.
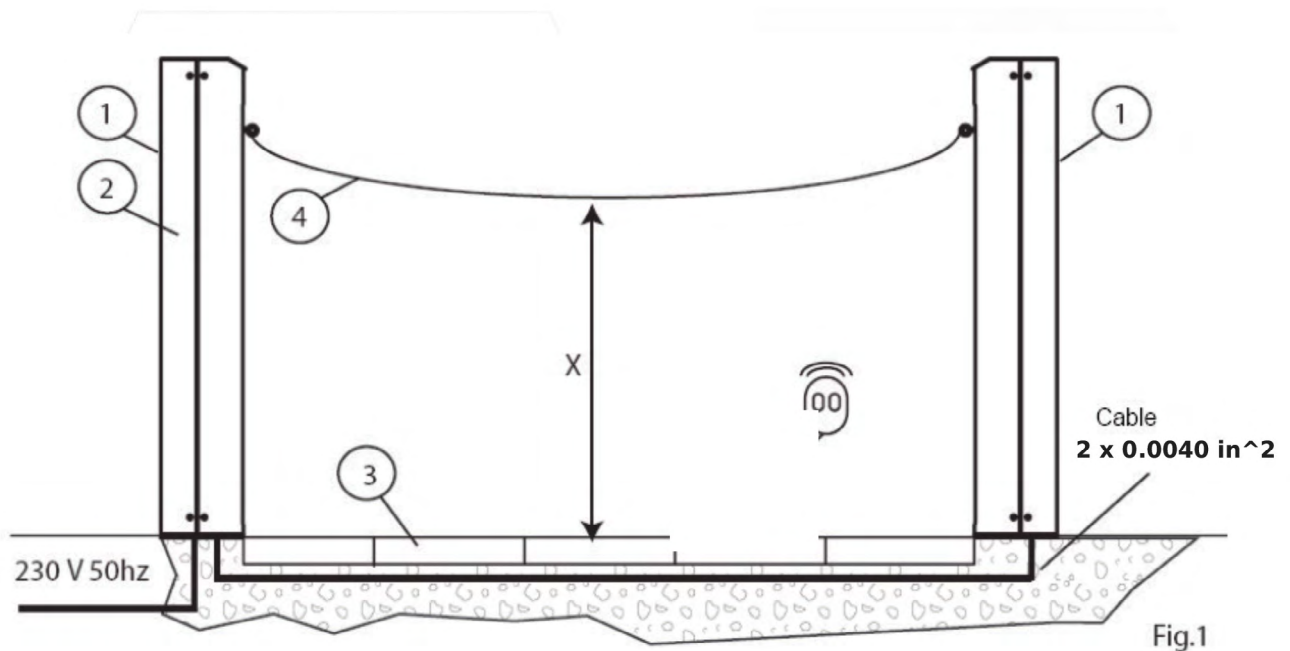
The User Guide will help you use your product quickly and safely.

- Read the user manual before installing and using your product.
- Always follow the safety instructions.
- Keep this user manual at hand for future reference.

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1. Layout

Fig.1

230 V 50hz

Cable
2 x 0.0040 in^2

1. Parking post
2. Control unit
3. Profile for the chain
4. Chain

Length of the chain (m)	4, 6, 8, 10, 12, 14, 16, 18, 20
Relative height in the middle (in)	75, 70, 65, 55, 50, 45, 40, 35

Attention: The value in the table has been determinated using a chain of 400 grams/meter
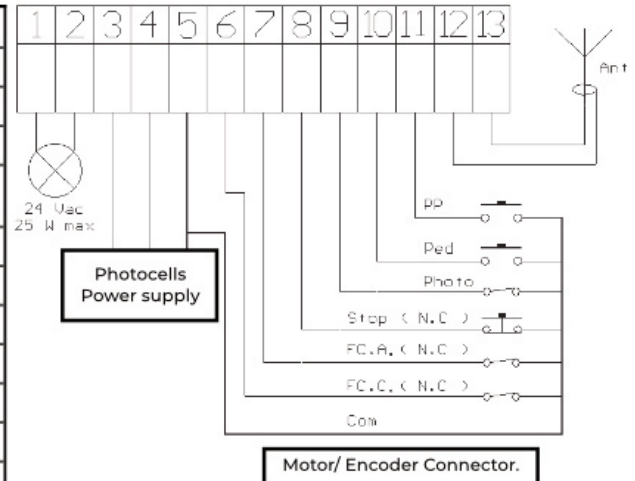
2. Configuration

Action is a control unit dedicated to the movement of the chain barrier with **24Vdc motor.** The coexistence of various types of safeties such as the control of the absorbed power by the motor and the velocity of the motor allows a rapid intervention of the anti – squeezing security (sense). Through the encoder present in the motor it is possible to control the exact position of the chain and to use it without mechanical limit switches. The control unit has inputs for mechanical limit switches, for the step by step button, for the pedestrian opening, for the safety photocells and the output for flashing light 24 Vac. The unit also allows the regulation by trimmer both the automatic re-closure and the motor force. Action can control motors at 24 – 30 Vcc with a maximum consumption of 7A.
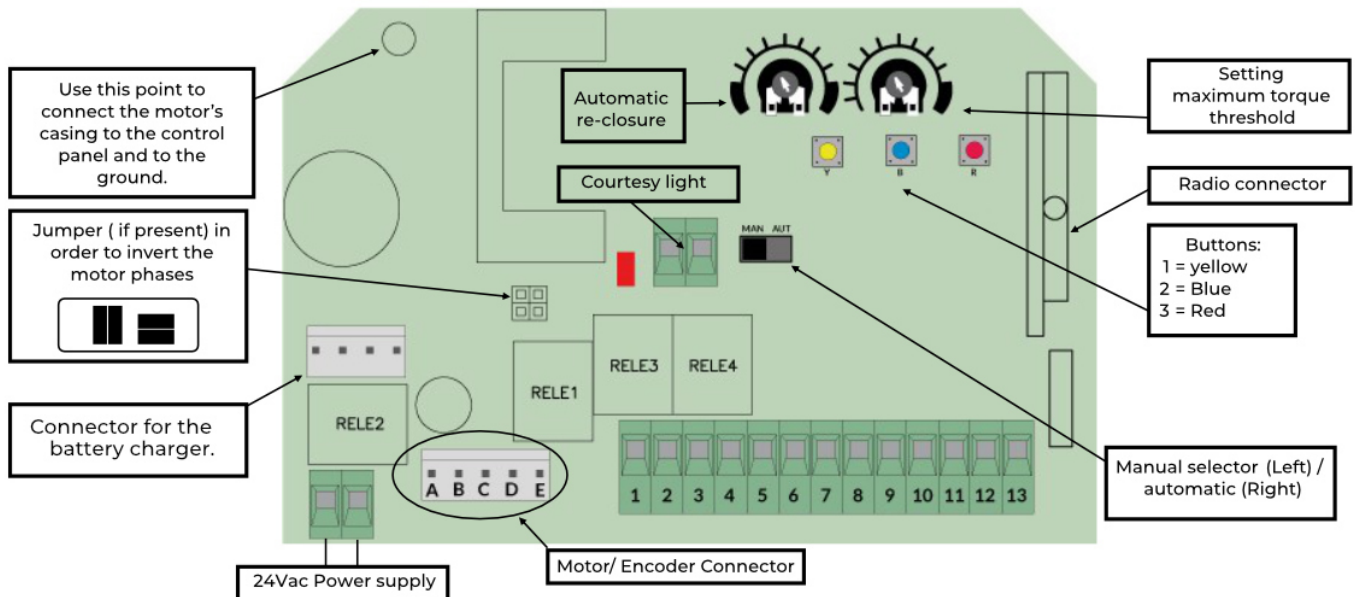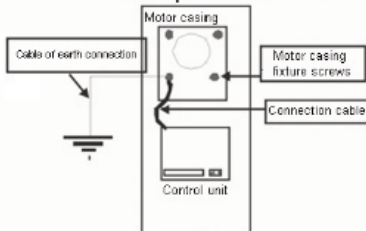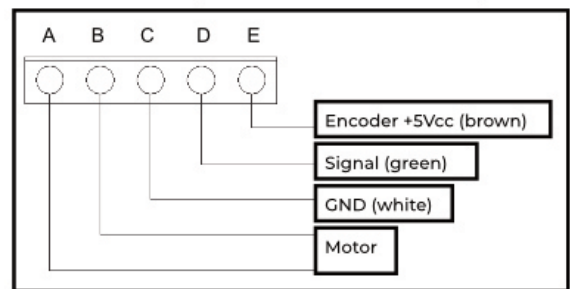
3. Electrical connections

Terminal	Function	Setting
1 – 2	Flashing signal output	OUT: 24 Vac 25 W MAX
3	Positive power supply TX & RX photocell	OUT: +24Vcc
4	Negative power supply TX photocell	OUT: GND TX
5	Negative power supply RX photocell and common button and safety	OUT: GND RX Common
6	Stop closure button input	Normally closed (NC)
7	Stop open button input	Normally closed (NC)
8	STOP button input	Normally closed (NC)
9	RX photocell contact input	Normally closed (NC)
10	Pedestrian button input	Normally open (NO)
11	Relay button input	Normally open (NO)
12	Antenna screen input	GND
13	Antenna input	Antenna

Photocells Power supply

Motor/ Encoder Connector.

A   B   C   D   E

Encoder +5Vcc (brown)
Signal (green)
GND (white)
Motor

Note: Cable colors valid <u>only</u> for Tecno-cat motor.

Example of connection

Any contact which is Normally Closed (N.C.) Must be bridged to the common if not used.

| 5 | 6 | 7 | 8 | 9 | 10 |

IMPORTANT: to obtain a correct working of the accessories (photo devices in particular) connected to the control box, it is very important that the entire system (motor+ control box) has a single mass reference system. You must therefore connect a small cable between the motor casing and the control box at the point shown in the figure. If there is a good ground connection it is advisable to connect it to the system.

4. Enabling and disabling the pre-flashing, photocell test and the multi-user function

To modify the status of any of these functions it is necessary to enable the setting mode. In the phase of learning the control unit automatically goes through all possible functions in which it is possible to intervene. The led of the flashing light signals the selected function each time with a variable number of flashings. The passage from a function to another one is executed automatically (it is enough to maintain always pressed the red button). The control unit starts selecting the first function (signaled by 1 flashing), successively, keeping pressed the red button you pass at the second function (signaled by 2 flashings) and so on. To enable the setting / learning mode proceed as follows:

1. Raise the chain to its upper position (completely closed).
2. Press and keep pressed the red button
3. After 4 - 5 seconds the led of the flashing - light executes a series of 8 flashings (notifying the next entry to the learning mode). Once the series of flashings end the control unit is in the learning mode. Do not release the red button yet.
4. Once individualized (through the number of flashings of the flashing-light led) the function that you want to modify, release the red button. This way the function is selected. Once selected the function, the control unit puts in evidence the setting by flashing with a slow frequency (1 flashing /second) or with a rapid frequency (2 flashings / second) as pointed out on the next table:

No. of flashes	Selected function	Flash	Yellow button	Blue button
1	Pre-flashing	Slow= disabled	activation	deactivation
2	Photocell Test	Fast= disabled	activation	deactivation
3	Multi-user setting	Slow= disabled	activation	deactivation
4	Reserved			
5	Reserved			
6	Reserved			

5. Press now the button (see table) correspondent to the new status you wish set for the selected function. The frequency of flashing will vary ac- cording to the chosen mode. At this point it is possible to modify further functions or, if you have finished, go out from the setting phase. In case you want to modify other functions, press and keep pressed the red button. After few seconds, the control unit will start again to select in sequence the several functions. Instead if you want to exit from the learning mode, it is sufficient to bring the lever of the selector Sw1 in manual position, wait 1-2 sec and successively report it in automatic position. In this way, the control unit gets out of the learning mode and prepares itself for the normal functioning

6.1 Pre-flashing: The chain movement is always signalized by a pre-blinking, advising the user that the chain is next to move.

6.2 Multi-user function: During the opening phase of the chain, every other command is ignored. Once opened the chain
(completely down, it is possible to close it using the step-by-step command or using the automatic re-closure. During the closing phase, a step-by-step command blocks and inverts the movement.

6.3 Photocell test: Every time the motor is switched on, the control unit automatically controls if the photocells are functioning properly. This operation increases the security system. If a photocell is damaged (for instance output relay stuck) or in case of undesired photocell input short circuit. This test is executed immediately after that the control unit has received an order of "moving", but before power is applied to the motor.

5. Problems and their solutions

Type of problem	Probable cause	Solution
On activating the opening command the automation does not move.	Lack of electrical power supply	Check the presence of the electrical voltage and all the connections to the electrical network.
	Burned fuse	Replace the fuse with a similar one.
On activating the opening command the chain moves for a brief time and then stops.	Incorrect encoder connection	Check the connections of the encoder's wires.
On activating the opening command, the automation moves to closure.	Jumper direction motor inverted	Invert the Jumpers.
You cannot manage to enter into the remote control learning phase	The chain is not completely closed (UP)	Close the chain (in the manual). If the chain was closed set selector S1 to manual, wait 1 second and reset it to automatic. Try again entering into setting mode.
You cannot manage to memorize the remote controls	The type of set decoding in the control panel does not correspond to the type of remote control in use.	Check which decoding has been set and possibly select that which corresponds to the remote control in use.
You cannot manage to enter into the opening/ closure programming mode. (run-time)	The chain is not completely closed (UP)	Close the chain (in the manual). If the chain was closed set selector S1 to manual, wait 1 second and reset it to automatic. Try again entering into setting mode.
The control panel is powered but the gate does not move.	A normally closed input is not active	Check the photocell, stop and limit switch input. If not used they must be bridged to the common.

6. Description and dimension of the column
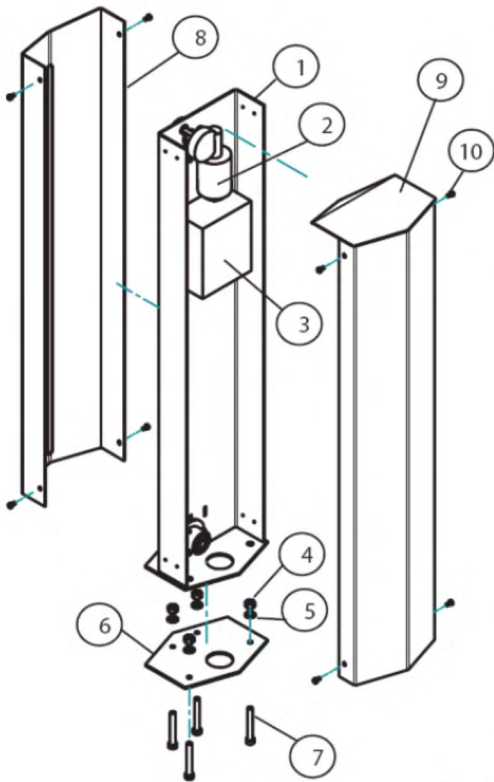

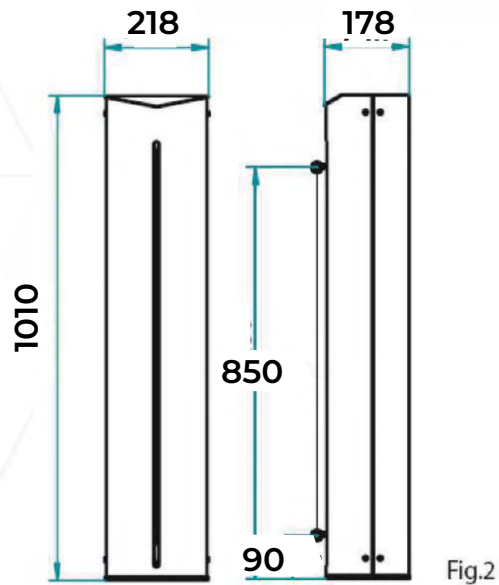Fig.4

1010
218
178
850
90
Fig.2

Hole
178
218
Fig.3

M10x70

1. Column
2. Gear motor with encoder
3. Control unit
4. Auto blocking nut M10
5. Washer 20x10
6. Backing plate
7. Screw M10x70
8. Anterior cover
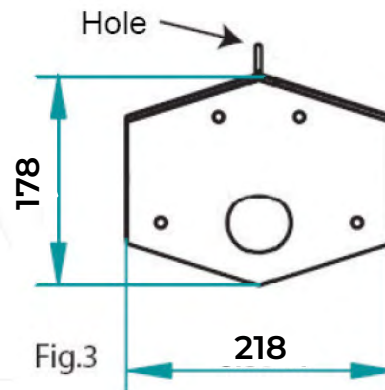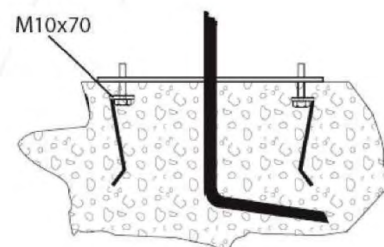9. Posterior cover
10. Closing screw M5x10

7. Installation

All measures are expressed in millimeters unless otherwise indicated.

■ 7.1. Preliminary Control

1. Control the stability and solidity of the zone where the columns are going to be fixed.
2. Use an omni-polar interrupter with contact distance of at least 3mm.
3. The connection to the power supply must be separated than the connections to the security and commanding devices

■ 7.2. Installation of the Column (Fig.1, Fig.2, Fig.4)

1. Screw in for 1,5 - 2,0 cm the 4 screws M10x70 in dotation to the base.
2. Place the base on the previously prepared base of cement (Fig.3)
3. The upper part of the base should be clean and perfectly horizontal.
4. Pass the plastic tubes of the cables through the central opening on the base and check again the stability of the base.
5. Unscrew the 8 screws [10] take off the frontal [8] and the rear cover [9] of the column (Fig. 4)
6. Place now the column structure on the base.
7. Fix now the column to the base with the 4 washers [5] and 4 nuts [4].
8. Fix the frontal covers [8] of both columns with 4 screws [10].
9. Now you can fix the chain to the apposite holes on both columns respecting the level X in the middle of the chain barrier indicated at the table on page 1 (Fig. 5)
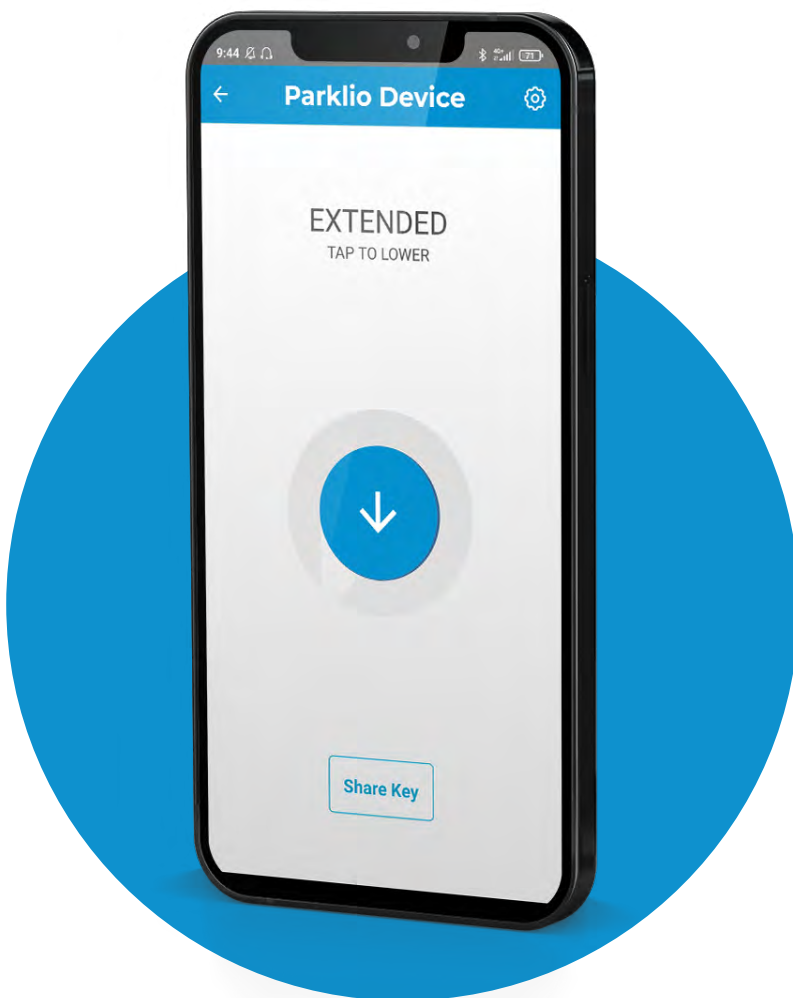
8. Controlling the chain

This section will provide detailed instructions on how to connect the mobile application with the chain and how to control the chain using the free Parklio Connect mobile application.

⚠️ **Please note that internet connectivity is required for the chain's first connection and setup.**

■ 8.1. Installing the application

The application can be downloaded by scanning the following QR codes:

Android

iOS

Huawei

Or on the following links:

Android - http://bit.ly/2iMkIn5
iOS - https://apple.co/2iaV7aA
Huawei - https://urldre.cloud.huawei.com/mCe8Pn0uD6

■ 8.2. Register and login

To use Parklio Connect the user needs to be logged in. An user may login with an existing Google account, an Apple account, or the user may create and use a Parklio account with their email.

To login via Google simply press the *Sign in* with *Google* button.

To login via Apple account simply press the *Sign in* with *Apple ID* button.

If the user has an existing Parklio account enter your email and password associated with the account into the corresponding fields and press *Login*.

In case a Parklio account has not been created previously press the *Sign Up* button which will open a new screen. There the user may input his email and password to create an account. After an account has been created the user may use his credentials to login into the application.

■ 8.3. Adding the chain to your account

After logging in the dashboard containing all your parklio devices will be displayed.
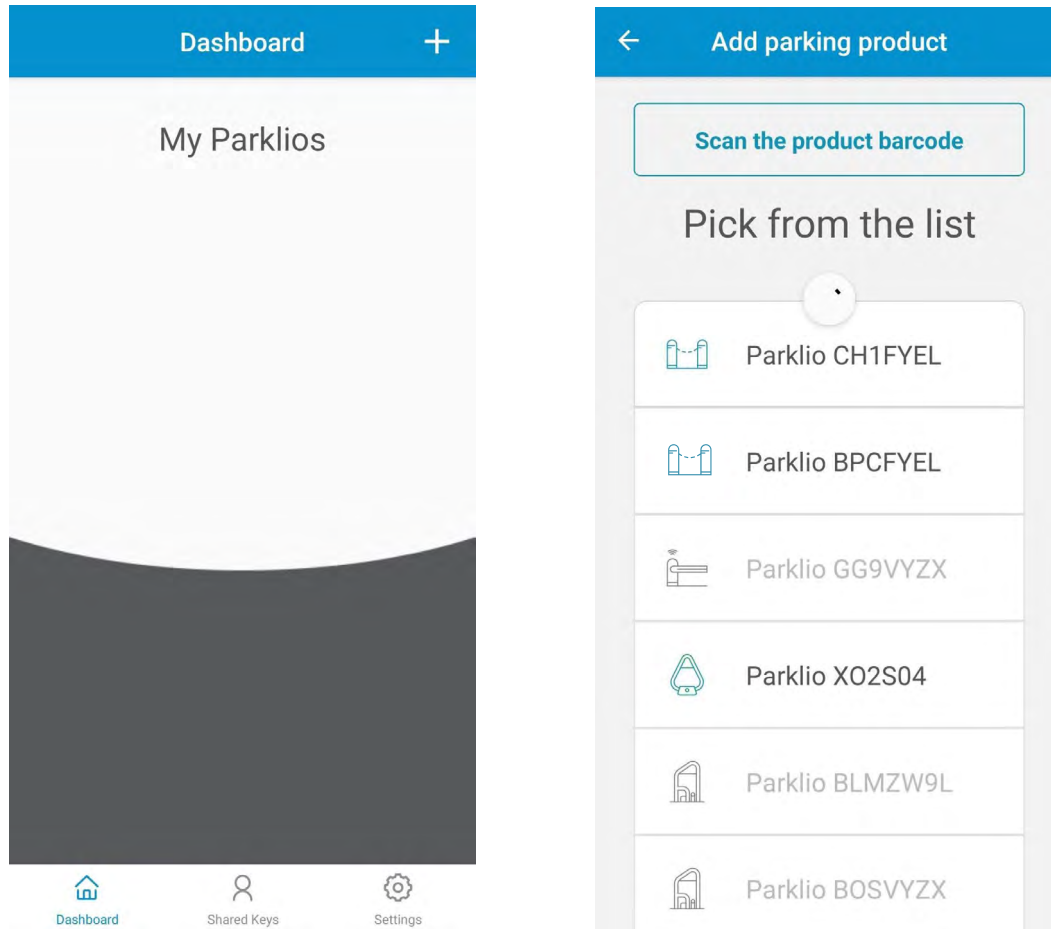
To add a chain to the account press the *+* button on the top right corner of the dashboard. The Add parking product screen opens and the smartphone starts scanning for nearby Parklio devices. This step should be done in close proximity to the Parklio device you are adding.

Grayed out devices represent Parklio devices that are already set up. When the scanning is complete select the device you wish to add from the list of available devices. The device will be set up automatically and added to the users account.

In the above example screenshot by clicking on *Parklio BPCFYEL* the application starts the process of setting the chain up. The process is automatic and the user is notified at the end.

■ 8.4. Connecting to the chain

To be able to operate the chain, view the state and change the chain settings it is necessary to connect to the chain.

This is done by going to the Dashboard and clicking on the chain to connect to.
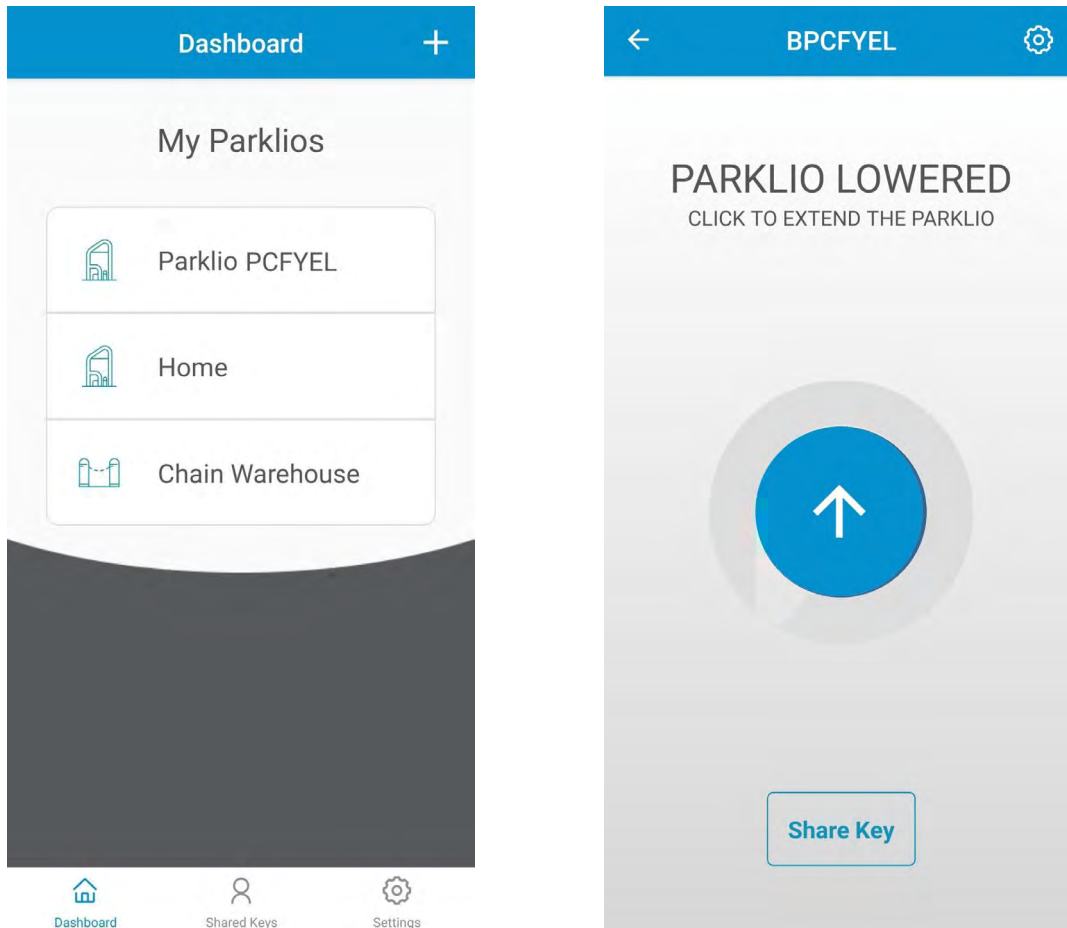

After a successful connect the screen will show the chain status:

- **PARKLIO LOWERED** - Indicates the chain is down (open)
- **PARKLIO EXTENDED** - Indicates the chain is up (closed)
- **PARKLIO EXTENDING** - Indicates the chain is moving up (closing)
- **PARKLIO LOWERING** - Indicates the chain is moving down (opening)
- **CHAIN JAMMED** - The chain jammed while moving up or down, check for any obstructions
- **AUTHENTICATION FAILED** - There was an error with communication to the chain or with the chain digital key, the key was probably reset

## ■ 8.5. Opening and closing the chain

Opening and closing of the chain is possible only when the user is connected to the chain and while the chain is in the EXTENDED or LOWERED state.

By clicking the button in the center of the main screen the chain will lower or extend.
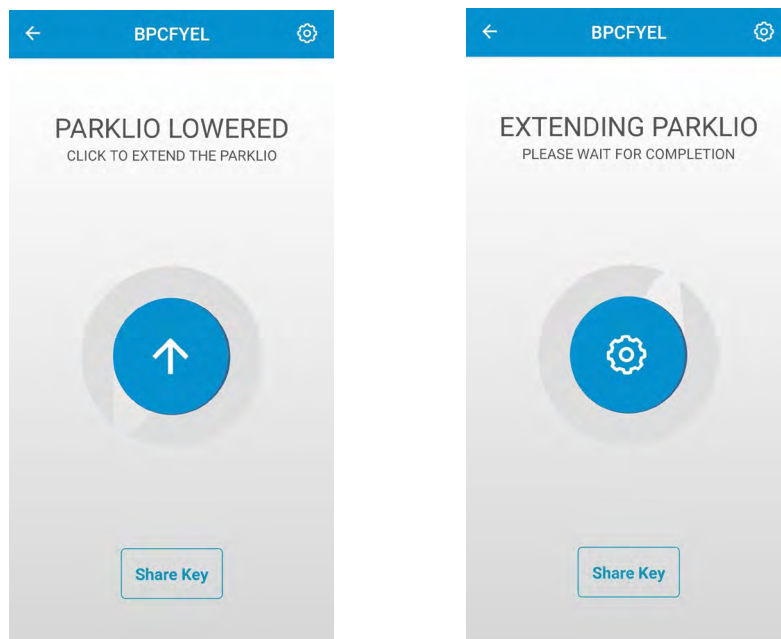

■ 8.6. Chain settings and information

Clicking the gear icon in the top right of the chain screen will bring up the chain settings. In the settings screen it is possible to view device information like the firmware version and ID, set the auto/close option and use the force extend and lower options.
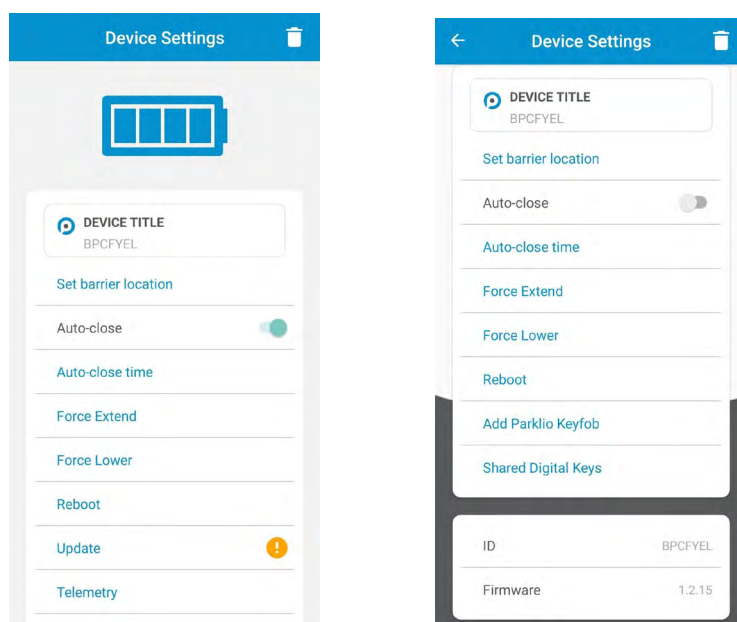
Change the device name

Parklio devices allow the user to change their name, so they can be more easily identified. To change the device name click on the *DEVICE TITLE* in the settings. Change the name of the device and click *SAVE*. The new name will now be displayed.
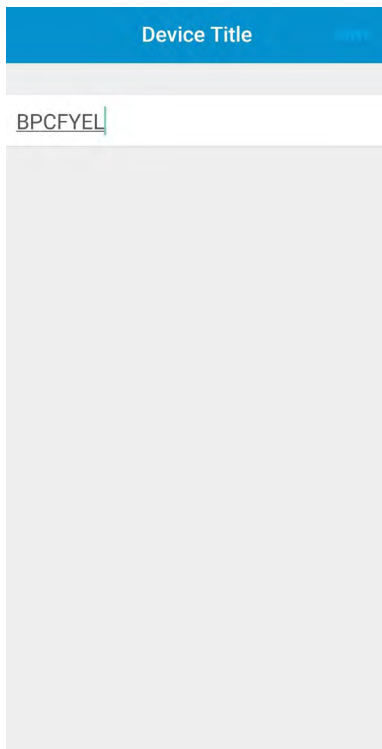
Change auto-close settings

To enable chain auto-close toggle the auto-close button. A warning message will be displayed. To change the auto-close interval press the *Auto-close* Time button. The user may choose an auto-close time interval form 5 s to 120 s.
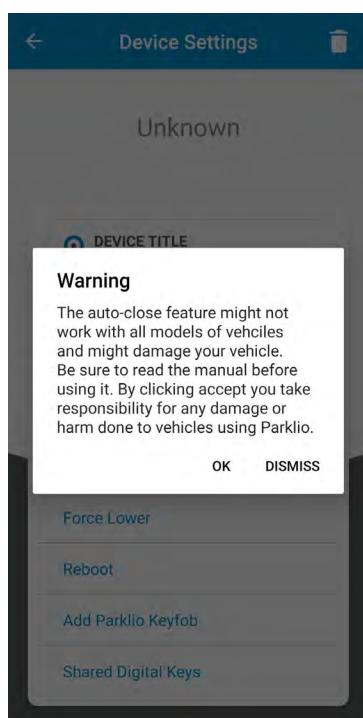
Key sharing

An important feature of all Parklio products is the option for key sharing. The application allows the owner of the device to share the digital key of his device.

To use this feature an internet connection is required. It is not required to be connected to a chain via bluetooth.

All keys have a validity period, the key becomes active at the start date and is valid until the end date. A key may be shared to multiple users and multiple keys may be sent to one user.

In order to share a key press the Share Key button on the main chain screen.
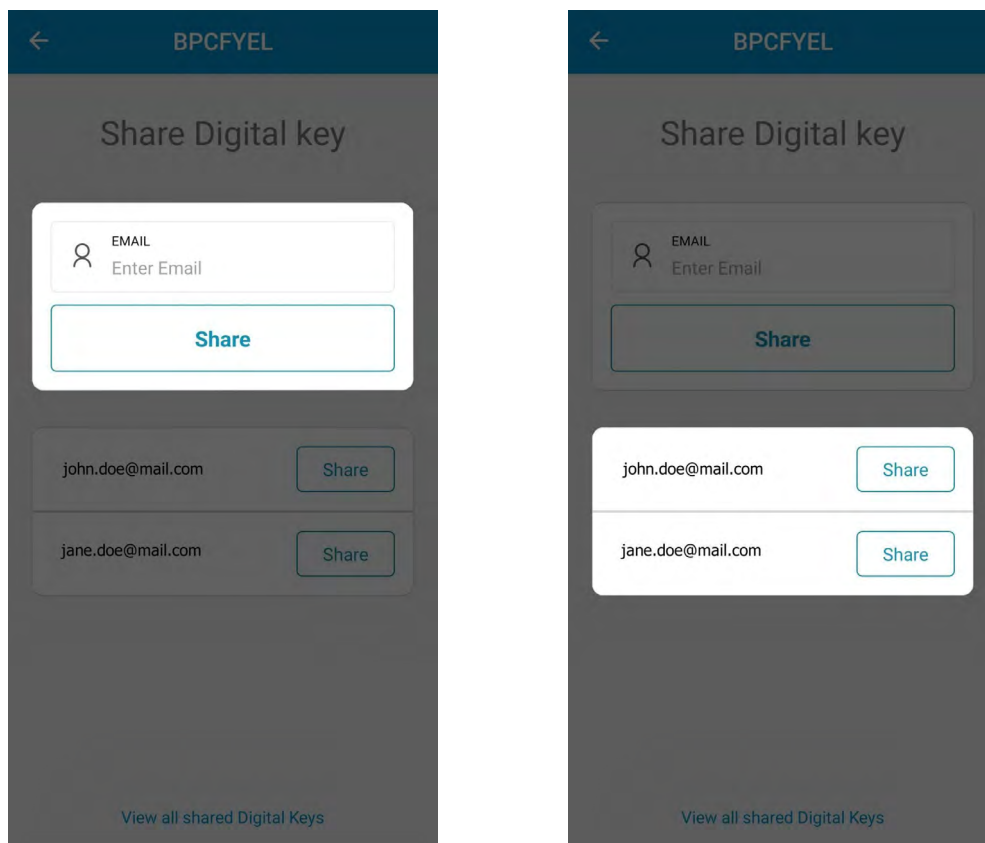
The first step is to enter the email of the user to whom the key will be shared or to choose from the list of previously shared users.

Next, it is required to select the key *START TIME* and *END TIME* using the calendar. After the start and end time are set press the Share Key button and confirm.
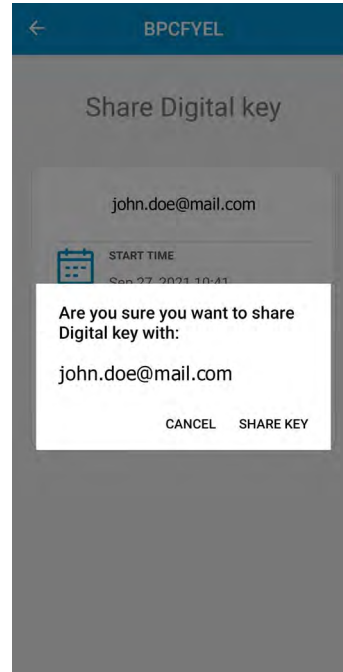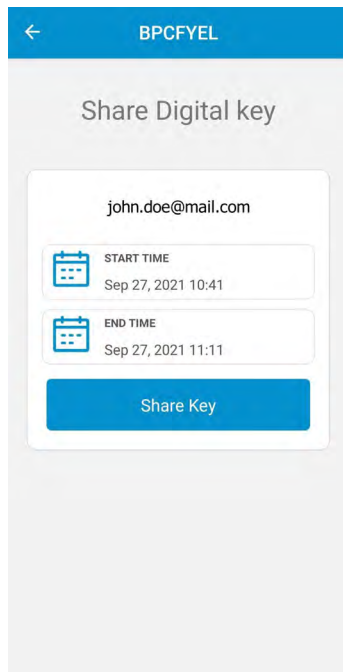
Blocking shared keys

If it is necessary to remove access from a user to whom a key was shared it is possible to do this from the Parklio Connect application.

To use this feature an internet connection is required. It is not required to be connected to a chain via bluetooth.

In the *Device Settings > Share Digital Key* screen, press the *View all shared Digital Keys* at the bottom of the screen. All keys shared for the selected device are displayed. To block a certain user click on the *Block* button next to the user. Share keys can also be viewed from the *Device Settings* screen by clicking on Shared Digital Keys.
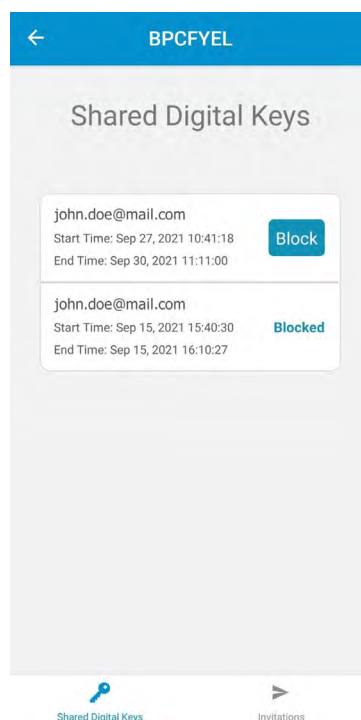
Updating the chain

Parklio Smart Parking Chain get feature improvements by using OTA (Over-The-Air) updates. These updates are carried out manually by the user. An orange icon near the update button in the chain settings is shown if an update is available.

When updating the chain make sure there is no vehicle located on top of the chain. Please stay close to the chain for the whole duration of the update.
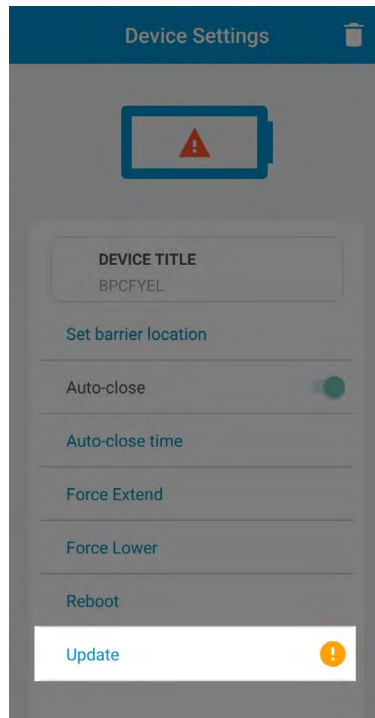

To update the chain click the *Update* button in the *Device Settings* screen and press Start. Stay close to the device while the update is downloading.

Removing the chain

In order to remove the chain from your account or to delete a key which was shared to you enter the *Device* Settings screen and press the garbage can icon. A confirmation will pop up, press *Yes*.

When a device is deleted from your account all sent guest keys are still valid. They can only be invalidated by performing a chain key reset or when the chain is added to another account.
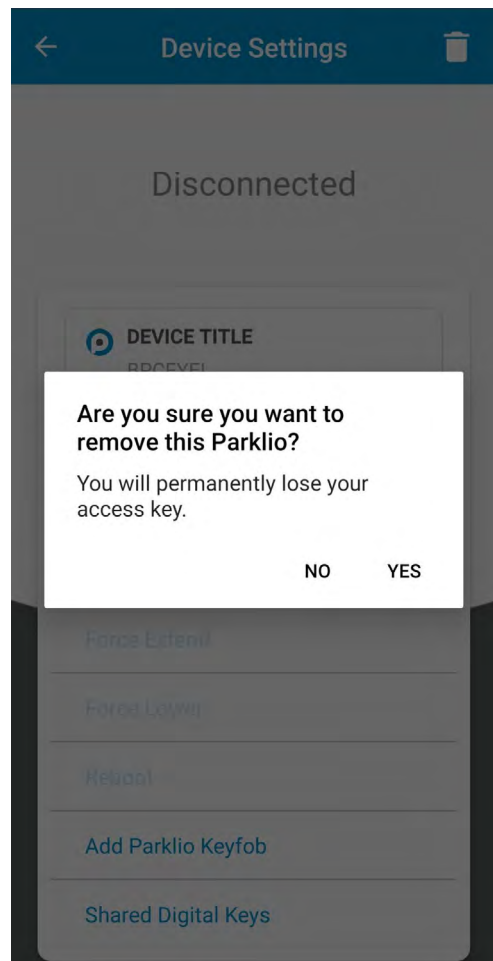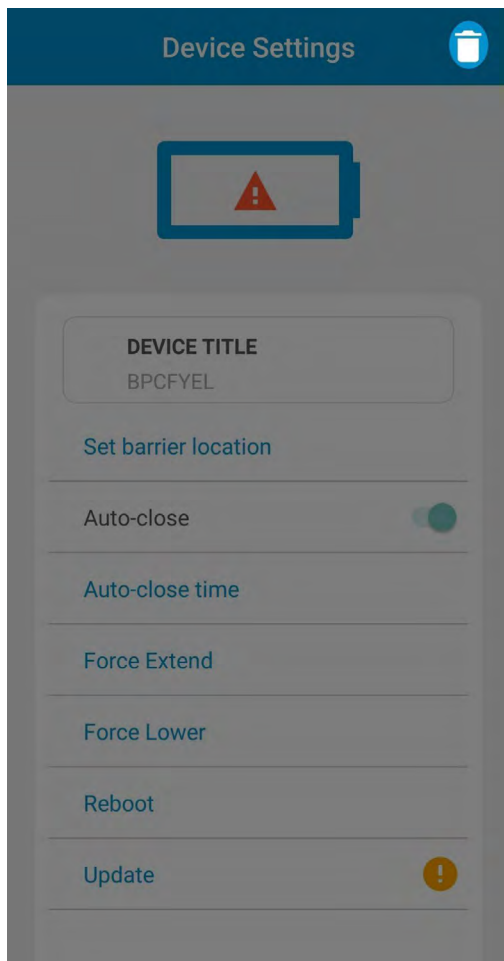
9. Maintenance plan (every 6 months)

1. Cut the power supply off or disconnect the batteries if present. Clean and grease the guide internally.
2. See if there are wired parts and replace these if necessary.
3. Grease the internal transmitting chain.
4. Check the fixation nuts.
5. Control the electrical connections
6. Supply the power again.Check out the correct functioning of the obstacle recognition (encoder system).
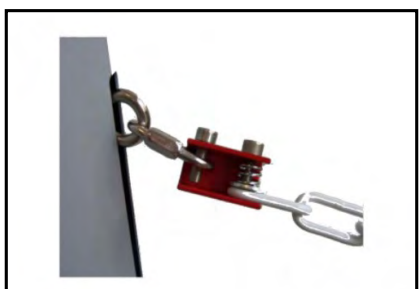7. Check out the correct functioning of all and of the security commands.

10. Connection of the braking joint

STEP 1

STEP 2

STEP 3

11. Technical data

Power supply	230 Vac 50 Hz
Current Draw	1.0 A
Motor Power	60 W
Motor Power	645 Nm
Service	50 %
Protection Degree	IP 34
Lubrication	Permanent
Weight	25 Kg
Max chain weight	8.5 Kg

CONFORMITY:

Parklio d.o.o. declares, the Parklio chain follows the European norms and directives:

2006/95/CE-Low voltage electrical equipment; 89/336/CEE-Electromagnetic compatibility. EN 60335-1, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3

Parklio d.o.o. declares, the control board follows the directive 95/05/EC (R&TTE).