

# PROCONTROL® ProxerSafe family KeySafe Lock

RFID-technology based safety key cabinet

# **User Guide**



Version: 14.1

Date: October 2018



# **Table of contents**

Table of contents	
Security guideKeySafe Lock datasheet	
Properties	
Options	6
Operation	
Rights for removing keys	
Key identification	
Multi-level security	
Sabotage protection	
Alarm functions (options):	
Power outage mode	
User interface/Cabinet software	
User levels	
User rights	10
Functions of the KeySafe Cabinet Software (KCS) for key users	
Select Language	
Login  Login using card	
Login using PIN code	11
Login with combination of card and PIN code	12
Login with fingerprint	12
Login with combination of fingerprint and PIN-code	12
Key handling	
Picking up keys	
Returning keys	
Keys in wrong key positions	
Find a key (Where are my keys?)Finding subkeys	
Vehicle search	
Functions of the KeySafe Cabinet Software (KCS) for Admin users	
Key cards with admin rights	
Edit users Add new user	
Modify a user	
Delete a user	
Edit key rights	20
Edit keys	
Replacing RFID key holders	20
Assign keys to / revoke key rights from users	21
Time settings	
Event logs	22





Check user event log	22
Monitoring – using other functions	
KeySafe cabinet – Questions and Answers	
Installation.	
Installation guide is in the Administrator Manual	23



# Security guide

Please read this guide carefully before installing and using the device. Please use the device properly and as described in the following manual.

The guarantee is insured only if the device is used with the implements approver or specified by the manufacturer, and it is cleaned and maintained as described in this guide.

- The manufacturer does not take warranty for the faults arising from improper use.
- Incorrect installation
- Connecting to inappropriate electric network
- Incorrect maintenance
- Not approved modifications, interventions
- Using non-original spare components
- Do not store and operate the device out of the given temperature ranges, it can lead to malfunction
- Do not try to modify or dismount any part of the device
- Do not allow this product to come into contact with water or other liquids.
- Do not store the device close to a heat source or direct flame, because the device may explode.
- Use the device only the proper way as described in the guide.
- Use the equipment only for the purpose it has been designed for.

#### About the security

Use the power supply provided by manufacturer for the device. Use electric power connection as specified in this guide.

#### Attention!

The device should be connected only into a grounded outlet on a protective relay equipped network.

#### To avoid fire and electrical shock

Be aware that nobody pushes trash, gums and other stuffs into the slots of the device.

Do not install attachments and accessories that are not designed for this device. Unplug the device in case you do not use it for a very long time.

#### At installation time

At the back of the device there are heat deflector slots. Do not cover these slots, because it may cause dysfunctions in the device and this may cause fire.

#### Cleaning

Power down the device before starting the cleaning process. Use wet cleaning rag.

#### General rights and responsibilities

Procontrol Ltd has the exclusive right for producing the device.

Procontrol Electronics Ltd. reserves the right to modify this documentation and software without notice.

In no event shall Procontrol Ltd. be liable for any claim, damages or other liability out of or in connection with the usage of the device. Warranty period is 2 years.



# **KeySafe Lock datasheet**

Intelligent secure key safe



The KeySafe Lock is a safety key-storage cabinet, that can be opened only with personal RFID proximity card (transponder) or/and with a PIN code, optionally using fingerprint identification. The offline type has an built-in computer. It is possible to connect it to a computer network and to check remotely who and when took which key and for how long time.

#### The KeySafe Lock does not allow taking any key, just the ones the person is entitled to!

More cabinets can be connected to a single data cable or handled in one network, monitored and managed with a ProxerNet KeySafe Management Software (a Windows application running on a PC) Cabinets can be integrated into a building management system as well.







#### **Properties**

- Intelligent, safety key-rack that can be opened with ID card / PIN code – as per request the Client's own proximity cards can be used. Optionally the cabinet can be set with NFC or biometric (fingerprint) opening.
- RFID proximity key holder plugs automatically locked by bolts
- Records data like person, time, keys and their relations (who, what, when, how long); logs also the door openings
- Rights for keys can be given and withdrawn individually, even via Internet from a remote computer
- Key identification is automatic using RFID key holder plugs
- More cabinets can be set and managed as one system
- Cabinets can be extended by modules including 16 key units (one row) or 8 key units (half row)
- Numbered key plug sockets (it locks the keyholders with electronic latches)
- Offline-online communication (operates in its own, manageable via the touchscreen of the built-in PC and can be managed from a remote PC via Internet)



- Can be combined with the access and time management modules of its management software, the ProxerNet
- Power supply: 230V 50-60 Hz (12V/230V power supply included)
- · Steel housing with safety glass door, optionally with metal door or without door
- Built-in PC with touchscreen
- Built-in secure RFID based magnet lock; built-in identifier: RFID key-holder plugs for each key individually; built-in LEDs to show the "closed / opened" status
- KeySafe Lock cabinets are made in a wall-mountable version in robust steel housing, in RAL7035 colour.
   Other colour or design (brushed stainless steel, outdoor design) can be ordered.
- Key reservation function
- Key finder (Where is my key?) function

#### **Options**

- E-mail message to a given address about key movements
- Alarm (email or sound) can be triggered at keys not returned in a specific time.
- Password protection
- Wi-Fi communication



- KeySafe terminal with biometric fingerprint reader
- KeySafe cabinet can be set to accept Client's existing cards
- Key storage capacity according to unique demands
- Mounting options per request
- Direction of door opening can be changed upon request
- Outdoor version
- At returning car keys it is obligatory to record the odometer reading
- More cabinets can be put in a string

# **Operation**

The cabinet can be opened only with personalized RFID proximity tags or/and PIN code, optionally using fingerprint identification (KeySafe Lock Bio). Each key has a unique RFID identifier that allows key identification and monitoring of key movements. The software logs when a key is taken, returned, and by whom. The right to be able to remove a key can be given separately. Without this right, the cabinet does not let the person take out any key.

Each key has a plug equipped with RFID transponder. If you return the plug into the right slot, the RFID reader reads the transponder, and it sends the ID to the PC software. In case of a closing command a latch locks into the plug's notch, preventing to be able to pull out the plug.

- The module's own RFID reader reads the available RFID IDs and sends them to the PC software.
- When someone identifies himself, the cabinet starts to investigate, whether the user has the rights to take one or more keys.
- If the person has sufficient rights, the cabinet door will open, and the device automatically unlocks the keys for what the person has pick-up rights. Should the door be closed again, all slots will be locked.
- The PC software records all the events, since it is possible to monitor and control the key movements.

The intelligent modules containing key positions are connected to an RS485 network inside the cabinet. This network is connected via Ethernet to the cabinet's management software running on external PC. The RFID reader, the other storage units, the cabinet door locks and the door state sensors are also connected to the same RS485 network.

#### Rights for removing keys

More than one key-ID can be assigned to one person. The right to remove a key can be given for keys one by one individually.

#### **Key identification**

The cabinet recognizes what key is in which slot. Who, when and which keys he has removed or returned - It will be saved in the event log. If you take or put back more than one keys, the system will know the key holder ID numbers of all of them.



#### **Multi-level security**

#### **Authorization check**

The cabinet knows already at the time of PIN code or card (optionally fingerprint) identification whether the person has authorization for a key, and which keys he is allowed to remove.

There are users set in the system with admin (superuser) rights, having all access and modification rights related to users, keys and system properties.

#### Sabotage protection

The system can send alert if an unauthorized person wants to remove a key. It can also give a warning beep if you put the key into an incorrect slot.

The device checks by default if the key has been put back to its original position. Keys switched are indicated, but the system allows putting in the key to another slot and logs the event. Sound signal can be turned on.

Deliberate exchange of keys on key holder plugs (with RFID transponder) can be prevented by using vandal-proof key rings.



#### Alarm functions (options):

- The key has been removed violently from a locked position (alarm-out, email)
- The cabinet door was pried open (alarm tone, alarm out)
- Removal of connector-cover plate (tamper switch, alarm tone, alarm out)
- The motor mechanics of the key latch get jammed (alarm-out, email)
- The door was left open for too long: successful identification, keys have been removed, but the door remained open (Alarm tone, Timeout in 60 sec, alarm signal after 120 sec)
- The key was out too long, the person forgot to bring it back (Timeout, alarm message after 24 hours)
- Incoming external alarm (alarm inputs): there is fire or emergency, the key cabinet will be completely unlocked, but it records all key removals and events
- End of incoming external alarm (alarm inputs): key cabinet locks again; if the door is still open, "the door was left open for too long" alarm type will be active.
- Optionally: If someone fails to login within a time interval more than 3 or 5 times, it is an unauthorized access and the cabinet sends an alarm notification and an e-mail to the administrator (if suitable network connection is available).

The alarm signal sounds through the built-in piezo buzzer and the PC speaker. Network connection and SMTP configuration is needed to send an e-mail alert.

Optional SMS can be sent to the specified phone numbers, through a built-in optional GSM/GPRS communicator.

Please note: The alarm functions set at the given cabinet may alter from the ones described above. Please contact us if you wish to implement certain features.



#### Power outage mode

The KeySafe cabinet has an own UPS. In case of power outage, the KeySafe switches to power outage mode, and it still operates and communicates for 24 hours.

In case of power failure, first the key module LEDs go out and the brightness of the screen reduces; at the end the screen completely darkens. The PIN keypad flashes in every 10 seconds to show that the device can be used. The cabinet can be woken up by using a card. Login after waking up is possible as usual.

In case of KeySafe Lock Bio type, the fingerprint reader works only after the device has waken, when the fingerprint reader is blue.

During power outage mode the key LEDs light only at use. The key modules check the keys in every 10 seconds, so changes in key locations, removal, placing back are shown with some delay. Changes are followed up more slowly on the screen as well. After the time set the screen goes dark again if there is no activity.

The time while the cabinet is awake, the screen brightness decrease time and the time when the cabinet goes sleep can be set. For further information and setting possibility see the administrator guide.

When the power is restored, every device restores into normal mode, even if the power supply unit has run down.



#### **User interface/Cabinet software**

Cabinet management software can be split into two parts:

- software running on the cabinet's built-in computer: KCS
- software running on the external management computer in the network (ProxerNet software KeySafe Module): KMS

They have different functionalities. In this document only KCS is discussed.

#### **User levels**

There are two user types in KCS:

- 1. Key user
- 2. Superuser/ Admin

The difference between the key user and the superuser is in their rights.

#### **User rights**

Key user has right to login, select, pick up and return keys.

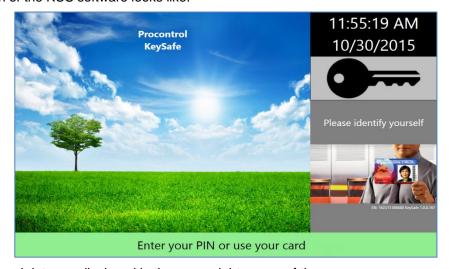
Superuser is authorized to login, select, pick up and return keys, and also for basic management functions.

The Admin menu is displayed only for Superusers/ Admins in KCS.

# Functions of the KeySafe Cabinet Software (KCS) for key users

Detailed management functions are available only in external cabinet management software, ProxerNet software KeySafe module.

The main screen of the KCS software looks like:



The actual time and date are displayed in the upper right corner of the screen.



On the main screen you can see the device serial number (SN), which correctly identifies the KeySafe. You can see the actual software version too.

Three kinds of symbols can be seen there in the bottom left corner of the screen:

	Empty: in this case all connections are OK
*	Gear: no connection to hardware
**	Connector plug: no connection to Hardware Server
	Bell: tamper or fire alarm

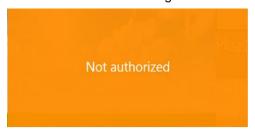
#### **Select Language**

The language of the software is English by default. To select other available languages, please consult the Admin Guide. At request other translations can be available.

#### Login

#### Login using card

Place your card close to the card reader (next to the screen). In case the card is not valid, KCS will display an orange screen with "Not authorized" note. It means the login has failed.



#### Login using PIN code

If you would like to login to KCS using PIN code, tap the screen, enter your PIN code and press the OK button. Having mistyped a number, you can restart adding the PIN with Cancel.



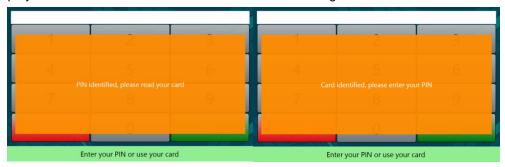
In case of a not valid PIN code, KCS displays an orange screen with "Not authorized" warning. It means the login has failed.



#### Login with combination of card and PIN code

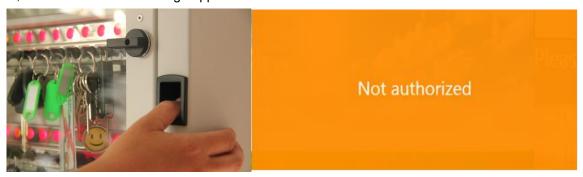
Place your card close to the card reader on the top of the cabinet, then enter your PIN code on the screen. The order can be changed (so first typing the PIN then using the card), but both PIN code and card must be valid and authorized for a successful login.

Software displays on screen for which authentication it is still waiting.



#### Login with fingerprint

Put your finger on the fingerprint reader. The device beeps at the fingerprint scan. In case a fingerprint is not entitled, a "Not authorized" message appears on the screen.



In case of success, the fingerprint reader flashes blue.

#### Login with combination of fingerprint and PIN-code

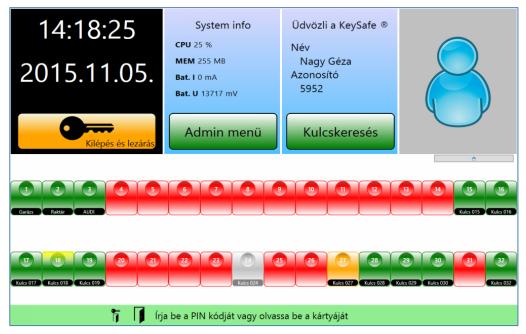
Enter your PIN code and place your finger to the fingerprint reader. The order is interchangeable. If both IDs are valid, the login is successful. The software shows on the screen which identification is still needed. In case of unsuccessful login, the door of KeySafe remains closed.



#### **Key handling**

#### Key map

After a successful login KCS highlights the keys available for you on the screen (with key location). Numbered rectangles filled with different colours will indicate the keys.



- The full green rectangles mark the keys available for you.
- If keys are reserved, the software shows them in full orange rectangles.
- The full grey rectangle means that another user, who also has right for this key, has picked up that key.
- The full **red** rectangle means you do not have rights for these keys.

If the KeySafe manages bunch of keys (see the Admin guide for this setting) and you choose one of the keys on the touch screen, you can see the subkeys in a pop-up window:





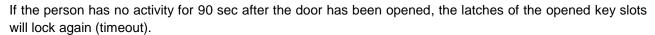
#### Picking up keys

Baseline: door is closed, all keys are locked, and all LEDs are red.

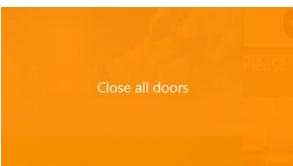
- Sign in with your card and/or PIN code. The built-in terminal checks if you are entitled to use key cabinet. If you have the necessary rights, the cabinet beeps and the lock releases.
- You can open the door. In case of plug lock, pull the handle toward you.
   (The key on the photo is for emergency opening only, the administrator of the cabinet must take a good care of it.)
- After logging in, the LEDs turn green on the key positions you are entitled to remove keys from. You can remove them.
- The event log records the user's identity.
- Keys without authorization stay locked and the LEDs above them are red.
   The cabinet does not release these keys.
- When you are done, close the door.

After removing the keys, the bolts are locked again and the LEDs light in red.

The red LED indicates always a locked key latch, while the green an open one.



Key position slots also close, if the user leaves the door open after their activity (timeout). The terminal displays a warning message that the door must be closed.



Please note: The ID card and/or PIN code will be logged always together with the user's name. Therefore, it is recommended that only one person shall pick up keys at a given time and then the door shall be immediately closed.

#### Returning keys

The LEDs do not light above the empty key slots after logging in.

- You must return the key into the correct (numbered) slot. The latch mechanics allows to return the keys.
- When the user returns a key to or picks up a new one from the correct slot, the program records the event in the log.

Note: Keys must be inserted into their correct (numbered) positions till impact. Key recognition is acknowledged by a beep sound.

Note: The key holder plugs contain magnet, therefore small metal parts can stick to them. Please check if there is no dirt or swarf on them!





Someone else (another person, who has no rights for this particular key) can return removed keys too. In this case, the program assigns and records event information about the person who returned the key and not about the person, who has picked it up originally.

#### Keys in wrong key positions

#### Key position monitoring and marking the mixed-up keys with icon

A person has rights for the keys, not for the key slots. If you put the key back into an incorrect slot, (for example key No. 22 into the slot of key No. 30) the cabinet accepts the key and locks it. The cabinet recognizes the key, and remembers the slot number, where a given key is. If someone wants to remove the key No. 22, he can do it also from slot No. 30.

This way you can always find the keys with the key finder function.

#### Switching off marking the misplaced keys - optional

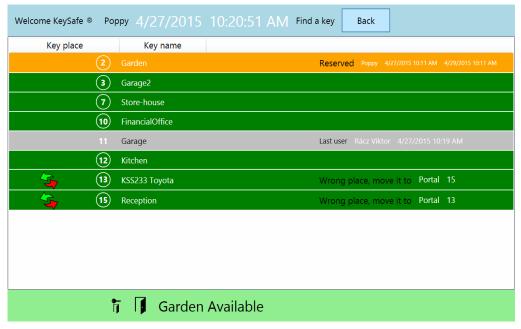
The function described in the previous paragraph can be switched off. In this case, the key map does not show the keys placed in a wrong position, but the key finder list shows the current place.

#### Prohibiting misplacing the keys - sound signal at keys returned to wrong position - optional

If someone returns a key into an incorrect slot, the terminal can notify him with a beep sound, and the locked slot will be immediately opened. The key can get into the correct slot only.

#### Find a key (Where are my keys?)

After a successful login you can see in the Find Key menu, where your keys (key positions, key names) are. The background colours of the rows indicate where the keys are. The colour corresponds to the ones seen after the login screen.



1. **Orange**: Reserved key. The user's name, who has reserved the key and the reservation time intervals are displayed on the screen.



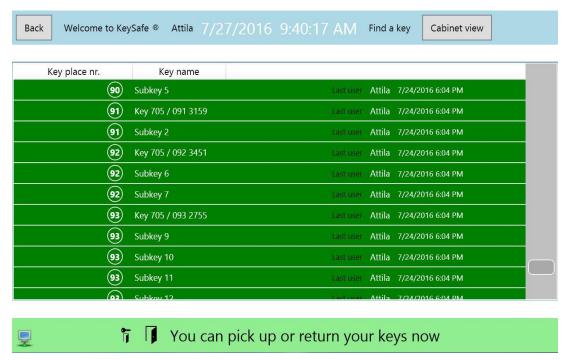
- 2. Grey: Picked up key. Shown with the user's name, who has last picked up the key, and the pick-up date
- 3. **Green**: Currently available.
- 4. White: Picked up key, returned into another KeySafe cabinet. The name of the person, who picked up the key, and the place, where the key is now, are displayed on the screen.

Press the Back button to return to the login page.

#### Finding subkeys

If you use the KeySafe for managing bunch of keys, in the FindKey menu you can see the subkeys, which belong to a key. The key position number of the subkey is the same as of the main key.

If you choose one of the subkeys on the touch screen, the LED light (which belongs to the main key) flashes.



#### Vehicle search

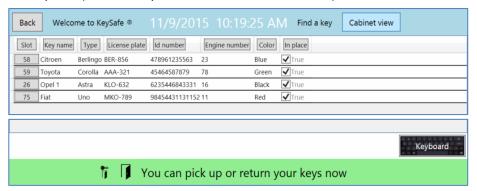
If the system records vehicles and theirs keys, it can be set that the vehicles available are shown on the screen immediately after login.

About a vehicle, you can see the following data:

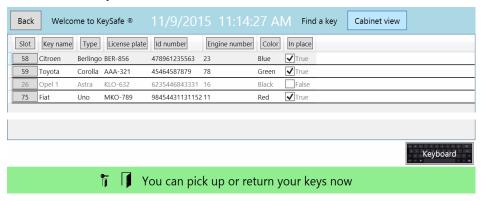
- key position in the cabinet
- · key name
- type of the vehicle
- registration number
- identification number
- motor number
- colour



• if the key is in its place (True: in its place, False: not in the cabinet)

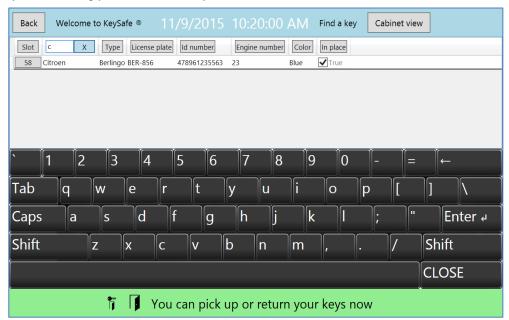


Optionally it can be set if the car keys not in the cabinet are shown or not.



Select any column to search for a vehicle. Use the keyboard in the lower right corner.

E.g., let's search for vehicles with letter C. It is possible to search in more columns at once; the search result will be displayed accordingly. To close the keyboard, click "CLOSE".



If you pick up a key, then it disappears from the list, or the software marks it as False in the column "In place" with "False", according to system settings.

Log out with tapping the "Back" button or closing the door.

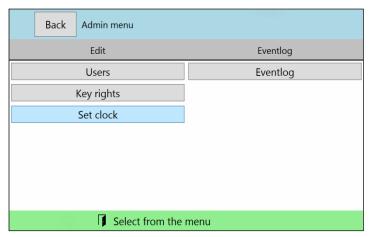


# Functions of the KeySafe Cabinet Software (KCS) for Admin users

#### Key cards with admin rights

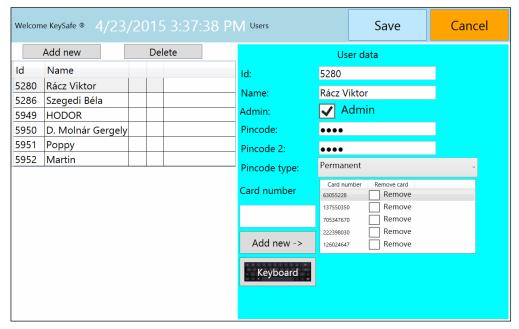
Two key cards are given with the cabinets, which have the rights to unlock all key positions and access the Admin menu. Owners of these cards have the rights to add new users into the system, manage all the keys and user rights per keys, set time and read event logs.

User cards can be also requested. These can be used to open the cabinet and certain key slots, if the rights are given to the card owner.



#### **Edit users**

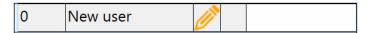
In the Users menu under the Admin menu you can add new users to the system or you can modify/delete an existing user. Tapping on a username, their data are shown on the right.



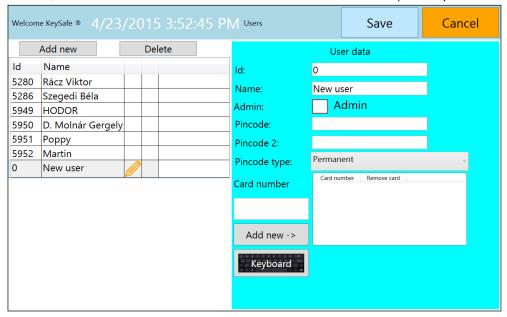
#### Add new user

You can add new users by pressing the "Add new" button.



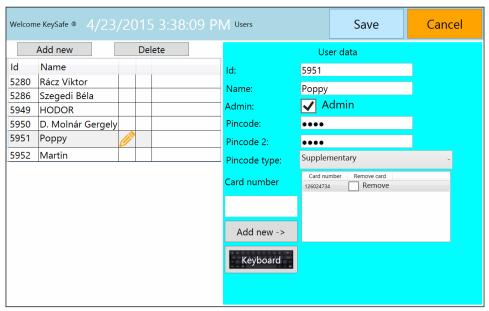


Enter new user's data (ID, name, if user has admin privileges and card number. In the "Pincode" field chosen PIN can be entered; at the "Pincode 2" field the entered PIN is to be confirmed). Then press Save.



#### Modify a user

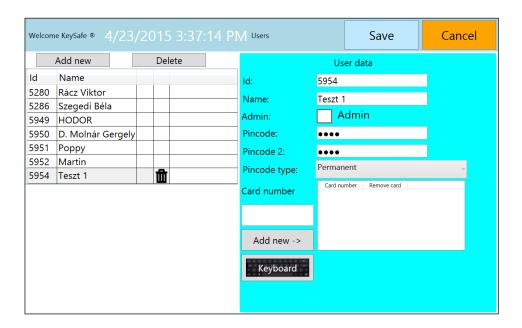
When you tap on a username, their data is shown on the right. You can edit those data (a pencil icon appears next to the username), and when ready, tap Save.



#### Delete a user

To remove a user, just select it, and press the Delete button (a waste-bin icon will appear next to the chosen username). Finally tap the Save button.



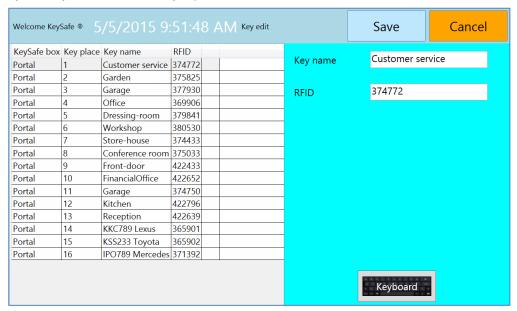


If you want to delete a user with admin rights, first, you have to take away the admin rights. Then it is possible the delete the user. Otherwise, the system does not let you delete this user, and displays a warning message on the screen.

#### **Edit key rights**

#### **Edit keys**

You can change the name and modify the RFID number of a selected key in "Admin menu / Key edit" menu. Choose a key, modify its data and finally tap Save.



#### Replacing RFID key holders

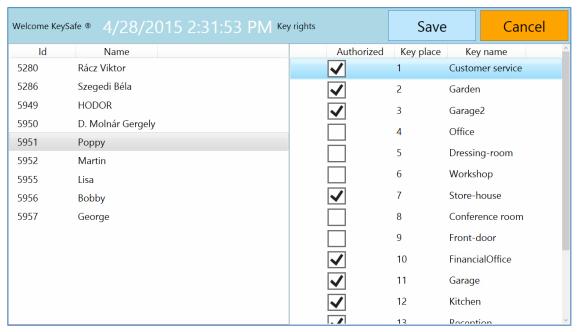
To replace a key holder, go to Admin Menu/Edit key menu, and delete the RFID number belonging to the key, and then plug in the new key holder into the right place. The RFID number of the new key holder will appear in the text box. Tap Save and start using the new RFID key holder plug.



#### Assign keys to / revoke key rights from users

In Admin menu / Key rights you can assign key rights to users or revoke key rights from users. You can assign units to/revoke units from users in this menu point too.

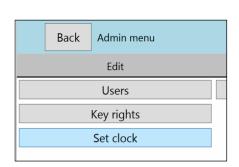
If you click on a user name, a key list will appear on the right side. Mark the empty checkbox in the Authorized column or unmark it if you need to revoke key rights from the user. Finally tap the Save button.

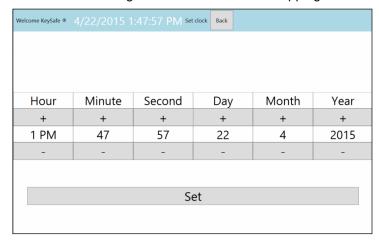


### Time settings

After a successful login, superusers can set time and date.

Time and date can be set in Admin menu/ Set clock menu using "+" and "-" buttons and tapping Set.





To return to the Admin menu, just tap Back.

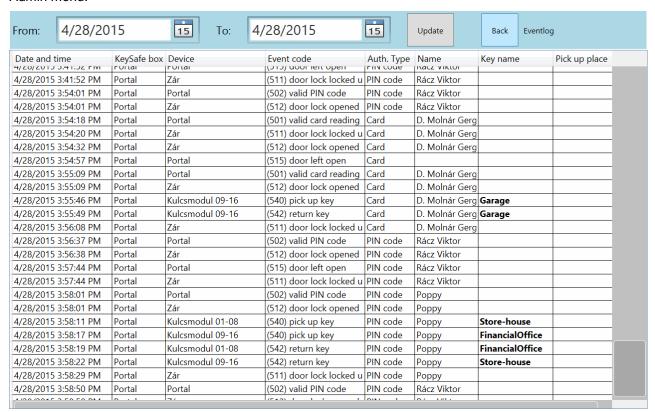


#### **Event logs**

#### Check user event log

From Admin / Event log menu you can retrieve when and what keys have been taken out / returned by whom and any attempt of unauthorized cabinet door openings.

If you would like to retrieve the events within a specified time interval, just set the From (start date) and To (end date) fields and then press the Update button. Press the Back button if you would like to return to the Admin menu.



#### KCS shows the following event details:

- 1. Date and time when the event occurred
- 2. KeySafe cabinet
- 3. Device
- 4. Event code
- 5. Authorization Type
- 6. Name (username)
- 7. Key name
- 8. Pick-up place (location)

Press the column header if you would like to sort the rows by values in this column.



#### Reminder

Reminder can be set in cases when key has not been returned to its location in a specified time. Setting of a reminder is descripted in the admin guide.

#### Monitoring – using other functions

If users want to know for which keys they have rights, or check their own or others' event logs, they can ask for log query permission from the administrator. This way the users can check the logs on their own PC via Ethernet connection. More information is available in the ProxerNet software KeySafe module manual.

# **KeySafe cabinet – Questions and Answers**

#### What happens if someone tries to pick up a key with an unauthorized card?

The locking mechanism prevents opening the cabinet. The cabinet gives an alarm beep and logs the attempt.

#### What happens if I want to take more keys at the same time?

One person can take out more keys at the same time. The event log records the key numbers, username and the date of removal.

#### What happens if I put the key back not to its own position, e.g., Key 22 into the slot of Key 30?

The cabinet accepts the key and locks it. If someone needs the key 22, the key can also be removed from position 30.

Optionally the cabinet can check whether the key is in the right slot or not, and it can warn the person with a beep. For further information please read *Keys in wrong key positions* section.

# What happens when a colleague of mine removed an authorized key, they gave it to me and I have to return it?

You can return it. The key return event will be logged with your user ID by the cabinet.

#### What happens if someone does not close the safety door?

If the door was left open and the timeout expired (by default 20 sec, but it can be adjusted), the cabinet gives a continuous beeping warning signal until the door is closed again.

#### Installation

Installation guide is in the Administrator Manual.