SBC-01

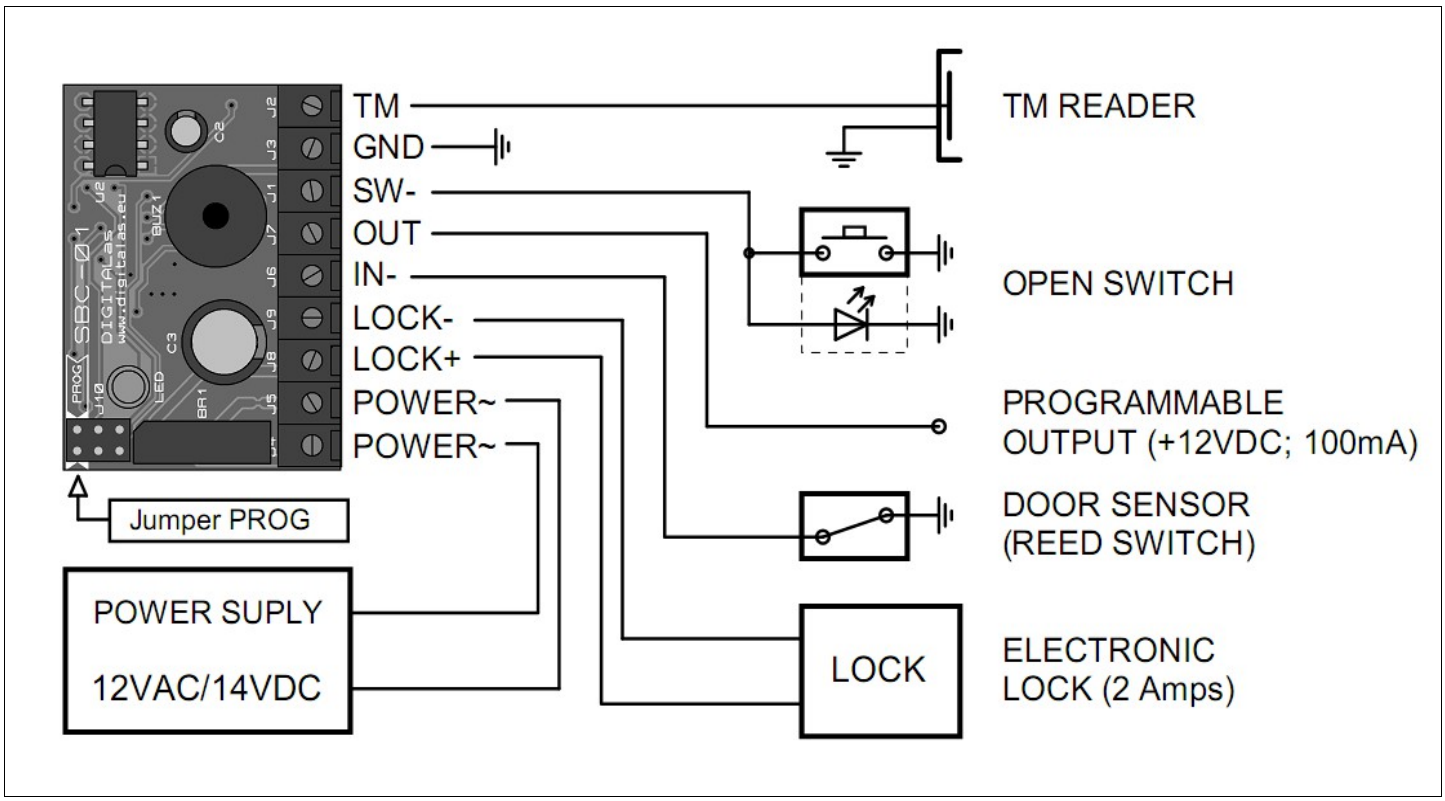
User Manual

SBC-01 is an autonomous electronic TM (Touch Memory) keys controller. Controller is functional, easy to use, easy to install, and easy to program.

Features:

- Programmable type of lock (Electromagnet/Electronic Bolt)
- Programmable unlock delay time – (1-90) sec.
- Trigger mode (switch between open and close).
- Function: *Collect new keys*.
- Ability to program keys by using USER key.
- Ability to forbid or allow access of USER keys, by using administrator key.
- 2 MASTER / 4 Administrator / 1012 USER keys.
- Programmable output for additional siren, LED or other system control.
- Alarm mode.
- All functions are programmable by using MASTER key.
- Easy to use, easy to program.

SBC-01 wiring diagram:



NOTE: Before switching power supply ON, you have to connect all the wires shown on the wiring diagram (programmable output and door sensor is not necessary to connect). It is recommended to make full reset before first time using controller.

1. Setting up Controller for the firs time.

1.1 Connect controller as shown in the wiring diagram (Programmable output and door sensor is not necessary to connect). It is recommended to make full reset before first time using controller.

1.2 Program one or two MASTER keys.

1.3 Program USER keys, and change other settings (if you need) as written in *Programming* section.

1.4 Controller is ready to use.

2. Add MASTER key.

1. Put the jumper PROG on, and wait 2 seconds for long beep, and two more seconds for short beep;
2. Put one, or two TM keys to the reader, to save as a MASTER;
3. Remove jumper PROG.

3. Full controller reset.

1. Put the jumper PROG on, and wait 2 seconds for long beep;
2. Remove the jumper PROG, and wait 2 seconds for long beep;
3. Put the jumper PROG on, and wait 2 seconds for long beep;
4. Remove the jumper PROG, and wait 2 seconds for long beep. After that, all settings will be reset to the factory values, and all keys will be erased. After reset is done , you will hear double beep.

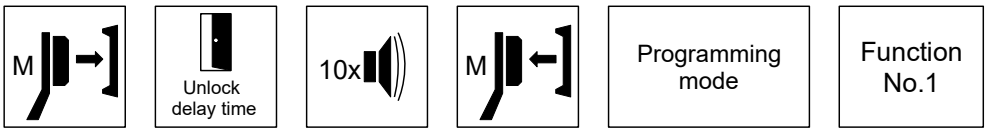
4. Programming mode.

While controller operates in programming mode, lock output (LOCK+, and LOCK-) is idle (no voltage between them). Controller returns to regular mode automatically, in 16 seconds after last operation is done.

4.1 How to enter programming mode.

Put MASTER key to the reader. Wait while finish unlock delay time, and starts programming mode confirmation signal (10 short beep). Remove MASTER key. Now controller operates in programming mode, and by default function No.1 (Programming USER key) is set.

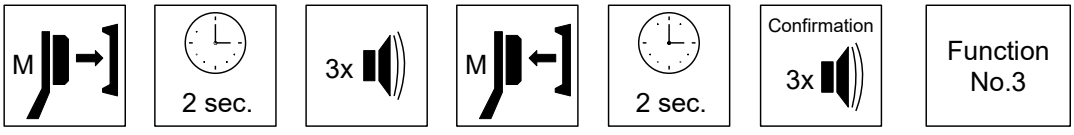
e.g. how to enter programming mode:



4.2 How to select function.

Put MASTER key to the reader and wait. After two seconds buzzer starts to beep every two seconds. Count beeps, and when it's equal to function number, remove MASTER key. After two seconds you will hear confirmation signal which is set of short beeps equal to function number.

e.g. how to select function No.3:



4.3 Function table.

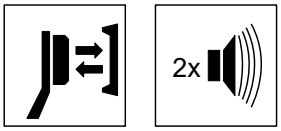
Function No.	Function name and description	Factory values
No.1	Add new USER key (maximum 1012 USER keys).	
No.2	Type of electronic lock. *1. Electromagnet* – when door closed, „LOCK+“ „LOCK-“ gives 12VDC, 2A. When unlocking, contacts becomes idle (0VDC). *2. Electronic door bolt* – when door closed, „LOCK+“ „LOCK-“ are idle. When unlocking, contacts gives 12VDC, 2A.	Electromagnet
No.3	Unlocking delay time. (1 - 90) sec.	5 seconds
No.4	Trigger mode. When trigger mode is ON, you can switch lock output from one state to another (from ON to OFF, or from OFF to ON) by using any programmed key (USER, MASTER, Administrator). In that way you can use controller to drive other electronic devices.	OFF
No.5	Function: *Collect new USER keys*. As long as this function is ON, controller collects all new TM keys, that were used to open the door. When someone use new TM key to open the door, controller opens door and in the same time saves that key to the memory. If the key already exist on the memory, controller just opens the door. If you use MASTER or Administrator key while function is ON, first of all you will hear double beep, and after then door will be open. Double beep reminds you, that function is still ON, so don't forger, after a while, to switch it OFF.	OFF
No.6	Access to add new TM key by using USER key. If access is allowed, user can add new TM key by using its USER key.	Denied
No.7	Alarm mode. As long as alarm mode is turned ON, controller checks door position sensor (reed switch). When someone broke the door, controller starts alarm. During alarm, buzzer gives alarm signal, and programmable output repeats buzzer, LED, or gives continues alarm signal (12VDC, 100mA), depending what is programmed for programmable output. Alarm duration is 5 minutes. After 5minutes, controller checks door position, and if door is still open, it will continue alarm. You can turn alarm off, by putting any programmed TM key to reader. If door was unlocked, opened, and not closed, after 10 seconds buzzer starts to beep every 10 seconds, and it will continue beeping till the door will be closed.	OFF
No.8	Programmable output. *1. Buzzers*. Output repeats controllers buzzer signal. *2. LED*. Output repeats controllers LED signal. LED must be connected with current limiting resistor (4,7k – 10k). *3. ALARM signal*. During alarm it gives 12VDC, 100mA.	Buzzer
No.9	Delete all USER keys.	
No.10	Delete single USER key. Delete single USER key by its list number, or by using it self.	
No.11	N.A.	
No.12	Add administrator key (maximum 4 keys).	
No.13	Delete single administrator key. Delete single administrator key by its list number, or by using it self.	
No.14	N.A.	
No.15	N.A.	
No.16	Reset factory settings. (TM keys are not deleting).	
No.17	End programming mode.	

4.4 Programming.

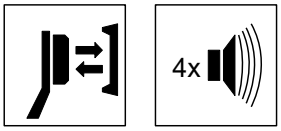
No.1 Add new USER key.

Select function No.1. Shortly add and remove TM key to the reader. New key will be saved as USER key, and buzzer will give a confirmation signal – long beep:

If key already exist as USER, MASTER, or administrator key, buzzer will give two long beeps. Key will not be saved twice.

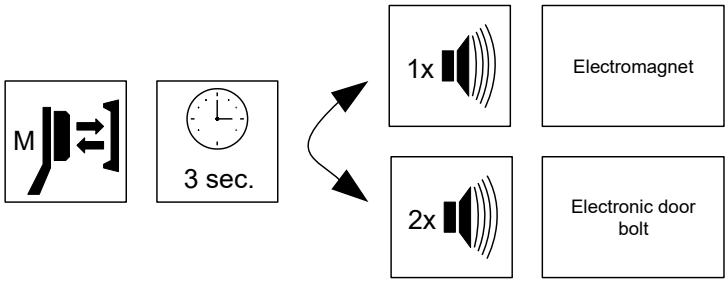


Buzzer gives 4 long beeps when memory is full.



No.2 Lock type (electromagnet/electronic door bolt).

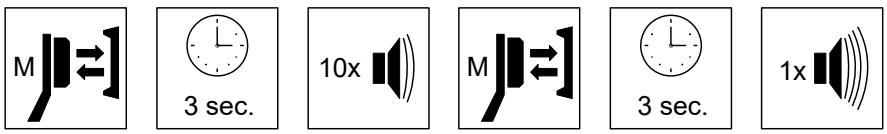
Select function No.2. Shortly add and remove MASTER key to the reader. After 3 seconds controller will switch lock type, and buzzer will give one or two beeps, depending on which type was set:



No.3 Unlock delay time (1 – 90 sec.).

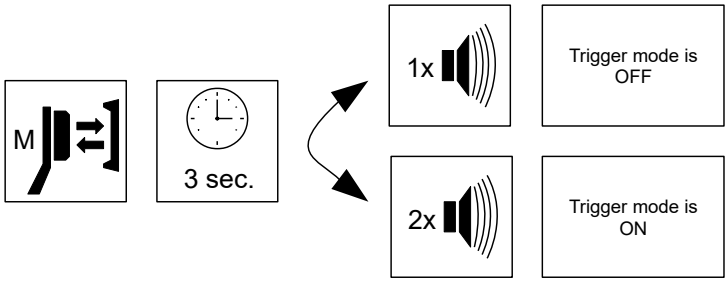
Select function No.3. To set delay time, shortly add and remove MASTER key to the reader, after 3 seconds buzzer will start to produce single beeps every one second. Count of beeps is equal to delay time in seconds. To confirm delay time, shortly add and remove MASTER key to the reader, and after 3 seconds unlock delay time will be saved, and controller will give a confirmation signal – long beep.

e.g. setting 10 seconds delay time:



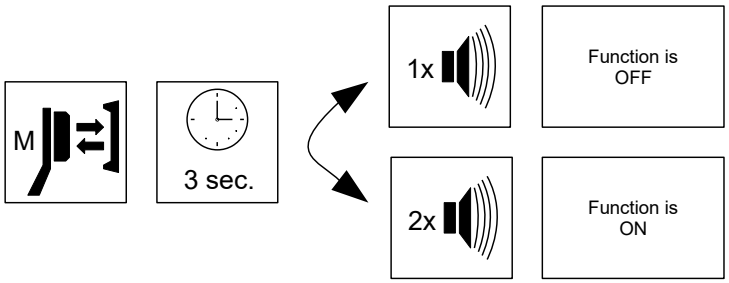
No.4 Trigger mode.

Select function No.4. Shortly add and remove MASTER key to the reader. After 3 seconds controller will switch mode status, and buzzer will give one or two beeps, depending on *trigger mode* was switched OFF or ON:



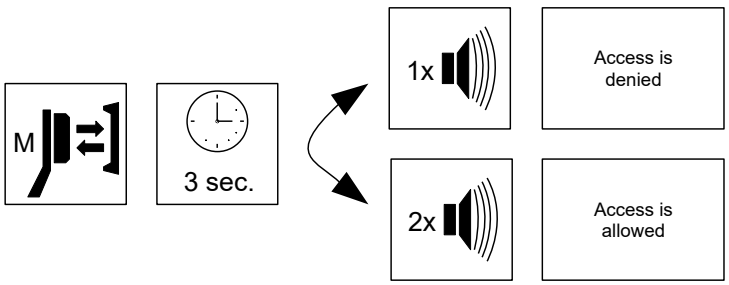
No.5 Function: Collect new USER keys.

Select function No.5. Shortly add and remove MASTER key to the reader. After 3 seconds controller will switch function status, and buzzer will give one or two beeps, depending on function was switched OFF or ON:



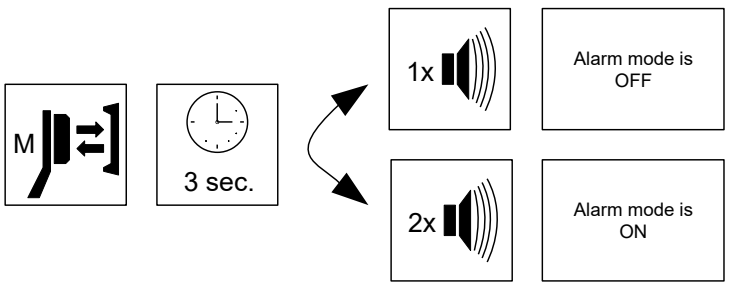
No.6 Access to add new TM key by using USER key.

Select function No.6. Shortly add and remove MASTER key to the reader. After 3 seconds controller will switch access, and buzzer will give one or two beeps, depending on access was denied or allowed:



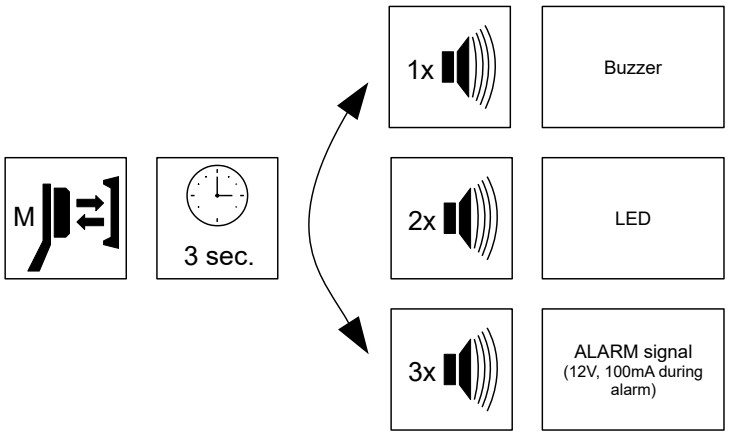
No.7 Alarm mode.

Select function No.7. Shortly add and remove MASTER key to the reader. After 3 seconds controller will switch mode state, and buzzer will give one or two beeps, depending on *alarm mode* was switched OFF or ON:



No.8 Programmable output (12VDC, 100mA).

Select function No.8. Shortly add and remove MASTER key to the reader. After 3 seconds controller will switch output mode, and buzzer will give one, two, or three beeps, depending on which output mode was set:



No.9 Delete all USER keys.

Select function No.9. Shortly add and remove MASTER key to the reader, after 3 seconds buzzer will give long beep. Repeat that operation two more times. After third time controller will delete all USER keys, and confirms that by giving double beep:

No.10 Delete single USER key.

1. If you have valid USER key, which you want to delete, shortly add and remove it to the reader, and it will be deleted:

2. If USER key is lost, it is possible to delete it by using its number on the list (1-1012). Number selection algorithm:

1) Set count of thousands. Wait for confirmation signal.

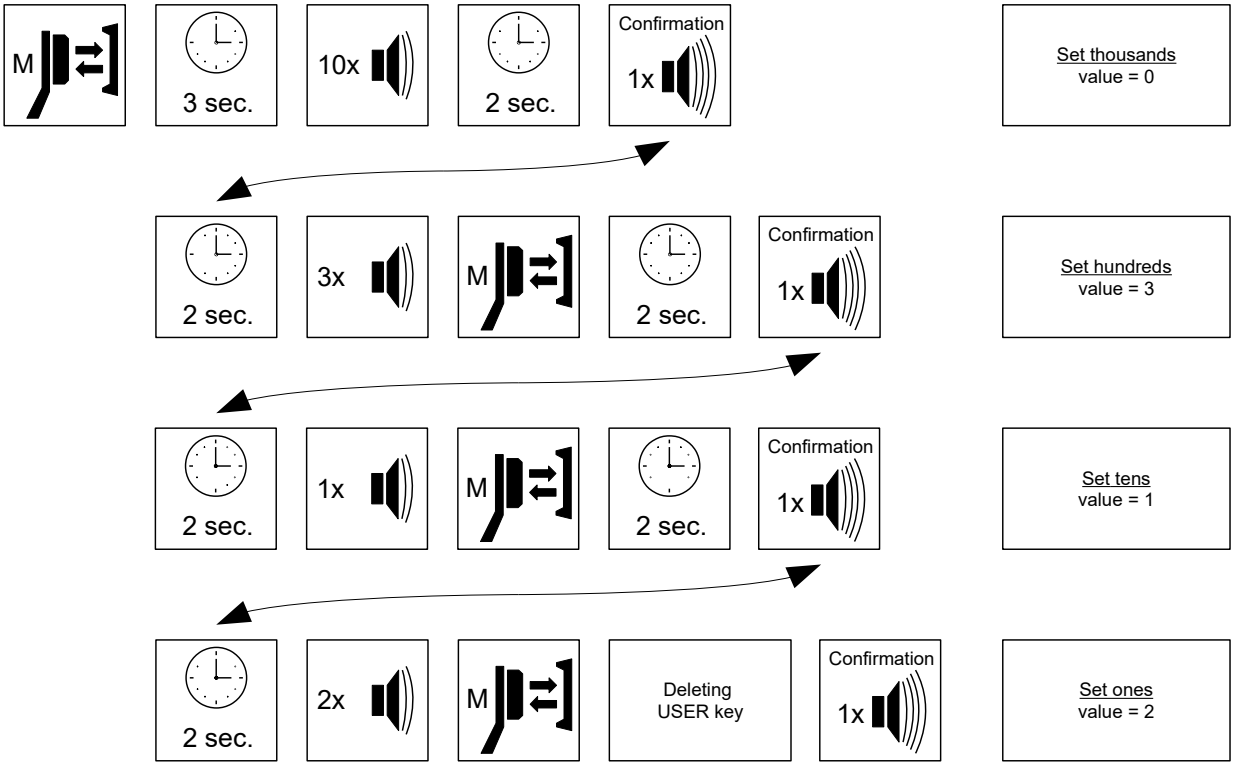
2) Set count of hundreds. Wait for confirmation signal.

3) Set count of tens. Wait for confirmation signal.

4) Set count of ones. If number is correct (0 < Number < 1012), controller will delete USER key which have that number, and buzzer will give a confirmation signal – long beep.

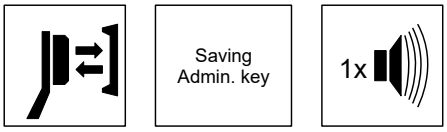
One short beep is equal to number 1. Ten short beeps are equal to number 0.

e.g. Deleting USER key No.312 :



No.12 Add administrator key (maximum 4 keys).

Select function No.12. Shortly add and remove new TM key to the reader. New key will be saved as Administrator key, and buzzer will give a confirmation signal – long beep:



If key already exist as USER, MASTER, or Administrator key, buzzer will give two long beeps. Key will not be saved twice.

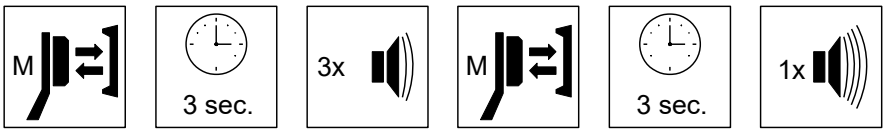
Buzzer gives 4 long beeps when all 4 Administrator keys are saved.

No.13 Delete Administrator key.

1. If you have Administrator key, which you want to delete, shortly add and remove it to the reader, and it will be deleted:

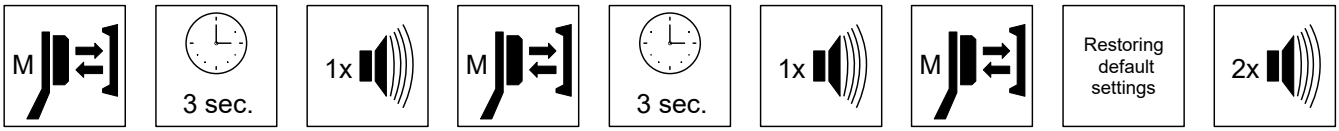
2. If Administrator key is lost, it is possible to delete it by using its number on the list (1-4). To select its number, shortly add and remove MASTER key to the reader, after 3 seconds buzzer will start to produce single beeps every two seconds. Count of beeps is equal to Administrators number on the list. To confirm number, shortly add and remove MASTER key to the reader, and after 3 seconds key will be deleted, and controller gives confirmation signal – long beep.

e.g. Deleting Administrator key No.3:



No.16 Reset factory settings.

Select function No.16. Shortly add and remove MASTER key to the reader, after 3 seconds buzzer will give long beep. Repeat that operation two more times. After third time controller will restore default factory settings, and confirms that by giving double beep:



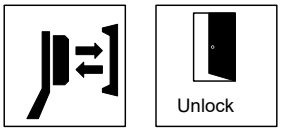
No.17 End programming mode.

Select function No.17, and controller automatically will end programming mode.

5. User functions.

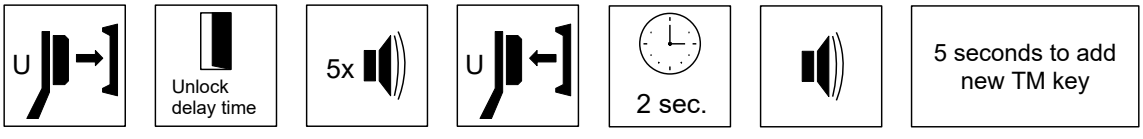
5.1 Unlocking the door.

Shortly add and remove any valid TM key (USER, MASTER, administrator) to the reader, and door going to be unlocked:



5.2 Adding new TM keys by using valid USER key (function must be switched ON before).

Add valid USER key to the reader and hold during unlock delay time is finished, and starts indication signal – 5 short beeps. Remove USER key. After 2 seconds you will hear “Add new TM key” signal – short beep. After beep you have 5 seconds to add new TM key, which will be saved as USER key.



After successful operation buzzer will give long beep. If current USER key already exist, buzzer will give two long beeps. If you will hear 4 long beeps, that means that controller memory is full.

6. Administrator functions.

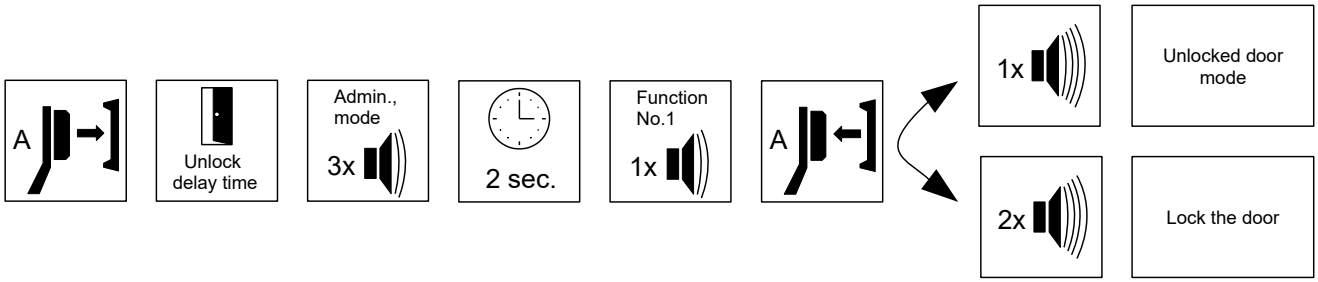
Administrator key can be used to unlock the door, same as USER key, and it has two more special functions.

6.1 Unlock/Lock the door.

NOTE. Do NOT use that function if you are using electronic door bolt. Door bolt will overheat and broke.

By using Administrator key, you can unlock the door, and leave it unlocked as long as you want.

e.g. Add Administrator key to the reader and hold, during unlock delay time is finished, and starts Administrator indication signal – 3 short beeps. Wait 2 more seconds, count 1 beep, and remove Administrator key from reader. After removing the key, buzzer will give one or two beeps, depending on the door was unlocked or locked.



6.2 User access control.

By using Administrator key, you can allow or deny user access. While user access is denied, user can not unlock the door by using any valid USER key. To unlock the door is possible only by using MASTER, or Administrator key.

e.g. Switching user access control (deny/allow): Add Administrator key to the reader and hold, during unlock delay time is finished, and starts Administrator indication signal – 3 short beeps. Wait 2 more seconds, count 2 beeps, and remove Administrator key from reader. After removing the key, buzzer will give one or two beeps, depending on access was denied or allowed.