
Knock-In-Key

Instruction manual



The instruction manual is part of the product. It contains important information about how to operate Knock-In Key.

If you give the Knock-In Key to somebody else, please make sure that the instruction manual is given as well.

Please store the manual properly, to have it at hand in case of questions or transfer.

At the last page you will find a table of contents.

1 *Welcome*

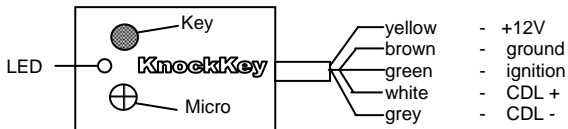
Dear customer,

Thank you for buying Knock-In Key. This product was designed and constructed following the latest state-of-the-art.

The product is in compliance with the requirements of the present European and national guidelines. The corresponding statements and documents are supplied by the manufacturer.

To maintain Knock-In Key and to assure safe operation, the user must become familiar with and follow the instructions given in this manual.

2 Controls, Details



- Key - to choose the programming mode and to key in the numbers of the new code
- Micro - the microphone receives the knocking code.
- LED - two-colour light emitting diode (red and green), receives your input and displays the code.
- CDL - centralised door locking

3 Safety Instructions

Intended Usage



Consequences of not intended usage may lead to damage to persons, to property, or to the environment. Therefore, please use our product only as intended!

- Knock-In-Key is a keyless opening system for electronic centralised door lockings.

Professional mounting is necessary to assure proper product operation. Therefore, Knock-In-Key is only to be mounted and cabled by persons, who know and understand the mounting related parts of this product and have knowledge about vehicle electronics.

The supplier of Knock-In-Key will not assume any liability for causes due to defective mounting or unprofessional handling. See complete warranty statement in Section 10.

Should the battery be disconnected, Knock-In-Key will retain its saved values, including the knocking code and any other changes made to override the factory preset characteristics of the product.

4 Applications

The vehicle must be equipped with centralised door locking. With Knock-In-Key you can open the vehicle without a key or having to carry anything with you, simply by knocking a pre-defined code on the window, door or hood within sound distance and eyesight of the receiver.

Knock-In-Key actually gives you the freedom to leave your key and valuables in your car rather than taking them to the beach, gym, public bath, etc. However, its primary function is that of insurance against being inadvertently locked out of the vehicle and not having to call and wait for road service. This could occur not only if you forget your key inside, but also if while warming up the car on a cold morning, or while running an errand and a child or pet accidentally locks the door, or if the regular key lock is inoperative, whether because a broken key or ice is blocking it.

Knock-In-Key comes from the factory with several variable parameters pre-set in certain modes. However, users can modify these parameters to better suit their own needs.

5 Parameter Description

There are six variable parameters.

Door Locking Type (DLT): Here the operating of the centralised door locking is adjusted. **These are only for use by the professional installer, and are not to be used by the owner.**

1	Default setting, 1 * 1 s on
2	1 * 0,75 s on
3	1 * 0,4 s on
4	0,25 s on, 0,25 s off, 0,25 s on, 0,25 s off

Alteration Code (AC): If this parameter is enabled, you will have to program a new code after the former one was successfully knocked to unlock the doors. When you buy Knock-In-Key „Alteration Code on“ is enabled as a safety precaution, in case anyone observed your code entry, that code would not automatically work the next time. In this mode, a new code must be entered

before Knock-In-Key can operate again. However, this parameter can be disabled allowing you to decide when you believe you should program a new code at your convenience.

Minimal Code Length (MCL): The minimal code length can consist of 4 or 5 digits. When you buy Knock-In-Key the minimal code length is adjusted to 5 digits. (The maximum code length is 12 digits.)

Ignition Enabled (IE): When you buy Knock-In-Key, this parameter is adjusted so that you can unlock the doors by knocking only while the ignition is turned off. But here you could choose that this is possible also when the ignition is turned on (enabled). It would be necessary to have Knock-In-Key operable when the ignition is enabled if your vehicle was locked and the engine was running either by mistake or while warming the engine or running a quick errand. You might try it in the ignition enabled mode, and if it is not distracting in any way, that mode gives you the most protection against inadvertent lockout.

Maximal Number of Wrong Attempts (MNWA): Here you can adjust the allowed number of wrong attempts. If this number is reached, Knock-In-Key is blocked for a period of time before further attempts can be made. This is for safety against unauthorized entry. When you buy Knock-In-Key, 3 possible wrong attempts are the maximum. This can be increased to 5, if you choose to do so.

Blocking Time (BT): Here you can adjust for how long the code will be blocked after the MNWA is reached. It is factory pre-set for one hour. This can be reduced to one-half hour by the user.

6 Operation

6.1 Knock-In-Key Interfaces

6.1.1 Coloured Pushbutton

This button is used to Query the code, Input the code and Alter the Factory Pre-set Parameters. With the vehicle's ignition switch in the on position (vehicle motor does not need to be running), when the pushbutton is depressed, the LED does not light up for the first 3 seconds that it is depressed, it then emits red for 3 seconds and then it goes off again. These three segments: no light, red light and then again, no light, are used to define the mode of operation: Inquiry, Inputting the Code, or Altering the Factory Pre-set Parameters. These are discussed in turn in the following instructions.

6.1.2 Red/Green LED

This gives the user feedback and information depending on whether it flashes red or green or alternately red and green.

6.1.3 Microphone

The small opening across from the pushbutton is the microphone used to receive the input knocks used to unlock the doors.

6.2 Query Knock-Code

You will use this if you wish to recall the code that is entered.

6.2.1 Turn on the vehicle ignition switch.

6.2.2 Depress the coloured pushbutton, less than 3 seconds. (See 6.1.1. If the red LED comes on, you have depressed the pushbutton too long, in which case just wait for 15 seconds and begin again.)

6.2.3 The code that is entered is now blinked by the LED. Each digit in the code is identified by the number of green flashes followed by a pause indicating the end of each digit. The end of the code is indicated by a red flash of the LED.

6.3 Programming of the Knock-Code



When you turn off the ignition switch and Knock-In-Key reacts with a steady blinking, you have to program a new code. *(Unless the factory pre-set Alteration Code is overridden, another code is required if the former one was used successfully. Refer to Section 5.)*

- 6.3.1 A valid code consists of at least 5 and as many as 12 digits. (Actually, the minimum can be reduced to 4 digits, but only after overriding the factory pre-set Minimal Code Length). Select the code that you intend to enter. It should be a sequence of numbers that are easily remembered by you, a birthdate, anniversary or other number sequence that is meaningful. Note: only numbers from 1 to 9 are acceptable; Zero (0) is not acceptable. To eliminate trivial codes, the same digit can be repeated consecutively only once and used no more than three times in the total sequence. Also, it is necessary to use at least three different digits. An example of a lowest number 5-digit knock-code sequence would be 1-2-3-1-1. Write down the knock code that you wish to use:
- 6.3.2 Turn on the ignition switch.
- 6.3.3 Hold the programming Key depressed until the LED emits red. Let up the Key within 3 seconds (before the red light turns off). If the LED remains red, you have successfully chosen the knocking code-entry programming mode. The LED stays red until you start with the entry of numbers.
- 6.3.4 A digit 4, for example, is entered by briefly depressing the programming Key four times. However, each push of the Key will be followed by a blink of the green LED indicating that the push was received. Do not push faster than the unit responds with a green blink. However, as soon as you receive confirmation that the push was received, push again until the digit is complete. After pushing four times for the number 4, pause until the red LED blinks indicating that that number is complete.

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- 6.3.5 Repeat this until your intended code is completed.
 - 6.3.6 You terminate the code entry by a pause of 10 seconds. This will be received by a long green glow of the LED.
 - 6.3.7 Your code will not be accepted, if it consists of less than 5 or more than 12 digits, if you try to enter a number greater than 9 or if you try to choose a trivial code (see 6.3.1). This will be indicated by an alternating red-green blinking of the LED for 5 seconds. The unacceptable code cannot be corrected and the programming mode is ended. Start again by pushing the programming Key until the LED emits red.

6.4 Application of the Code and Unlocking of the doors



Basic information: a pre-defined knock-code can only be used once successfully. When you turn off the ignition and Knock-In-Key reacts with a steady blinking, you have to program a new code.

(Alteration Code requests another code if the former one was used successfully). Please enter a new code because otherwise Knock-In-Key cannot unlock the doors next time (see 6.1.)

- 6.4.1 To unlock the vehicle using Knock-In-Key, knock once with the hand or with a coin on the front windshield, a side window or on the vehicle body. This initial knock awakens Knock-In-Key. It confirms its readiness to receive the pre-defined knock-code by slowly flashing the green LED three times. If no flashes occur, knock once, more sharply. (In case Knock-In-Key receives the initial knock by flashing three times the red LED, the code-entry is blocked because there was a previous three-time failed attempt, and the blocking time of one hour has not elapsed. After an hour, KnockKey can be activated again.)
- 6.4.2 When you successfully awaken Knock-In-Key and receive the three slow green flashes, you should begin the knock-code sequence. When you knock the first time for the first digit, KnockKey will respond with a green flash indicating that that knock

was received. Knock again as soon as you receive confirmation that each knock is received until you have completed that digit's entry. When the digit is complete, pause and Knock-In-Key will respond with a single flash of the red LED to let you know that you have successfully entered the correct first digit.

- 6.4.3 The process is to be repeated for each successive digit: knock, confirmed by a green flash until the last knock is confirmed by its green flash and after pausing by a red flash.
- 6.4.4 If the knock-code was applied correctly, Knock-In-Key will unlock the doors after a final pause of 5-10 seconds and will blink once with the green LED.
- 6.4.5 If a wrong code was knocked, Knock-In-Key will not unlock the doors, and the LED will emit a long red flash. If a wrong code is applied three times Knock-In-Key will be blocked for an hour. Interferences as e.g. a noisy environment or mistakes with the handling, as e.g. knocking less than 5 digits or knocking while the LED is receiving and has not as yet acknowledged the previous knock with a green flash, will be received with an alternating red-green flashing. These disturbances will not be registered as a wrong attempt. You have to begin again the knock-code.

Example: Code = 1-2-3-1-1 Knock 1 (to awaken)-1-2-3-1-1
K = knock, R = red LED, G = green LED

1	1	2	3	1	1	
K	K	K K	K K K	K	K	--> 5-10 Sec. unlocked
G G G	G R	G G R	G G R	G R	G R	

Note: As for any PIN, the greater the number of digits, the greater the security. However, if you are willing to use larger numbered digits, 4 digits affords more than 1,000 combinations and 5 digits, about 10,000 combinations.

6.5 Changing the Factory Pre-set Parameters

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- 6.5.1. Turn on the ignition switch.
 - 6.5.2. Press the programming Key and retain it pressed. After 3 seconds the LED emits red and after another 3 seconds the LED is off. As soon as the red LED turns off, release the Key. Now you are in the Parameter mode.
 - 6.5.3. Now the LED will blink green according to the number of the Parameter mode which was last chosen. (See the table that follows to identify the number of each parameter.)
 - 6.5.4. If you press the key once, the number increases to the next number and the green LED blinks that number of times. Note: you should index to the Parameter mode of interest without waiting for 5 seconds in between indexing, otherwise you will adjust the Parameter mode where you are (see 6.5.6 below).
 - 6.5.5. When you have reached the Parameter mode number 12 and press the key again, you return to Parameter mode number 1.
 - 6.5.6. When you have chosen the intended parameter, you can adjust it by waiting 5 seconds. Then the respective parameter is adjusted and KnockKey will quit the change Parameter mode. Please keep in mind and pay regard to the fact that in Parameter mode 1 (Standard adjustments) ALL parameters will be reset to the factory pre-set standards. In all other modes you alter the specific parameter only, without any consequences to the other parameters (See table).
 - 6.5.7. When you enter the Parameter mode and the initially blinking number does not equal 1, the standard adjustments had been altered. If you do not know the presently adjusted parameters, you have to adjust them again. You can do this as follows: Firstly you choose the parameter mode 1 and reset all parameters to their standard adjustment. Subsequently you enter again the Parameter mode and alter one after the other the parameters you would like to have adjusted different from the standard.

Knock-In-Key is quite versatile and can be adjusted to your own likes. The parameters can be altered according to the following table. Door Locking Types 2, 3 and 4 should not be chosen except by the installer if required to adapt KnockKey to your vehicle.

Parameter mode	Number	DLT	AC	MCL	IE	MNWA	BT
Standard parameters	1	1	On	5	Off	3	60min
Door Locking Type 2	2	2	X	X	X	X	X
Door Locking Type 3	3	3	X	X	X	X	X
Door Locking Type 4	4	4	X	X	X	X	X
Alteration Code on	5	X	On	X	X	X	X
Alteration Code off	6	X	Off	X	X	X	X
min.Code Length = 4	7	X	X	4	X	X	X
min. Code Length = 5	8	X	X	5	X	X	X
Constantly enabled	9	X	X	X	On	X	X
Ignition on = disabled	10	X	X	X	Off	X	X
max. wrong attempts=5	11	X	X	X	X	5	X
Blocking Time = 30min	12	X	X	X	X	X	30min

X = this adjustment will not be altered.

If you do not want to have to input a new code after you use the Knock-In-Key, use parameter 6. If you want to be able to use Knock-In-Key even if the motor is running, use parameter 9. To increase the number of wrong attempts allowed to 5, use parameter 11, and to reduce the Blocking Time from one hour to thirty minutes, use parameter 12.

6.6 Reset of the Parameter Adjustments

- 6.6.1 Turn on the ignition switch.
- 6.6.2 Press the programming Key and retain it pressed. After 3 seconds the LED emits red and after another 3 seconds the LED is off. After

another 3 seconds the LED emits red again. When the LED emits again, release the Key. Now all parameters are reset to the standard in the same way as when you use parameter number 1.

7 Maintenance and Waste Disposal

Check regularly the technical safety of the device, e.g. with respect to possible damages in the cable connections.

The device is constructed to be maintenance-free, but the cables should not be exposed or subject to wear.

Electrical devices contain a number of recycable materials as well as components harmful to the environment. Please contribute to a proper disposal of these components. Dispose of Knock-In-Key as you would any electronic device.

8 Trouble Shooting in Case of Operational Faults

With Knock-In-Key you obtained a product which was constructed according to the state-of-the-art and which is fail-safe.

Nevertheless, problems and operational faults may occur. Therefore, we give you now a short description how to solve possible problems.



Problem	Solution
No LED prompt	<ul style="list-style-type: none">• Check the charge state of the battery• Check the device fuse• Check the cable connections
Knock-In-Key blinks	<ul style="list-style-type: none">• No valid code – please enter a new code (See 6.3)
Knock-In-Key does not unlock And the initial knock is received with a red LED	<ul style="list-style-type: none">• Force a handling mistake (e.g. by knocking 10 times) and start again to apply the code.• Check the valid code by querying your code (See 6.2).• Check the cable connections• Wait till the blocking time is over. (See 6.4.1):



Repairs other than described before, may be carried out by an authorised professional only.

9 Technical Data

• Operational voltage	12-15V
• Stand-by current	< 4 mA
• Max. charging rate	ca 45 mA
• Max. relay switched current	1 A
• Pulse duration (0,25s - 4s adjustable)	1s (pre adjusted)
• Cable fuse	2x160mA, 2x1A
• Weight	ca. 80g (cables incl.)
• Dimension of the box (W x L x D)	37 x 53 x 20 mm
• Cable Length	ca. 3,8m

Environmental Conditions

- Operating temperature -20 / +70 °C
- The device is not to be used out of doors and is to be protected against wetness and shower water.

10 Limited Warranty

The Manufacturer warrants to the original customer, and the original car a limited 24 month warranty, beginning with the date of purchase.

Installation, labor, removal and reinstallation are not the responsibility of the Manufacturer. The attached WARRANTY VALIDATION must be completed and sent to the Manufacturer within seven (7) days of purchase in order to validate the warranty. The Manufacturer makes no warranty against the theft of a vehicle or its contents. This warranty is not to be construed as an insurance policy against loss.

MANUFACTURER DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR USE. THIS DISCLAIMER SHALL BE EFFECTIVE AS TO ALL CLAIMS OF ANY KIND MADE BY OR THROUGH ANY WHOLESALE, RETAILER, CONSUMER OR ANY OTHER PERSON OR ENTITY. Some regional governments do not permit this disclaimer of implied warranties in some sales. Hence this disclaimer may not apply to you.

Consumer's remedy is limited to repair or replacement of the unit, and in no event shall exceed the purchase price. Incidental, consequential and/or indirect damages are expressly disclaimed. NO person or entity is authorized to alter, amend or increase this limited warranty.

Qualified warranty claims do not lead to an extension of the warranty time.

If your KnockKey is a case of warranty, remove it together with the cable from your vehicle and bring or send it back to your seller. Please attach a detailed description of the faults (including the type of your vehicle, a possibly differing kind of use and the type of the fault).

11 Glossary

This instruction manual is a publication of the Manufacturer.

All rights reserved, including the translation. All kinds of reproduction, e.g. photocopy, microfilm, or data record in computing machines needs to be authorised in written form by the publisher. Reprint, in extracts, also prohibited.

This instruction manual conforms to the technical state-of-the-art when printed. However, the Manufacturer reserves the right to change these technical specifications in future models, with no responsibility to upgrade prior units.

Release to version V1.03

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WARRANTY VALIDATION	INSIDE BACK COVER

WARRANTY VALIDATION

Please fill out this form and mail it in to register your warranty.

Your Name _____

Address _____

Email Address _____

Dealer Name _____

Address _____

Date of Purchase ____ / ____ / ____ Model # _____

Make/Model of Car _____

Year of Car _____ V.I.N.# _____