

Kessy Prog

Electronic keys registration device for vehicles,
equipped with Kessy immobilizer unit

Operation manual

1. Equipment purpose

Kessy Prog is advanced device for electronic keys registration within passenger cars, equipped with Kessy immobilizer unit:

Porsche Cayenne, Bentley Continental, VW Touareg, VW Phaeton etc.

Kessy Prog is a stand-alone unit with LCD and keypad. It has a clip-connector and “crocodile” connector for Kessy-unit, USB-socket for connection with PC and charging (pic.1).



Pic.1 Kessy Prog device with cables.

Kessy Prog recognizes software version and corresponding keys registration algorithm automatically after connection to Kessy unit. Key registration in unit type 0, 1, 2 could be performed with only clip-type connector. And for Kessy unit type 3 (with Continental mark) you should also use crocodile-type connector.

2. Kessy Prog main functions

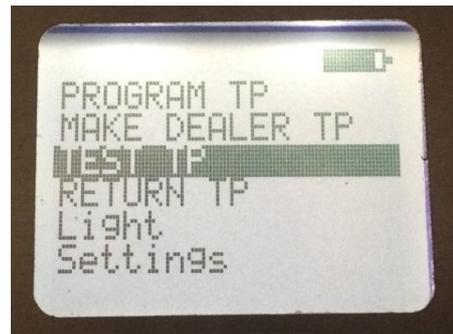
- Key or chip registration – key programming and modification of Kessy unit EEPROM memory;
- Dealer key (or chip) preparation for vehicle;
- Electronic key or chip testing – key reading and registration availability check;
- Initial state return in a case of unpredicted situation during Kessy unit programming.

3. Kessy Prog operation instruction

Turn on the programming tool by pressing 'Return (Power)' button for about 5 seconds. You can navigate on-screen menu by mini-joystick, 'Enter' and 'Return' buttons. Pressing on the center of mini-joystick works as 'Enter' button. Internal battery charge is indicated on a top right corner of the LCD-screen. If battery charge is low connect provided 5V charging device to mini-USB port.

Onscreen menu sections:

- 'Program TP' – key or chip registration;
- 'Make Dealer TP' – dealer key preparation;
- 'Test TP' – key or chip state check;
- 'Return TP' – Kessy unit initial state recovery;
- 'Light' – built-in lighter on/off;
- 'Settings' – device parameters adjustment.



Pic.2 On screen menu.

3.1. Key programming function 'Program TP'

This function includes key programming procedure and Kessy unit memory modification.

Please pay attention: keys or chips for registration must be unlocked. New keys or chips may be registered once. After that they became locked. Locked keys cannot be registered in another Kessy unit.

Immobilizer systems with Kessy unit use only following types of transponders (HITAG2 group):

- PCF7936 – single chip;
- PCF7946 – transponder in original key without Keyless-Go;
- PCF7943 – transponder in original key with Keyless-Go.

Electronic key with PCF7946 transponder and PCF7936 chip are fully functional right after registration procedure. Registered original key with PCF7946 is able to start the engine and to lock/unlock doors. PCF7936 chip is able to start the engine only.

Keyless-Go key (with **PCF7943** transponder) registration is performed in two steps:

- Dealer key is prepared first with the help of 'Make Dealer TP' function (see chapter 3.2);
- Prepared dealer key may be registered by means of dealer equipment (VAS or VCDS) using received in step one PIN-code.

'Program TP' function involves following steps:

- 1) Dismount Kessy unit, unplug connectors and take out internal board from its casing.
- 2) Plug clip-connector cable into Kessy Prog device.
- 3) Clean EEPROM chip pins on Kessy unit board.
- 4) Plug clip-connector to EEPROM chip as shown on pic.3.

Please pay attention: red wire on clip-connector must be linked up with first pin on 93c86 chip.



Pic.3 Connection with EEPROM chip on Kessy unit board.

- 5) Launch 'Program TP' function from onscreen menu.

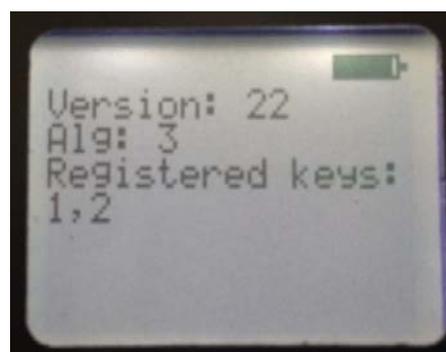
If Kessy unit memory reading performed successfully you will see such message on LCD: "Reading OK".

If electrical contact between clip-connector and 93c86 chip is bad you will see message "Waiting EEP Press a key to cancel" on LCD. When normal contact will be restored another message appears: "Reading OK". Also you can cancel the operation by pressing 'Enter' or 'Return' button.

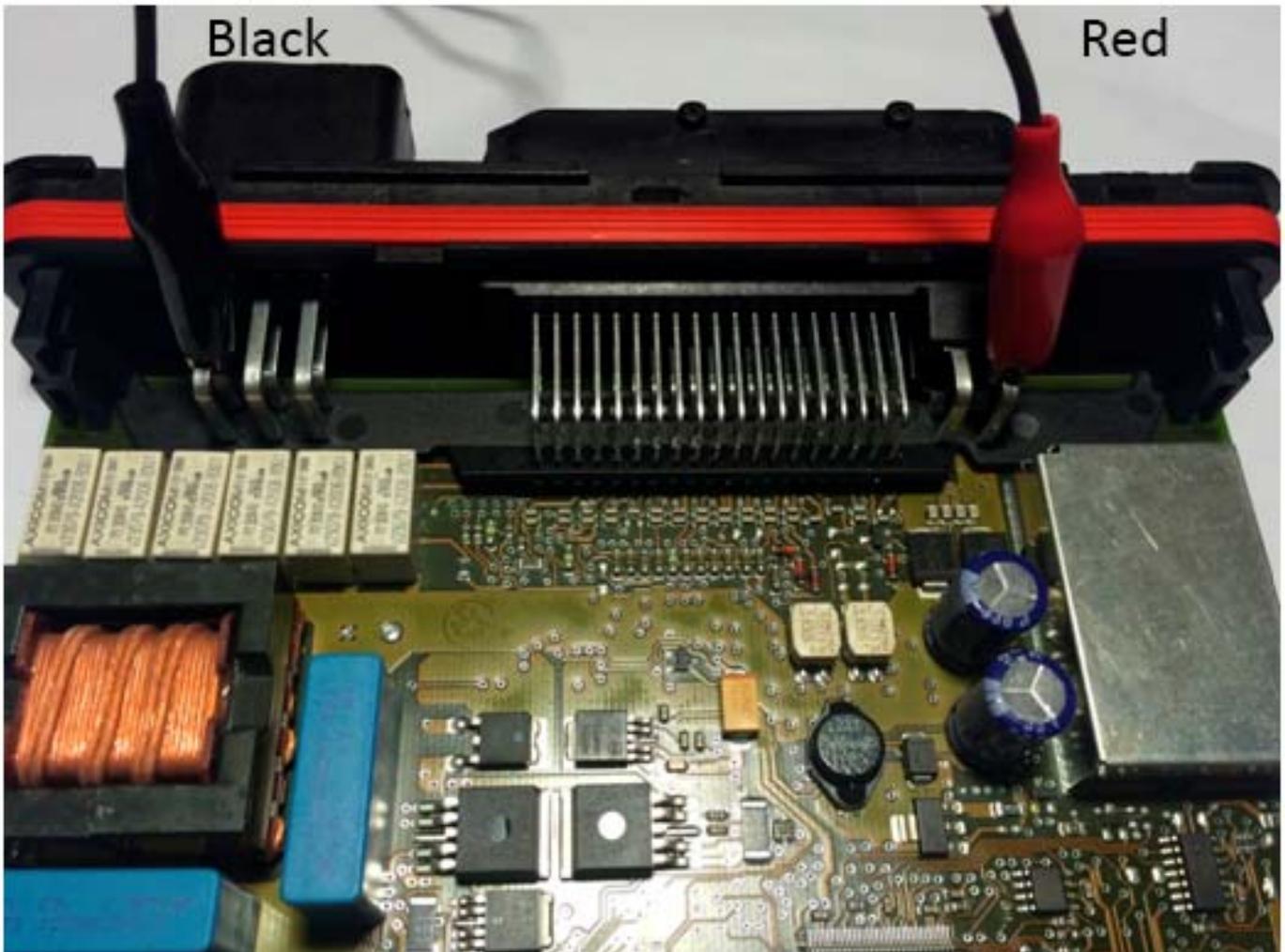
If Kessy unit memory reading was unsuccessful message "Reading Error" occurs on LCD. In this case press 'Enter' button to return to menu.

- 6) After successful reading and "Reading OK" message press 'Enter' button. You will see message "New Project?" If 'Enter' button is pressed EEPROM memory of Kessy unit will be stored in device's internal memory. You should do it only at first time you connect to certain Kessy unit. In case of later connection (for second and so on key registration) press 'Return' when you see "New Project?" message on LCD. In this case current Kessy unit memory content will be transferred to device's RAM, and ROM will hold EEPROM initial state. This is important for recovery after any programming error.
- 7) Now Kessy Prog analyses software version and number of registered keys. This data will be displayed on LCD (pic.4).

If Kessy unit has SW version 22, 23, 24 (Kessy Continental) - algorithm 3, you will see message "Connect the power connector then press OK". It is necessary to plug crocodile connector cable as shown on picture 5 and press 'Enter' button.



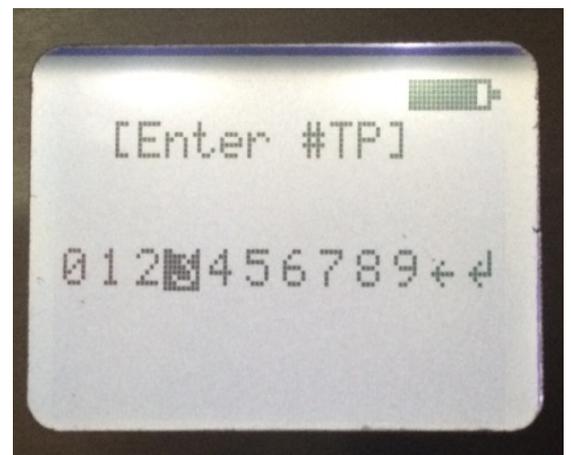
Pic.4 Kessy unit data display.



Pic.5 Crocodile - connectors cable plugging

- 8) While Kessy Prog is reading unit memory you will see message “Reading EEP...” After the process is complete key position selection menu will appear (pic.6). Set position number with mini-joystick and confirm selection with “↵” symbol.

Maximum number of registered key is 8, so the position number must be equal or less than 8. New key may be registered on empty or already used position.



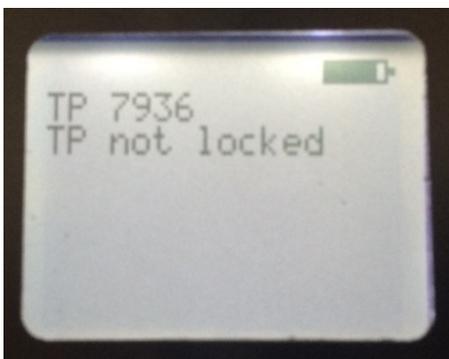
Pic.6 Key position number selection menu.

- 9) As you have confirmed key position message “Waiting inverter startup...” appears and then “Take TP or cancel”.
- 10) Bring new key or chip onto Kessy Prog device as shown on pic.7.

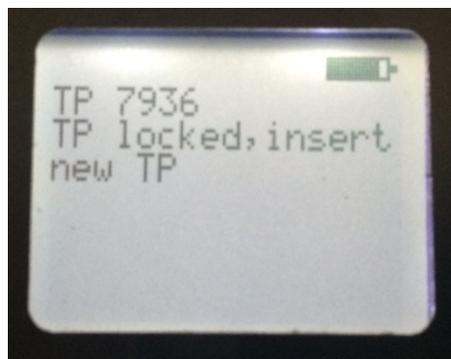


Pic.7 Key position during programming.

If key or chip reading is successful its type and state will be displayed on LCD (pic.8, 9, 10). Press 'Enter' to continue.



Pic.8 Message for brand new key or chip.



Pic.9 Message for locked key or chip.



Pic.10 Message for key or chip that had been already registered in current Kessy unit.

If the key or chip is unlocked or had been already registered in current Kessy unit, Kessy Prog device will program it ("Writing TP..." message will appear) and modify EEPROM content ("Writing EEPROM..."). If programming process completes successfully you will see next message several second later: "Program TP#5 successfully" (#5 is used as example). Key registration procedure is completed now. Press any key to return to main menu.

If the key has improper type or is locked, you cannot use it. Pres 'Return' button and use proper key.

If an error occurs on key reading or writing, message "Hitagwriteautherror" will be shown. You should repeat the whole procedure for this key or chip.

3.2. Dealer key preparation function 'Make Dealer TP'

This function is used for new (unlocked) key preparation for registration by dealer-level equipment: VAS or VCDS.

- 1) Dismount Kessy unit, unplug connectors and take out internal board from its casing.
- 2) Plug clip-connector cable into Kessy Prog device.
- 3) Clean EEPROM chip pins on Kessy unit board.
- 4) Plug clip-connector to EEPROM chip as shown on pic.3.
- 5)

Please pay attention: red wire on clip-connector must be linked up with first pin on 93c86 chip.

- 6) Launch 'Make Dealer TP' function from onscreen menu.

If Kessy unit memory reading performed successfully you will see such message on LCD: "Reading OK".

If electrical contact between clip-connector and 93c86 chip is bad you will see message "Waiting EEP Press a key to cancel" on LCD. When normal contact will be restored another message appears: "Reading OK". Also you can cancel the operation by pressing 'Enter' or 'Return' button.

If Kessy unit memory reading was unsuccessful message "Reading Error" occurs on LCD. In this case press 'Enter' button to return to menu.

- 7) After successful reading and "Reading OK" message press 'Enter' button. You will see message "New Project?" If 'Enter' button is pressed EEPROM memory of Kessy unit will be stored in device's internal memory. You should do it only at first time you connect to certain Kessy unit. In case of later connection (for second and so on key registration) press 'Return' when you see "New Project?" message on LCD. In this case current Kessy unit memory content will be transferred to device's RAM, and ROM will hold EEPROM initial state. This is important for recovery after any programming error.
- 8) Now Kessy Prog analyses software version and number of registered keys. This data will be displayed on LCD (pic.4).

If Kessy unit has SW version 22, 23, 24 (Kessy Continental) – algorithm 3, you will see message "Connect the power connector then press OK". It is necessary to plug crocodile connector cable as shown on picture 5 and press 'Enter' button.

- 9) While Kessy Prog is reading unit memory you will see message "Reading EEP..." After the process is complete key position selection menu will appear (pic.6). Set position number with mini-joystick and confirm selection with "↵" symbol.

Maximum number of registered key is 8, so the position number must be equal or less than 8. New key may be registered on empty or already used position.

- 10) As soon as you have set key position number, message "Waiting inverter startup..." appears and then "Take TP or cancel".
- 11) Bring new key or chip onto Kessy Prog device as shown on pic.7.

If key or chip reading is successful its type and state will be displayed on LCD (pic.8, 9, 10).

If the key or chip is unlocked or had been already registered in current Kessy unit, Kessy Prog device will program it (“Writing TP...” message will appear). You will see “Preparation dealer TP successfully LOGIN 1234” (1234 is an example). Dealer key preparation is now completed. Press any key to return to main menu.

If an error occurs on key reading, message “Hitagwriteautherror” will be shown. You should repeat the whole procedure for this key or chip.

4-digit PIN-code (LOGIN) should be used for fully functional registration (including keyless-go) with the help of dealer-level equipment: VAS or VCDS.

3.3. Key or chip testing function ‘Test TP’

This function is used for testing type and state of key or chip: locked or unlocked. New (unlocked) keys could be registered in certain Kessy unit only once. After registration they become locked. Locked keys or chips could not be registered in another Kessy unit.

You may launch ‘Test TP’ function from onscreen menu. As function starts you will see “Waiting inverter startup...” on LCD and later “Take TP or cancel”. Now bring a key or chip as shown on pic.7.

If key or chip reading is successful its type and state will be displayed on LCD (pic.8, 9). Press any key to return to main menu.

3.4. Kessy unit initial state recovery function ‘Return TP’

This procedure is used in case of unpredicted situation or incorrect key registration. Kessy unit recovery is performed by EEPROM rewriting using file stored in the Kessy Prog devices internal memory.

‘Return TP’ function involves following steps:

- 1) Plug clip-connector cable into Kessy Prog device.
- 2) Plug clip-connector to EEPROM chip as shown on pic.3.
- 3) Launch ‘Return TP’ function from onscreen menu.

If electrical contact between clip-connector and 93c86 chip is good you will see message “Waiting EEP...” on LCD and then “Return TP successfully”. This means that Kessy unit is recovered into initial state.

If EEPROM writing was interrupted or completed incorrectly, message “Writing EEP...ERROR” will appear. Press ‘Return’ button and try again.

3.5. Light function

For your convenience Kessy Prog has built-in LED-torch. You can turn it on or off in main menu.

3.6. Settings function

In settings menu you may adjust following parameters:

- LCD backlight brightness (Brightness);
- Built-in LED brightness (Flashlight);
- LCD backlight turnoff time (Backlight time);
- Beep volume for button pressing (KBD volume).

Use 'left' and 'right' mini-joystick position to adjust parameters, 'Return' button for exit. DC-charger connection and USB connection are indicated on LCD in upper right and upper left corners respectively.



Pic.11 Settings menu with DC-power and USB connection indication.