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AUTOMOTIVE SOLUTIONS

## PSA PIN FINDER & IMMO EMULATOR

**APPLICATION:** ECU CONTROLLERS OF PSA GROUP VEHICLES WITH CAN BUS IMMOBILIZER SYSTEM BASED ON PIN CODE SYNCHRONIZATION.

**VALID FOR:** PSA MODULES ECU : EDC17C60, MD1CS003, MG1CS042, DCM7.1, V56, EDC17C10, SID807 AND MANY OTHERS.

**SETTING THE OPERATING MODE:** THE SELECTION IS DONE VIA JUMPER 1 : JUMPER OPEN - PINCODE SCAN MODE, JUMPER CLOSED - IMMOBILIZER EMULATOR MODE.

**IN CASE SCANNER MODE:** DO NOT CONNECT EMULATOR TO THE PERMANENT (30) 12 VOLT POWER SUPPLY, GROUND AND CANBUS. YOU CAN USE THIS MODE AS MANY TIMES AS YOU LIKE, THERE ARE NO RESTRICTIONS.

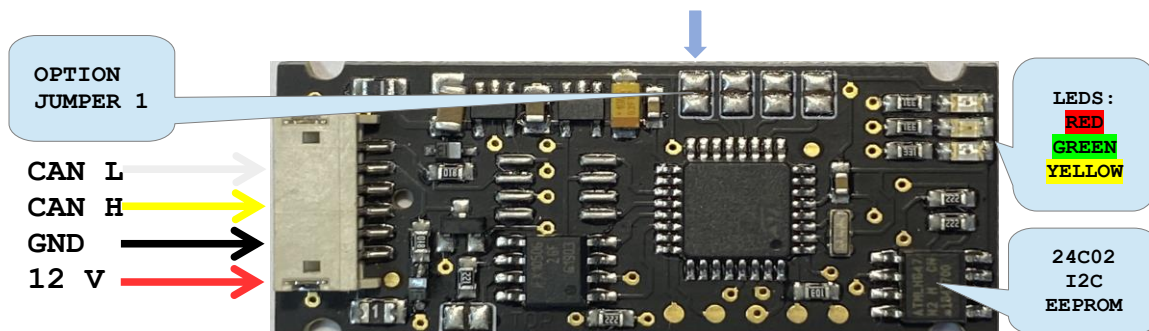
### **PIN CODE SCAN PROCESS:**

- CONNECT THE EMULATOR TO THE CONSTANT (30) 12 V SUPPLY  
THE ECU MUST BE CONNECTED TO SWITCHABLE POWER SUPPLY 15 (IGN).
- WHEN THE EMULATOR IS POWERED ON, THE RED AND YELLOW LEDS LIGHT UP SIMULTANEOUSLY.
- AFTER SWITCHING ON THE ECU POWER SUPPLY, WHEN THE ECU STARTS THE CAN BUS COMMUNICATION PROCESS, THE YELLOW DIODE WILL FLASH, INDICATING THE ENTRY INTO PHASE ONE OF THE SCAN. THE DURATION OF THE FIRST PHASE IS IMPOSSIBLE TO DETERMINE BUT IN PRACTICE THE FIRST PHASE LASTS FROM 15 TO 60 MINUTES (LONGER DURATION OF THE FIRST PHASE IS ALSO POSSIBLE).
- WHEN THE EMULATOR PERFORMS THE FIRST SUCCESSFUL AUTHENTICATION IT ENTERS PHASE TWO, THE YELLOW DIODE GOES OFF AND THE RED DIODE STARTS FLASHING, FROM THIS MOMENT THE TIME TO CALCULATE THE CORRECT PIN CODE IS UP TO 15 MINUTES.
- AFTER THE CALCULATION OF THE PIN CODE, THE EMULATOR PROCEEDS TO PHASE THREE OF THE AUTHORISATION TEST. UPON SUCCESSFUL VERIFICATION OF THE PIN CODE, THE GREEN DIODE GOES ON AND THE RED ONE BLINKS ONLY VERY BRIEFLY EACH TIME THE EMULATOR RECEIVES A REQUEST FROM THE ECU.
- WHEN THE GREEN LED IS ON, THE EMULATOR WRITES THE FOUND PIN CODE TO THE EEPROM 24C02 MOUNTED ON THE EMULATOR PCB AT ADDRESS 0x10, IT CAN BE READ WITH ANY PROGRAMMER SUPPORTING I2C BUS.

**IN CASE EMULATOR MODE:** DO NOT CONNECT EMULATOR TO THE IGN (15) 12 VOLT POWER SUPPLY, GROUND AND CANBUS. YOU CAN USE THIS MODE AS MANY TIMES AS YOU LIKE, THERE ARE NO RESTRICTIONS.

### **IMMOBILIZER EMULATOR MODE:**

- ECU AND EMULATOR TOGETHER CONNECTED TO POWER SUPPLY AFTER IGNITION SWITCH (15-IGN) IN THIS MODE, AFTER SWITCHING ON THE POWER BOTH YELLOW AND RED LEDS LIGHT UP.
- WHEN THE ECU SENDS A REQUEST TO THE EMULATOR VIA THE CAN BUS, THE YELLOW AND RED LEDS GO OFF. THE EMULATOR CARRIES OUT THE AUTHENTICATION AND ANALYSES THE RESPONSE OF THE ENGINE CONTROL UNIT. IF THE ECU HAS BEEN CORRECTLY UNLOCKED, THE GREEN LED LIGHTS UP, OTHERWISE THE RED LED WILL LIGHTS UP.



IN EEPROM 24C02 MEMORY, APART FROM THE CALCULATED PIN CODE, THERE ARE ALSO SETTINGS NEEDED FOR PROPER OPERATION AND SERVICE OF THE EMULATOR, THESE DATA ARE STORED FROM ADDRESS 0x00 TO 0x0F, PLEASE DO NOT MODIFY THIS LINE. IN CASE OF LOSS OF THE ORIGINAL CONTENT, PLEASE UPLOAD TO EEPROM 24C02 AGAIN THE FILE: "BASE SETTINGS" AVAILABLE FROM THE MANUFACTURER OR DISTRIBUTOR OF THIS DEVICE.

**IF YOU HAVE ANY TECHNICAL QUESTIONS, PLEASE CONTACT US AT THE COMPANY**

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