

CodeLock AVR

CodeLock AVR electronic lock is realised with Atmel AVR micro-controller AT90S2313 or **ATtiny2313**.

Program in hex code is 2 kB long. **1 user code** in the program code\cdtiny-D.hex is consisted of 1 to 8 digits. **8 user codes** in the program code\cdtiny8-D.hex are consisted of 1 to 8 digits.



If the code is entered in the correct sequence, then after 1 second the relay and the electric striker (in the door) **switch on for 1 second** and then switch off again. The time **1 second** can be changed (set up) via keypad to higher value (e.g. 3 seconds or up to 99000000 seconds).

User code can be changed via 3x4 matrix keypad. Keypad has 12 keys, that are wired in a matrix.

Initial user code (1234) is set up with a jumper. The jumper must be inserted before the voltage (12V) connection. The jumper must be removed after 2 beeps.

LCD display is an option!

Signaling

Each pressed key is immediately confirmed with one short beep.

Two short beeps follow after entering the right user code. One long beep appears when entering the wrong user code.

The keypad is blocked for 20 seconds for each incorrect entry.

User codes are retained even in the event of a power failure

You can use a LED diode instead of a Beeper. Look at the code lock electric circuit diagram

YOU CAN ORDER (for the CodeLock AVR):

Programmed micro-controller (1 user code - 1 to 8 digits - LCD is on) **ATtiny2313** = 12 EUR.

Programmed micro-controller (8 user codes - 1 to 8 digits - LCD is on) **ATtiny2313** = 19 EUR.

Programmed micro-controller (40 user codes - 4 to 6 digits - LCD is off) **ATtiny2313** = 19 EUR.

For DIY version of CodeLock AVR (all elements are included) contact via e-mail.

e-mail: kripa.puri@avr.4mg.com

<http://www.avr.4mg.com>

Information about **40 user codes** version **C-Lock 3000** connected to a **PC** (via e-mail).

In short: (1 user code - 1 to 8 digits) => CodeLock AVR

1. OPENING (For the first time): **1234 #**
The relay is being activated for 2 seconds.
2. WRITING **YOUR CODE** (For the first time): *** 1234 # 223355 #**
For opening the door press: **223355 #**
The relay is being activated for 2 seconds.
3. CHANGING THE CODE: *** OldCode # NewCode #**
Example: *** 22355 # 32132188 #**
Two short beeps indicate that new user code is written.
For opening the door press: **32132188 #**
The relay is being activated for 2 seconds.

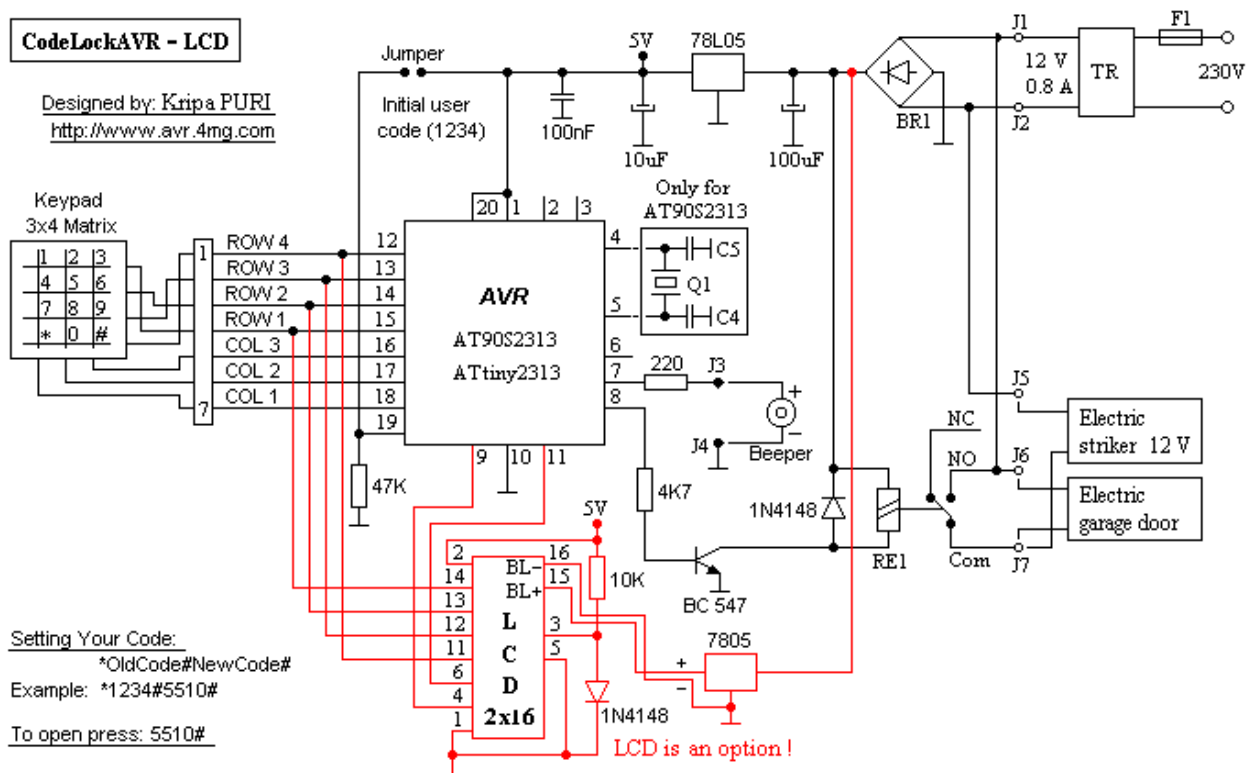
In short: (8 user codes - 1 to 8 digits) => CodeLock AVR – 8

1. OPENING (For the first time): **1234 #**
The relay is being activated for 1 second.
2. CHANGING **CODE No1** (For the first time): *** 1 1234 # 550 660 #**
For opening the door press: **550 660 #**
The relay is being activated for 1 second.
3. WRITING (CHANGING) THE CODE **No1 – No8**: *** _ Code1 # Code_ #**
Example: *** 2 550 660 # 660 880 #**
Two short beeps indicate that new user code No2 is written.
For opening the door press: **660 880 #**
The relay is being activated for 1 second.
4. The time when the relay is being activated can be changed via keypad.
Example: *** 9 550 660 # 3 #** => The relay will be activated for 3 seconds.

Initial user code 1234 is set up with a Jumper.

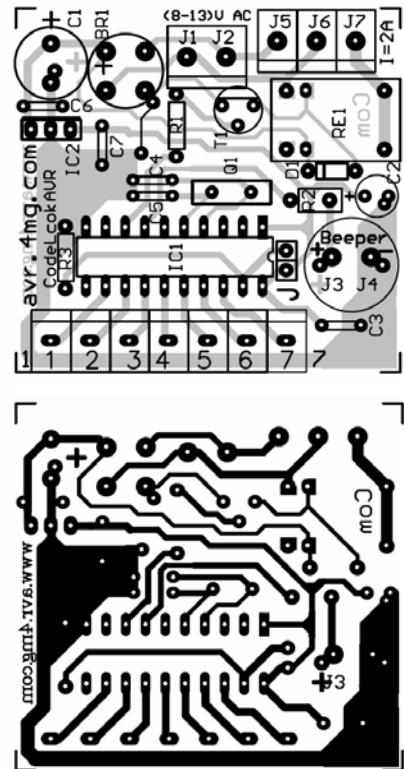
1. Insert the Jumper and then connect power supply (12V AC)
2. Remove the Jumper after 2 beeps.

Each user code can be erased via keypad by changing the user code to 0.

Electric circuit diagram

A list of used elements

Piece	Typ	Value	Reference
1	resistor	220 Ω	R2
1	resistor	4,7 KΩ	R1
1	resistor	47 kΩ	R3
1	resistor	10 kΩ	LCD resistor
1	el. capacitor	220 uF / 35 V	C1
1	el. capacitor	22 uF / 35 V	C2
2	capacitor	27 pF	C4, C5
2	capacitor	100 nF ML	C3, C6
1	quartz	4 MHz	Q1
1	transistor NPN	BC 547 C	T1
2	diode	1N 4148	D5, LCD diode
1	bridge	B80C1500	BR1
1	micro controller	AT90S2313	IC1
1	IC socket	20 PIN	IC1
1	IC	78L05	IC2
1	relay	12 V DC	RE1
1	transformer	230 V / 12V / 10VA	TR
1	LED diode		+ , Beeper
21	terminal block	Pitch 5,08 mm	
1	jumper	6 x 6 mm	Jum
1	keypad, 3 x 4 matrix	(86 x 115 x 15) mm	
1	housing	(120 x 90 x 60) mm	
1	LCD display 2 x 16	CMC216x01 or sim.	www.cct.com.my
1	pcb	(50 x 50) mm	
1	door striker	NUOVA-FEB or sim.	Electric Striker



Assembled PCB with ATtiny2313

