

(<https://www.dfrobot.com/product-1856.html>)

Introduction

The principle of the electric solenoid lock is the same as electromagnet, which means produce magnetism by electricity, the same sexes repel and opposites attract. Power on and unlock, power



off and lock. It adopts solid and durable latch hook, and the maximum stress is 735N (75kg). Pure copper electromagnetic valve coil, stable performance and temperature tolerance. It can provide a long usage life over 500 thousand times. Self-sprang design for objects from 0.5kg to 4kg and the sprang strength is adjustable. Feedback design, supporting remote status check. The lock equipped with emergency mechanic switch, supporting manual control, free from reserve power.

Compared with traditional electric solenoid locks in market, this product is designed to power off and unlock, which will help you save much power. And the mechanic lock avoids emergency of no power situations. Adjustable sprang power makes an easier control and a better space adaptability. Self-feedback design. It can be widely used in remote multi-locks and multi-cabinets projects.

Particularly useful for small space and multi-cabinets projects. Such as smart cabinets, smart door locks, vending machines. It is also suitable for IOT(Internet of Things) low power consumption projects.



Please note that you'd better control the electrify time within 5 seconds when unlocking the lock. Long electrify time will damage the solenoid valve. The lock is unsuited to violence damage. Recommend to use it as an indoor lock or assistant lock.

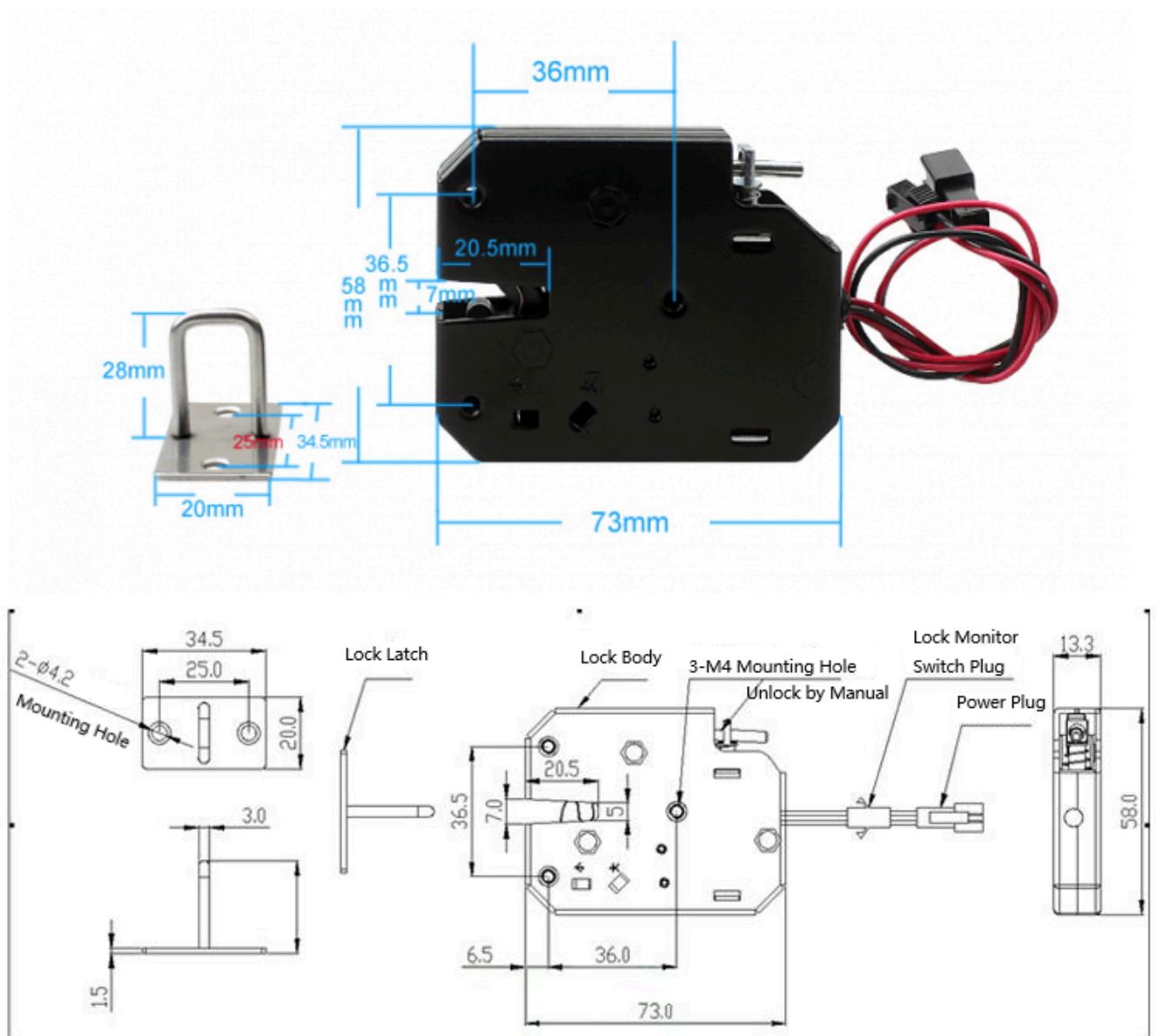
Features

- Responsive lock/unlock
- Adjustable self-spang
- Emergency mechanic lock
- Energy-saving design
- Support remote status monitor
- Convenient and small, especially suit to small space

Specification

- Operation Voltage: 9V~12V DC
- Operating Current: 1.5A
- Stress Range: $\leq 735\text{N}(75\text{kg})$
- Lock Body Dimension: $73 \times 58 \times 13.3\text{mm}/2.87 \times 2.28 \times 0.52''$
- Space between holes in lock body(Y/vertical): $36.5\text{mm}/1.43''$
- Lock Latch Dimension: $34.5 \times 20 \times 28\text{mm}/1.36 \times 0.79 \times 1.10''$
- Space between holes in lock latch: $25\text{mm}/0.98''$

Dimension Diagram



Tutorial

Preparation

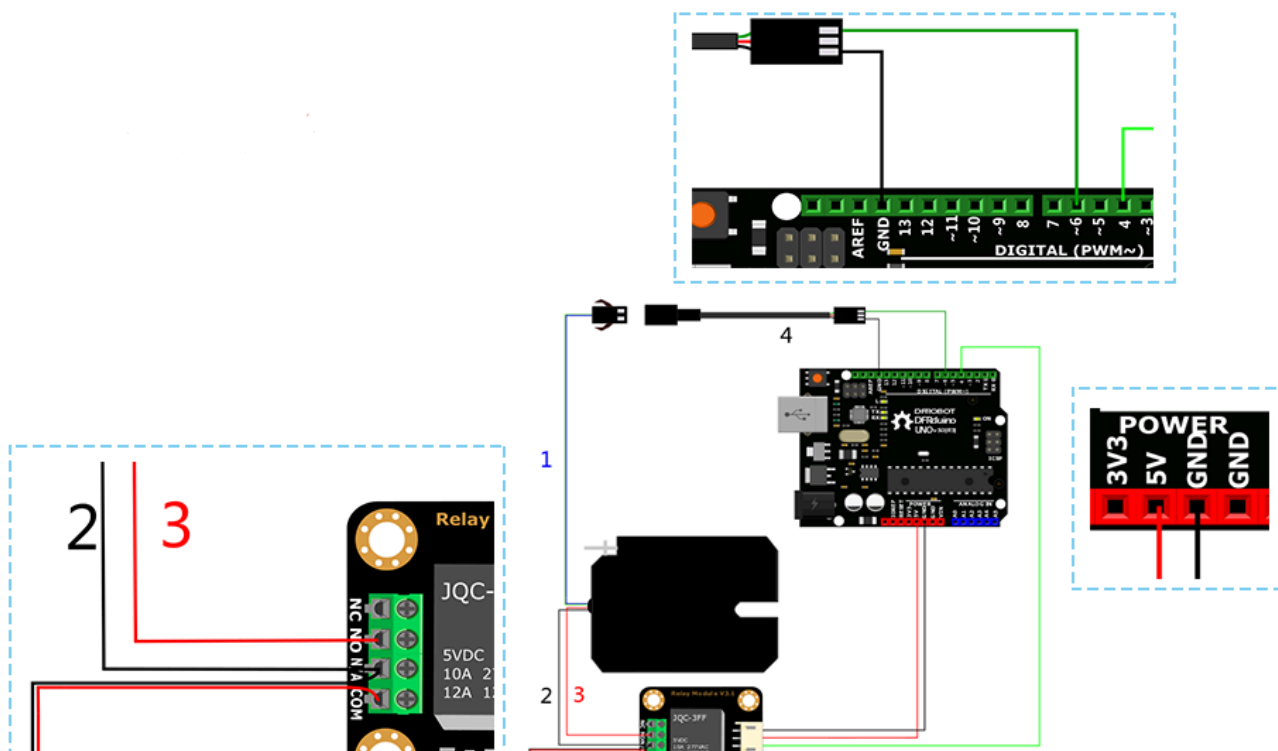
- Hardware

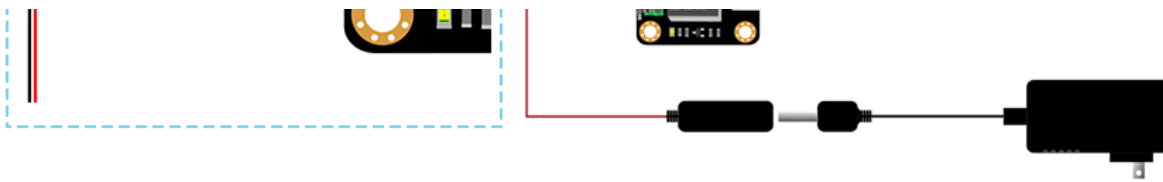
- DFRduino UNO x1
- Electric solenoid lock x1
- 12V Power adapter x1
- Digital relay module (Arduino compatible) x1
- Dupont wires x n
- **Software**
 - Arduino IDE (<https://www.arduino.cc/en/Main/Software>)

Connection Diagram

Control the electric solenoid lock via a digital relay and 12V power adapter. Then the feedback wire will pass the lock status to the board DFRduino UNO.

Num	Label	Description
1	Signal Wire	Signal ON/OFF
2	GND	-
3	VCC	+
4		Ground the black wire, connect the green wire to D6





Sample Code

Install Arduino IED software (<http://arduino.cc/en/Main/Software>), open its compiling environment and upload the following codes.

```
* *****
* @brief Electric Solenoid Lock
*
* @copyright [DFRobot](https://www.dfrobot.com), 2016
* @copyright GNU Lesser General Public License
*
* @author [Xiaoyu](Xiaoyu.zhang@dfrobot.com)
* @version V1.0
* @date 2019-03-11
*
* GNU Lesser General Public License.
* All above must be included in any redistribution
* *****/
int Relay = 4;

void setup() {
  Serial.begin(57600);
  pinMode(6, INPUT_PULLUP);          //Set Pin6 as output
  pinMode(Relay, OUTPUT);
}
void loop() {
  int singal=digitalRead(6);
  Serial.println(singal);
  digitalWrite(Relay, HIGH);
  delay(2000);
  digitalWrite(Relay, LOW);
  delay(2000);
}
```

Expected Results

The electric solenoid lock is unlocking in every 4s. In Arduino serial monitor, the output is 0 when unlocked and 1 when locked.

FAQ

For any questions, advice or cool ideas to share, please visit the **DFRobot Forum** (<https://www.dfrobot.com/forum>)

More Documents
