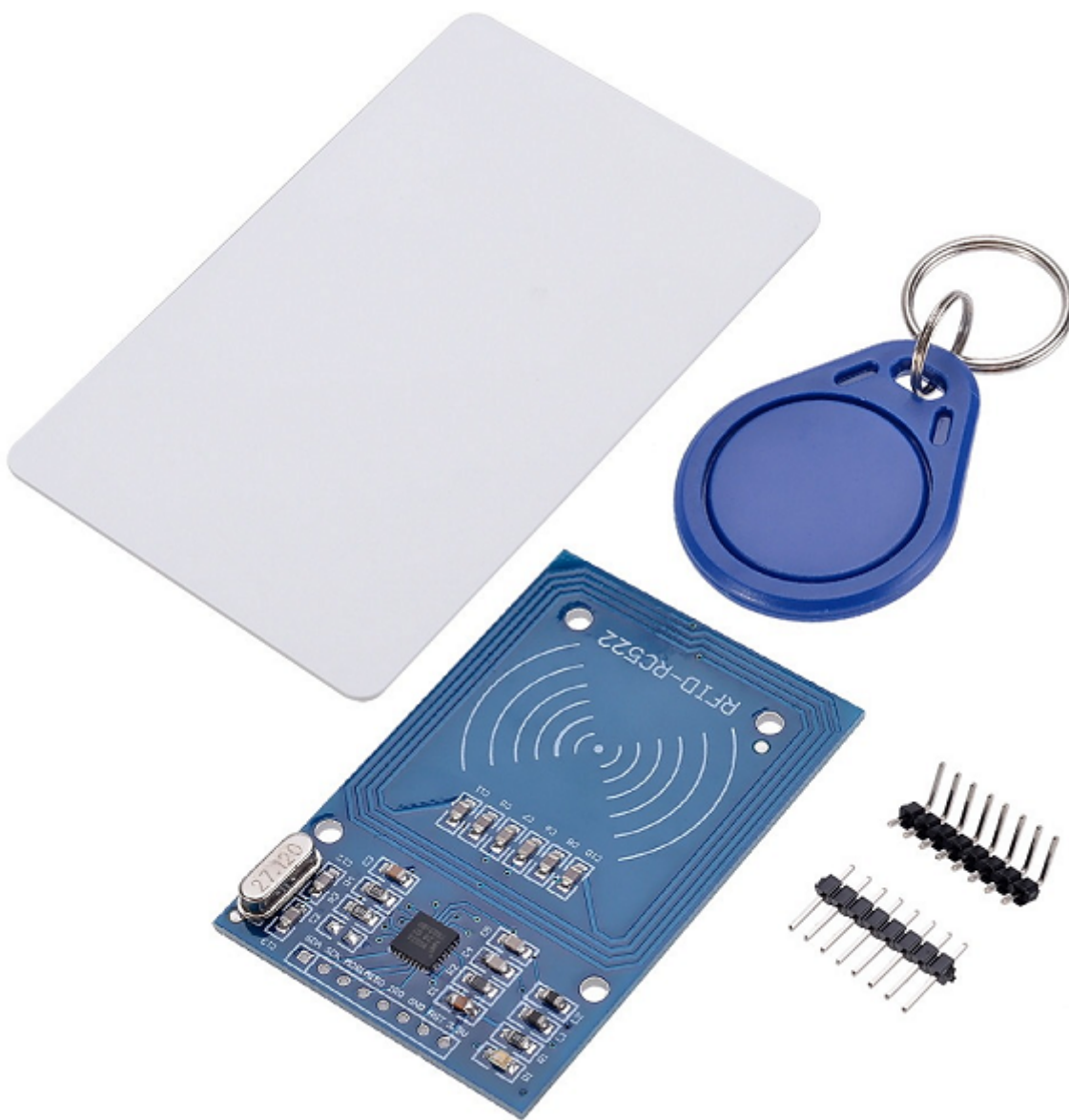


Using an MFRC522 RFID reader

What is an MFRC522 RFID reader

RFID means radio-frequency identification. RFID uses electromagnetic fields to transfer data over short distances. RFID is useful to identify people, to make transactions, etc...

You can use an RFID system to open a door. For example, only the person with the right information on his card is allowed to enter. An RFID system uses tags with each identification and a two-way radio transmitter-receiver as a reader.

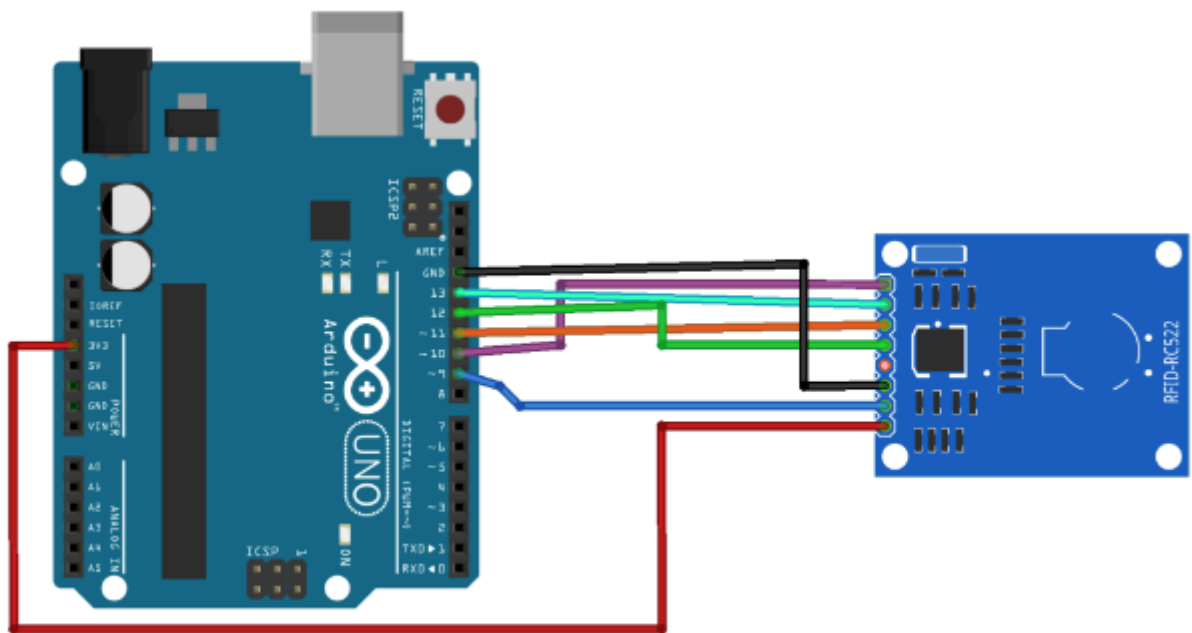


Wiring

Caution

You must power this device to 3.3V! This tutorial is based on Arduino UNO, if you are using a different module, please check the specific pinout of that model.

1. SDA - Digital 10 (SS)
2. SCK - Digital 13 (SCK)
3. MOSI - Digital 11 (MOSI)
4. MISO - Digital 12 (MISO)
5. IRQ (unconnected)
6. GND - GND (Ground)
7. RST - Digital 9
8. 3.3V to 3.3V (Power)



fritzing

Library

We will be using the `MFRC522` library. Please see this [tutorial](#) to learn how to install libraries.

Getting started

We will be using the example code, `DumpInfo`, from the library to **read** an RFID Tag.

```
#include <SPI.h>
#include <MFRC522.h>

#define RST_PIN    9      // Configurable, see typical pin layout above
#define SS_PIN     10     // Configurable, see typical pin layout above
```

```

MFRC522 mfrc522(SS_PIN, RST_PIN); // Create MFRC522 instance

void setup() {
  Serial.begin(9600); // Initialize serial communications with the PC
  while (!Serial); // Do nothing if no serial port is opened (added for Arduinos based on ATMEGA32U4)
  SPI.begin(); // Init SPI bus
  mfrc522.PCD_Init(); // Init MFRC522
  delay(4); // Optional delay. Some board do need more time after init to be ready, see Readme
  mfrc522.PCD_DumpVersionToSerial(); // Show details of PCD - MFRC522 Card Reader details
  Serial.println(F("Scan PICC to see UID, SAK, type, and data blocks..."));
}

void loop() {
  // Reset the loop if no new card is present on the sensor/reader. This saves the entire process when idle.
  if ( ! mfrc522.PICC_IsNewCardPresent()) {
    return;
  }

  // Select one of the cards
  if ( ! mfrc522.PICC_ReadCardSerial()) {
    return;
  }

  // Dump debug info about the card; PICC_HaltA() is automatically called
  mfrc522.PICC_DumpToSerial(&(mfrc522.uid));
}

```

We will be using the example code, `DumpInfo`, from the library to **read** an RFID Tag.

Revision #3

Created 25 February 2019 21:27:49 by Tom Lynch

Updated 16 December 2024 10:30:07 by Joanne Leung