

# Smart Door Lock System - Connection Guide

## 1. Arduino Mega 2560 (Main Controller)

Powers and controls all modules. Handles the sequence of fingerprint, RFID, and face recognition.

## 2. R307 Fingerprint Sensor

Pin	Arduino Mega Pin
VCC	5V
GND	GND
TX	Pin 19 (RX1)
RX	Pin 18 (TX1)

## 3. RC522 RFID Module

Pin	Arduino Mega Pin
VCC	3.3V or 5V
GND	GND
RST	Pin 5
SDA (SS)	Pin 53
SCK	Pin 52
MOSI	Pin 51
MISO	Pin 50

## 4. ESP32-CAM (Facial Recognition & Intruder Capture)

Pin	Arduino Mega Pin
VCC (3.3V)	3.3V (from FTDI)
GND	GND
TX	Pin 17 (RX2)
RX	Pin 16 (TX2)

## 5. Relay Module (Controls Solenoid Lock)

Pin	Arduino Mega Pin
VCC	5V
GND	GND
IN	Pin 7

**6. 0.96-inch OLED Display (I2C)**

Pin	Arduino Mega Pin
VCC	3.3V or 5V
GND	GND
SDA	Pin 20 (SDA)
SCL	Pin 21 (SCL)

**7. Solenoid and Power Supply Connections**

Relay Pin	Connection
COM	+12V from Power Supply
NO	+ Terminal of Solenoid
GND	GND of 12V Power Supply