

Updated Wiring Datasheet for Arduino Uno Robot

1. Power Distribution

Connect the 9V battery to the breadboard's positive rail (for motor power).

Connect the GND (negative) terminal of the 9V battery to the breadboard's ground rail (common ground).

The Arduino will be powered by 5V from USB or external source.

2. Arduino to Breadboard

Connect 5V pin of Arduino Uno to the 5V rail of the breadboard.

Connect GND pin of Arduino Uno to the GND rail of the breadboard.

3. Motor Driver (L293D) Connections

VCC2 (Pin 8) -> 9V rail (motor power).

VCC1 (Pin 16) -> 5V rail (logic power).

GNDs -> Ground rail.

IN1, IN2, IN3, IN4 -> Arduino pins 2, 3, 4, 5 respectively.

EN1, EN2 -> Connect to 5V (to enable motor outputs).

OUT1, OUT2 -> DC Motor 1.

OUT3, OUT4 -> DC Motor 2.

4. IR Sensors

VCC -> 5V rail.

GND -> Ground rail.

OUT pins -> Arduino A0 and A1.

5. Color Sensor (TCS3200 or similar)

VCC -> 5V rail.

GND -> Ground rail.

S0, S1, S2, S3 / OUT -> Arduino analog pins A2, A3, A4, A5.

6. Servo Motor

VCC -> 5V rail.

GND -> Ground rail.

Signal -> Arduino pin 9.

7. Ultrasonic Sensor

VCC -> 5V rail.

GND -> Ground rail.

TRIG -> Arduino pin 10.

ECHO -> Arduino pin 11.

Final Wiring Summary

Component	Arduino Pins	Notes
Motor IN1-IN4	2, 3, 4, 5	Control pins
IR Sensors	A0, A1	OUT signals
Color Sensor	A2-A5	S0, S1, S2, S3 or OUT
Servo Motor	9	Signal
Ultrasonic Sensor	10 (TRIG), 11 (ECHO)	Distance sensing