

Actor

System

Output

Bdd [package] Precision Farming Arduino project

User Input

Operations

Provides the controlling code

Values

Communication:
Programming languages
(C, C++, Python)

Power Supply

Values

Type: LiPo
Nominal Voltage:
11.1V
Capacity: 3200 mAH

Arduino Uno

Operations

Inputs: Power & Code
Output: Controls the system

Values

Microcontroller: ATmega328P
Clock Speed: 16 MHz
Operating Voltage: 5V
Input Voltage: 7 to 12V
Digital I/O Pins: 14
Analog Pins: 6
Dimensions: 68.6×53.5mm
Weight: 25g

Motor Driver

Operations

Enables the controlling
& power supply of DC
motors

Values

Driver: L298N
Logic Voltage: 5V
Weight: 24g

Ultrasonic Sensor

Operations

Scences & measures objects

Values

Module: HC-SR04
Operating Voltage: 5V DC
Measuring Angle: 30 degree

RGB Color Sensor

Operations

Detect the received light
intensity for red, blue and
green

Values

Module: TCS3200
Input voltage 3.3 / 5 V
4 outputs with frequency-
dependent signals (red, green,
blue and clear)
incl. 4 white LEDs to illuminate
the measurement
Dimensions (ØxW): 37 x 19 mm

Line(IR) Sensor(2)

Operations

Detection of black/white line by
emitting IR light & detecting the
light levels that return to the sensor

Values

Module: ST1140
Voltage: 3.3 to 5V
Operating Current: 20mA
Black for Low output
White for High output
Size: 28×10mm
Weight: 3.5g

DC Motor(2)

Operations

Converts DC electrical
energy into mechanical
energy

Values

Type: RB 35 gearmotor
Dimensions: 37×72mm
Gear Reduction: 1:30
Operating Voltage: 12V
Load Speed: 174rpm
Weight: 9.07g