
BotVac: Neato Vacuum Robot

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Robot Body Design



Material: ABS plastic



12.71 in /
32.29 cm



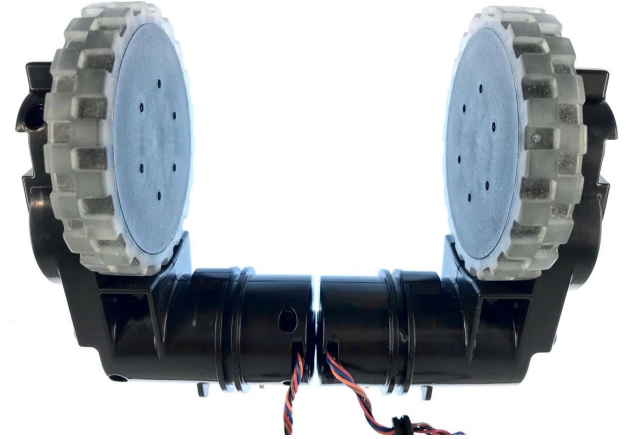
13.22 in / 33.59 cm



3.99 in /
10.13 cm

Actuators/Locomotion

- 2 drive motor
- 1 brush motor
- 1 vacuum blower
- Wheel encoders to assist with telemetry
- Wheel module set
- Brush



Navigation System & Controller

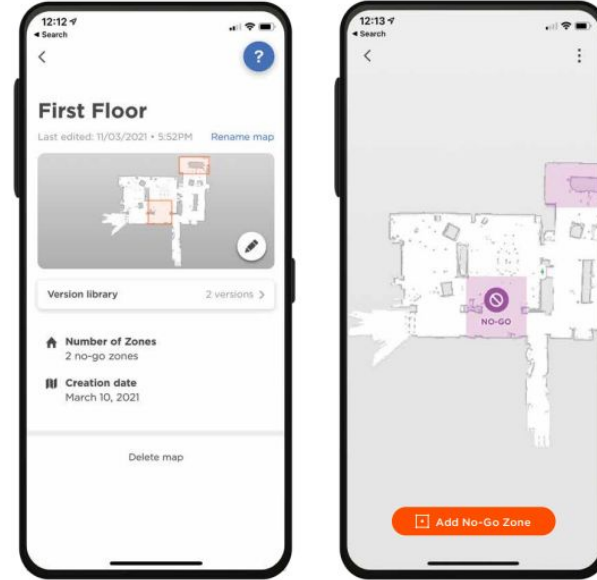
- Spinning Lidar sensor (newest model: D7, D8)
- Laser distance sensor
- Optical drop sensor
- Optical proximity sensor
- Hall effect sensor
- Accelerometer
- Bump switches
- Wheel encoder
- Custom navigation and control software based on Linux OS.
- Limited API commands published for hobbyists.

Data Collection

- Remember the maps that it makes—the maps are persistent between cleaning sessions (newest model)
- Laser distance sensor for 2D point cloud navigation (smart laser guidance system concept)
- Optical drop sensor to avoid cliffs
- Optical proximity sensor for close wall following
- Hall effect sensors for boundary marker detection
- Accelerometer for tilt detection
- Bump switches for obstacle detection

Data Transmission

- WiFi (Apps)
- Bluetooth (ease for using wifi)
- USB (Software update)



Neato Robotics (iOS & Android)

Power System Management

- 3200 mAh nickel-metal hydride batteries
- Rechargeable
- Voltage and current sensors to assist with charging and motor control

Thank you!
