QUANSER
INNOVATE · EDUCATE

Guides and Resources: Hardware - QBot 2e

Kobuki Base

This document provides information on the QBot 2e's Kobuki base platform.

The Kobuki base platform

The QBot 2e uses a Kobuki mobile robot platform (Figure 1). The QBot 2e follows the Quanser® standard for body frame axes, where the x-axis is in the forward direction, the y-axis is to the left, and the z-axis is up. The diameter of the vehicle is 34 cm, and its height (without attachments) is 10 cm. The Kobuki is driven by a set of differential drive wheels with built-in encoders. The Kobuki comes with bumper sensors as well as a built-in gyroscope and cliff sensors. The embedded computer target can access data from these sensors.

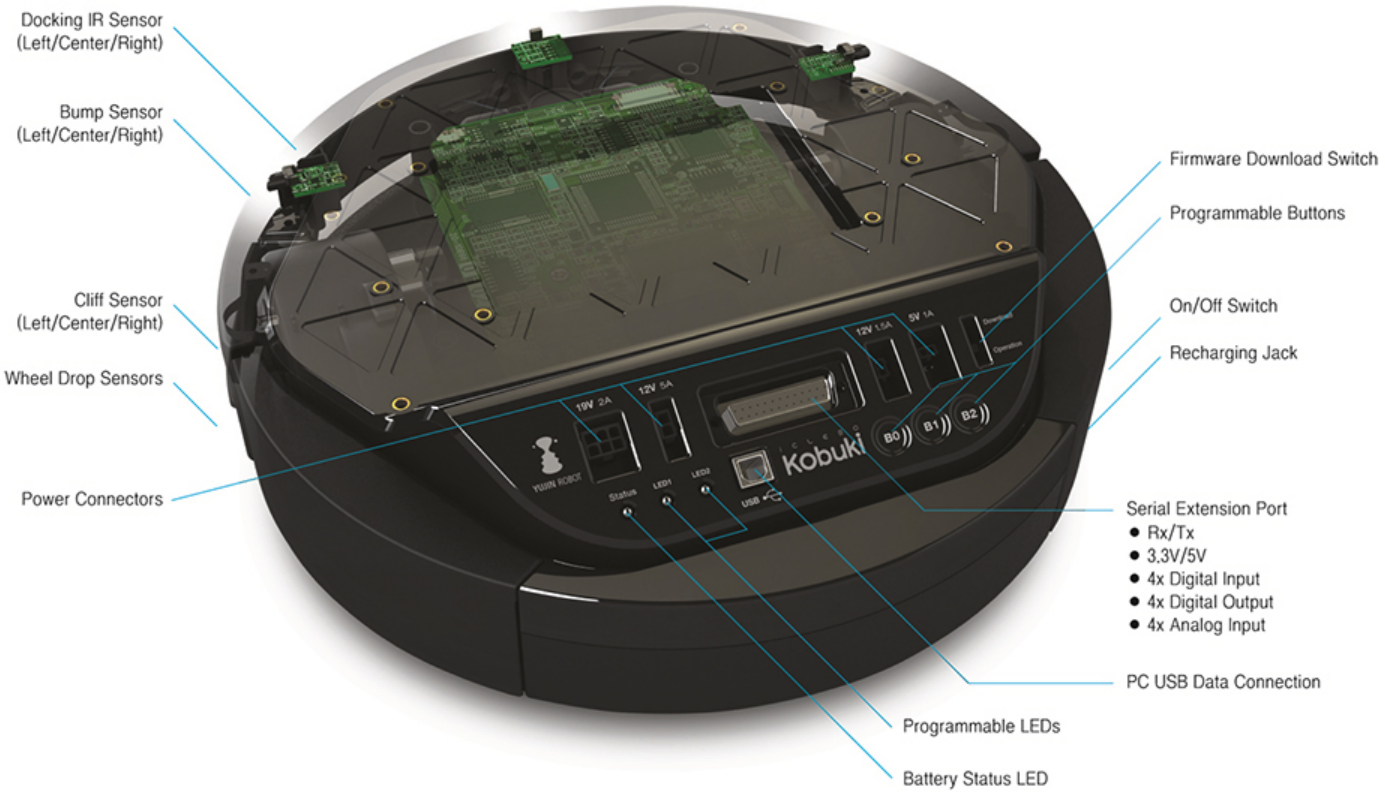
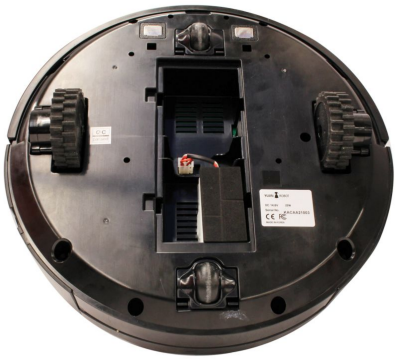


Figure 1: The Kobuki mobile robot platform

Charging the QBot 2e

The QBot 2e is powered by a Lithium ion (Li-ion) battery pack (Figure 2a) provided by Yujin Robot. The battery fits underneath the QBot 2e, and can last continuously for about 3 hours after a full charge. The battery takes less than 3 hours to charge. While charging, the power light pulses slowly with a green colour. A battery charger is provided (Figure 2b). To recharge the QBot 2e, plug in the battery charger and connect it to the charger input port on the QBot 2e next to the ON/OFF switch (Figure 2c).

Note: The battery still charges if the base is switched off.



a. the QBot 2e Battery

b. the QBot 2e Charger

c. the QBot 2e charger input

Figure 2: The QBot 2e battery and charger input