

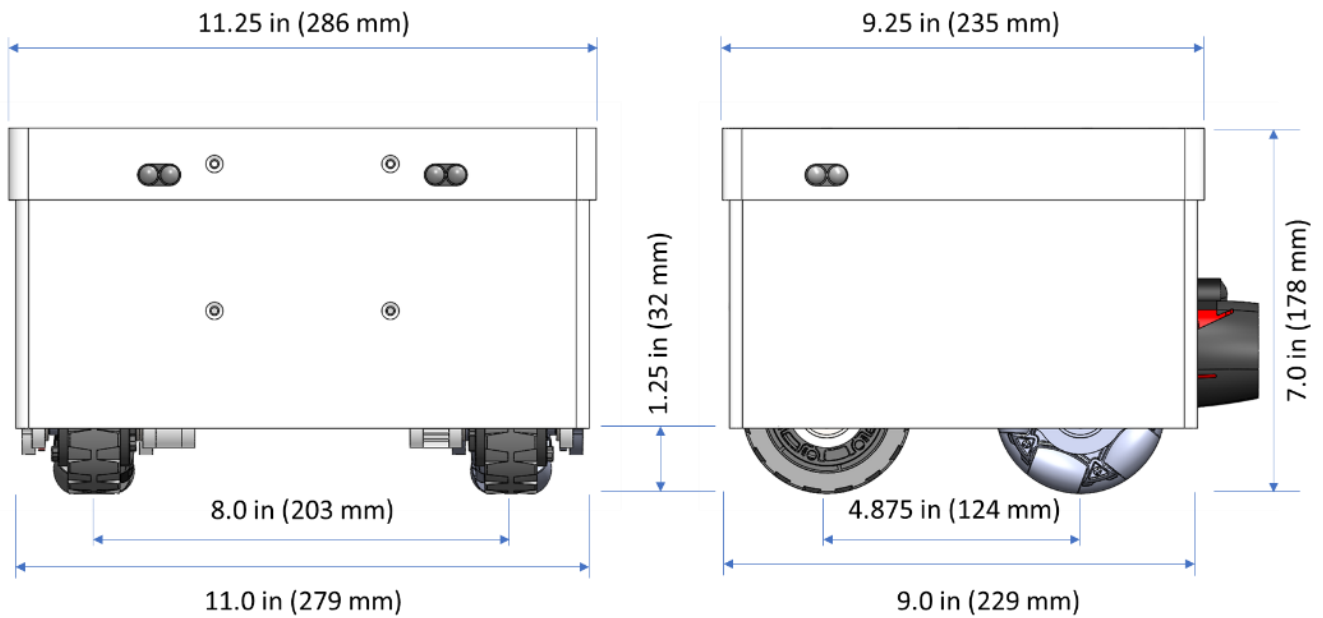
QBii Specifications

11 July 2022

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1 Dimensions & Mass



Length (Overall)	9.25 in (235 mm)
Length (Body)	9.00 in (229 mm)
Width (Overall)	11.25 in (286 mm)
Width (Body)	11.00 in (279 mm)
Height	7.00 in (178 mm)
Ground Clearance	1.25 in (32 mm)
Wheel Diameter	3.25 in (83 mm)
Wheelbase (Left-to-Right)	8.00 in (203 mm)
Wheelbase (Front-to-Back)	4.875 in (124 mm)
Mass	11 lb (5 kg)

2 Performance



Max Linear Speed (ideal, no load)	1.0 m/s (3.3 ft/s)
Max Rotational Speed (ideal, no load)	1.5 revs per s (540 degrees/s)
Max Payload	22.7 kg (50 lb)
Max Towing Capacity (with Cart Hitch)	90 kg (200 lb)
Max Incline (with 50% max load)	13% (7.5 degrees)
Max Obstruction Height	10 mm (0.375 in)
Drive Motor Power	2 x 100W peak power



3 Power



Number of Batteries (Removable)	1
Battery Chemistry	Lithium Ion
Nominal Voltage	12V
Battery Form Factor	M12 (Milwaukee 12V tool batteries)
Battery Capacity	1500 mAh (standard) or 3000 mAh M12
Max Current	20A (fused)



4 Sensors

Encoders	2 x 600 pulse encoders (2400 counts/rev)
Gyro	Inertial Measurement Unit (IMU)
Range	2 x LiDAR (0.2 – 8.0 m), 4 x (optional)

5 Control and Communication

Autonomous Control Mode	Yes (follows user-programmable paths)
Teleoperation Control Mode	Yes (manual control)
Human-Machine Interface	App running on Android tablet/phone
On-Board Microcontroller	ESP32 (dual core)
Wireless Connectivity	Bluetooth Low Energy (BLE)
Wired Connectivity	1 x Micro USB Port

6 Expansion Ports

I2C Ports	14 (4 reserved for LiDAR sensors)
General Purpose Input/Outputs (GPIOs)	16
Microswitch digital inputs	4
PWM outputs	3 (2 reserved for drive motors)
Encoder A/B inputs	3 (2 reserved)
Digital outputs	2
Auxiliary Power Ports	4 x 12V (XT30 connectors)

7 Optional Accessories



Floor Cleaning	Broom Handle Mount (up to 2" diameter)
Utility Cart Towing	Cart Hitch (attaches to many standard utility carts)