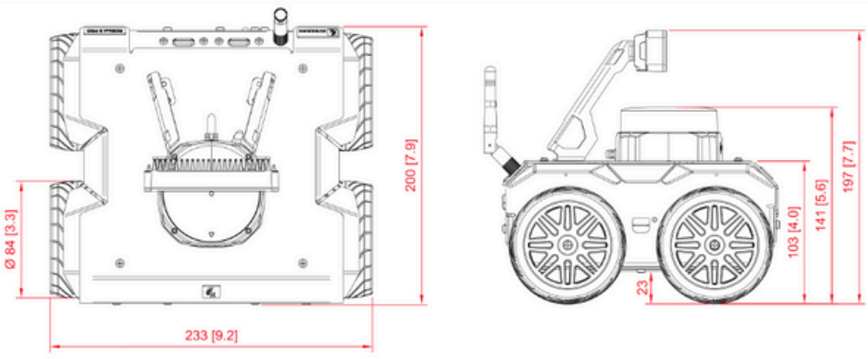


Attribute	Description
Dimensions with camera and LiDAR	200 x 233 x 197 mm / 7.9 x 9.2 x 7.7 in [L x W x H]
Dimensions without camera	200 x 233 x 141 mm / 7.9 x 9.2 x 5.6 in [L x W x H]
Dimensions without camera and LiDAR	200 x 233 x 103 mm / 7.9 x 9.2 x 4.0 in [L x W x H]
Weight	2,84 kg / 100 oz (with camera and LiDAR), 2,45 kg / 86 oz (without camera and LiDAR)
Standard wheel diameter / Clearance / Wheelbase	84 mm / 23 mm / 106 mm
Mecanum wheel diameter / Clearance / Wheelbase	97 mm / 30 mm / 106 mm
Chassis material	Powder-coated aluminum plate, 1.5 mm thick
Maximum translational velocity	1.0 m/s
Maximum rotational velocity	420 deg/s (7.33 rad/s)
Maximum load capacity	Up to 5 kg / 176 oz *not in continuous work
Battery life	1.5h - 5h

Components

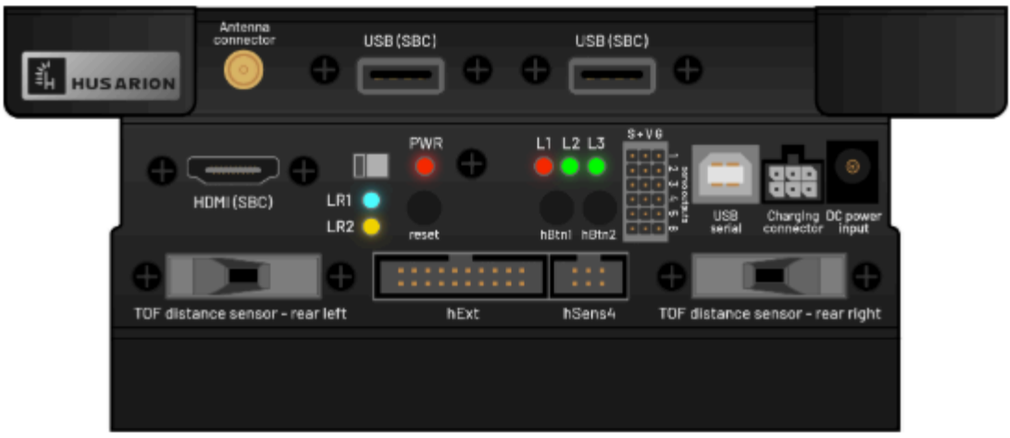
ROSbot 3 / ROSbot 3 PRO | ROSbot 2R | ROSbot 2 PRO

Components description

Component	Quantity	Description
Infrared distance sensor	4	VL53L0X Time-of-Flight distance sensor with up to 200 cm range, more details
Built-in Microcontroller	1	STM32F407.
DC motor	4	Xinhe Motor XH-25D, Motor used: RF-370, 6VDC nominal, 6200rpm. Maximum mechanical power: 4W, no load speed at the output shaft: 180 rpm, stall torque at the output shaft: 2.9 kg*cm, stall current: 2.0A, gear ratio: ~34 (exact ratio is 30613/900)
Encoder	4	Magnetic, 48cpr, 12 poles
Batteries	3	Li-Ion 18650 protected, rechargeable batteries, 3500mAh capacity, 3.7V nominal voltage. Note: Device may be shipped interchangeably with similar batteries.

ROSbot 3 / ROSbot 3 PRO | ROSbot 2R | ROSbot 2 PRO | ROSbot 2

Component	Quantity	Description
SBC	1	Raspberry Pi 5 (ARM64 architecture) quad-core ARM-8 Cortex A76 @ 2.4GHz, 8GB RAM and 64 GB MicroSD flash memory. The SBC runs on Ubuntu-based OS, customized to use ROS.
3D camera	1	Luxonis OAK-D Lite (in ROSbot 3) / OAK-D Pro (in ROSbot 3 PRO)
LIDAR	1	RPLIDAR C1 (in ROSbot 3) / S2 (in ROSbot 3 PRO), 360 degree, more details
IMU sensor	1	Intelligent 9-axis absolute orientation sensor BNO055, more details
Antenna	1	Dual-band, connected to the Wi-Fi USB adapter.



Component	Quantity	Description
Antenna connector	1	Wi-Fi antenna RP-SMA socket - required for Wi-Fi connectivity
USB	2	USB 2.0 host ports from SBC
HDMI	1	HDMI output from SBC
Power switch	1	Turns ROSbot completely ON or OFF
LEDs	6	LR1(blue), LR2(yellow), L1(red), L2(green), L3(green), PWR(red), more details here
Reset button	1	Button used for reset CORE2
hBtn	2	hBtn1, hBtn2 - programmable buttons
Outputs for servo	6	Servo output with PWM, more details here
USB serial	1	USB serial port used for debugging the firmware on CORE2-ROS controller
Charging connector	1	6-pin connector for charging internal Li-Ion batteries
DC power input	1	DC for working with external 12V power supply - use the power supply included with charger or any 12V, min. 5A power supply with 5.5/2.5mm plug (center-positive)
Time-of-Flight distance sensor	2	VL53L0X Time-of-Flight distance sensor with up to 200 cm range, more details here
hExt	1	12xGPIO, 7x ADC, SPI, I2C, UART, more details here
hSens	1	4 xGPIO, ADC, UART, more details here