# HUSSAR REEMAN ROBOT CHASSIS

# HBOT11B

## Product manual

# Product introduction

   The robot chassis has multiple functions such as visual positioning, indoor navigation,  and intelligent obstacle avoidance. It is mainly composed of core hardware such as
lidar sensors, depth cameras, anti-drop sensors, and modular positioning and navigation systems. There are more laser SLAM and V-SLAMThe sensor fusion algorithm  can plan the robot walking route more flexibly.
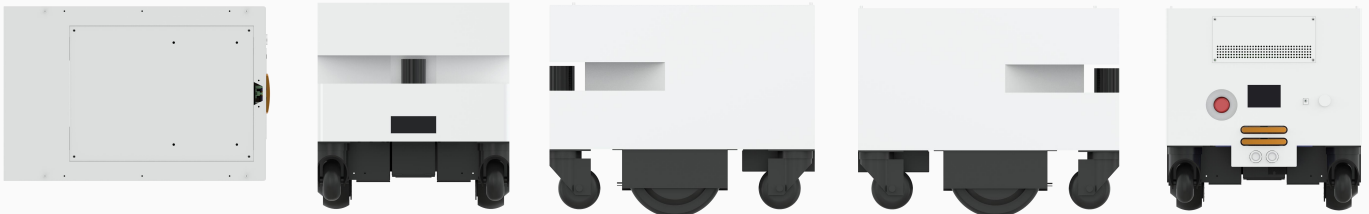
·Autonomous planning of navigation paths, no external factors interfere
·Visual virtual wall editing, control the robot's range of activities
· Centimeter-level indoor map construction to improve robot navigation efficiency
·Fast obstacle avoidance in 0.5 seconds, intelligent and safe
· Large carrying capacity of more than 100 kg
· Global unique remote and convenient deployment capabilities
· Elevator control system IOT, autonomous ride on elevator (optional)
· Autonomous charging, worry-free battery life
· Fully open platform, customize and
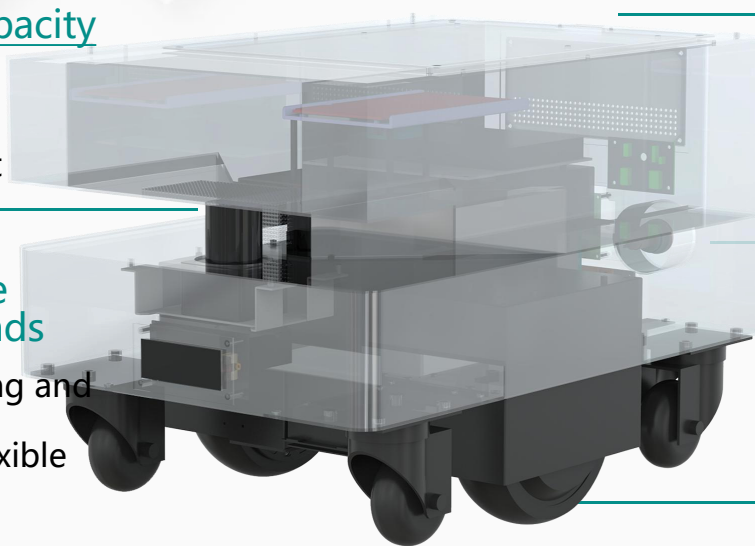 upgrade according to actual needS

# Product function

## Large carrying capacity

100 kilograms of oversized cargo,Stable without deformation

## Intelligent obstacle avoidance in seconds

Lidar SLAM positioning and navigation Obstacle avoidance is more flexible

## Original remote deployment capability

Remote automated deployment,Convenient and efficient

## Automatic return to charging

Battery is below minimumautomatically return to thecharging station to charge

## Take the elevator autonomously (Scalable)

Can be linked with the elevator control system, Work across floors, more worry-free

| | |
|---|---|
| Custom calibration position | Large load |
| Take the elevator autonomously (optional) | Intelligent obstacle avoidance in seconds |
| Multi-mode indoor driverless technology | Remote navigation deployment |
| Centimeter-level precise positioning | Automatic return to charging |

# Scope of application

The open software and hardware platform of the robot chassis provides application development and full open source SDK access code, which is convenient for users Development, support remote map building and remote deployment, code debugging can be performed locally, and the code can be deployed to the cloud.Modular design, lower R&D costs, stable and reliable, cost-effective, and support customized services. Suitable for restaurants, Delivery of items in hospitals, ktv, hotels, etc.

**Restaurant catering delivery**

**Hospital item delivery**

**KTV item delivery**

**Hotel item delivery**

# Structural components



Lidar

Universal wheel

Driving wheel

switch

Direct charging socket

Charging contact piece

Ultrasound

Emergency stop switch

| | |
|---|---|
| Product number：HBOT11B | Life time: 6 hours |
| Cruising speed: 0.1~1m/s | Charging time: 4 hours |
| Battery capacity: 37V 20A·H | Rated power: 70W |
| Universal wheel size: 3 inches | Product weight: 32KG |
| Machine size: 540(L)*360(W)*372(H)MM | Bearing weight: 60KG |

# System parameters

| Operating system, processor, memory characteristics | |
|---|---|
| Product number | HBOT11B |
| operating system | android (5.1) |
| Bearing weight | 60KG |
| Processor type | RK3128 (Quad-core Cortex-A7, frequency up to 1.2GHz) |
| Built-in clock | RTC |
| RAM LPDDDR3 | 1G |
| Built-in NAND FLASH | 8GB |
| USB debugging port | Micro USB 2.0 interface |
| Power button | One-key boot |
| Emergency stop button | Emergency stop button |
| Display screen | 7 inches, IPS screen (16:9) |
| Resolution | 1024X600 |
| External I/O port | 1个 USB 2.0 (MICROUSB) , RJ45 network port |
| Speaker | 4Ω/3W mono speaker |
| Wireless technology AP6255 | Support dual frequency 2.4&5G WIFI 802.11b/g/n Wireless local area network, 11ac 5.15GHz-5.825GHz |

# Accessory parameters

| ROS NAVIGATION SPECIFICATIONS, MACHINE SPECIFICATIONS, POWER SYSTEM | |
|---|---|
| operating system | LINUX |
| Processor type | Computer motherboard I5 ITX-H45-I526LVER: 1.1A (4300U) with dual network ports |
| hard disk | 32G |
| RAM | 4G |
| motor driven | 5.5 inch hub motor |
| Gyro | 9-axis high-precision attitude sensor |
| Single-line lidar | Laser wavelength 905 nm working area 270 degrees |
| 4G router to 2.4GWIFI | 4GCPE-M6 / 2.4g WIFI / Netcom 4g |
| 512AN_HMW Module Intel's WIFI | Support dual frequency 2.4&5G WIFI&BT4.1 802.11b/g/n Wireless LAN, 11ac 5.15GHz-5.825GHz |
| type of battery | Battery pack 10S16P capacity 10400 mAh/37V (standard configuration) Battery pack 10S16P capacity 10400 mAh/37V (standard configuration) |
| Battery life | 6 hours |
| Power Adapter | Input: AC100-240V.50-60HZ Output: DC42V 3A |
| Charging pile parameters | Output rated voltage: 42VDC, output rated current: 3A |
| | Overcurrent protection, intelligent power off |
| product weight | 80kg |
| Overall size (mm) | 540mm(L)×360mm(W)×372mm(H) |

# Operation instructions



Note that the wifi name cannot contain Chinese, spaces and special symbols

Display interface

**STEP1 :** Open "Settings"-"WLAN" on the Android screen to connect to Wi-Fi

**Step 2:** Build a map and establish a robot working environment

**Step 3:** Edit the virtual wall to limit the robot's active area

**Step 4:** Positioning QR code deployment, assisting machine positioning

**Step 5:** Calibration location, the calibration location must be at least 50 cm away from surrounding obstacles and virtual walls

**Step 6:** If there is no delivery task for a long time, you can click "Charge" and the machine will automatically return to charge

# Precautions

**01** The display screen, laser navigation, can not be wiped with a wet towel to avoid water!

**02** Do not block the laser with objects

**03** The emergency stop switch can only be rotated to the right, do not rotate to the left

**04** Can not travel on the ground with high friction: thicker, softer carpet

**05** After the product is packaged, it is packed, the equipment is upright, and it is not allowed to stand upside down.Suitable for land, air, sea and other transportation conditions

# Contact us

**Thanks for attention**