# Smart Video RC Robotic Tank

## 1. Key Properties

Arduino UNO / Raspberry PI4B 2GB、4GB

4-DOF Robotic Arm

480P USB Camera

Ultrasonic Sensor

Infrared Sensor

Input Voltage 12.6 V

## 2. Features

| | |
|---|---|
| **Crawler Driving** | Robot car used crawler driving, capable of rotating 360 degrees and high stability. |
| **WIFI wireless remote control** | The robot car will establish WiFi hotspot after power on. Mobile phones and tablets can be connected to WIFI and controlled through APP. |
| **Real-time video transmission** | Robot car transmits the real-time images taken through camera to APP and computer software through WiFi. |
| **Ultrasonic obstacle avoidance** | The distance between the car and the obstacle can be seen on the interface of the mobile APP or PC software. |
| **Infrared line follow** | Robot car recognizes the black line arranged on the ground through the infrared photoelectric sensor to implement the line follow function. |
| **Robotic Arm** | 4-DOF robotic arm with 180 degree free rotation range, provide APP control interface for virtual mechanical arm synchronous control. |

## 3. Specifications

| Robot Car Body Specification | |
|---|---|
| Dimension | 220*256*260mm |
| Weight | 1850g |
| Material | 304 stainless steel/aluminum alloy, Anodizing |
| Driving Mode | Crawler Drive |
| Speed | 0.3m/s |
| Remote Control | IOS/Android APP、PC Software |
| **Accessories Specification** | |
| Motherboard | Raspberry PI 4B |
| Processor | ARM Cortex-A72 1.5GHz (Quad-core) |
| Memory | 2GB or 4GB LPDDR4 (depending on model) |
| Number of IO | 25 |

| | |
|---|---|
| Servo Output | 8 Groups |
| Motor Output | 2 Groups |
| DC Voltage Stabilizing | 2 x LM2596S |
| Motor Output Voltage | 12V (Max) |
| Motor Output Current | 2A (Max) |
| Communication Interface | UART |
| Baud rate | 9600 |
| Servo PWM range | 0.5-2.5ms |
| Servo PWM cycle | 2ms |
| Display interface | 12864 Display |
| webcam | Robot-Eyes, 480P, MJEPG Output |
| Motor | 170-350rpm |
| Gimbal Servo | XRSG90，≥0.33kgf.cm at4.8V 180° |
| Infrared Sensor | XR-IR |
| Ultrasonic Sensor | HC-SRO4 |
| Programming Language | Python |
| **4-DOF Robotic Arm** | |
| Servo | DS-R001 DS-S015M |
| Rotation Range | 180° |
| Maximum Radius | 310mm (Gripper closed) |

## 4. Package List

The robot car is shipped in an unassembled state. Please refer to the attached tutorial for the assembly method, The package list as follow:

| Accessories | Quantity |
|---|---|
| Raspberry Pi Motherboard | 1 |
| Driver Board | 1 |
| Tracked Stainless Steel Chassis with motor | 1 |
| 4-DOF Robotic Arm | 1 |
| 480 Web Camera | 1 |
| PTZ Kit | 3 |
| Servo Extension Cable | 1 |
| Sensor Kit | 1 |
| Head Lighting | 2 |
| 4P Dupont Line | 1 |
| 9GServo | 2 |

| Hardware Tool Package | 1 |
|---|---|
| Manual | 1 |

*note: 1.The product does not contain lithium batteries.
       2.The robot car is suitable for 12.6V lithium battery.

## 5. Product Document

Provide paper books, electronic files and source code to assist learning. Provide supporting training textbooks and courses, covering from getting started with Raspberry Pi to fully grasping IoT development and artificial intelligence technology. Teaching features include: Start with assembly, remote control operation, environment construction, basic courses and advanced development, etc., and support secondary development.