ROS Navigation Robotic Arm Tank

1. Key Properties

Jetson Nano 4-DOF Robotic Arm 720P HD USB Camera LIDAR Sensor 9-Axis Gyroscope 3.5 inch OLED Touch Screen Input Voltage 12.6 V



2. Features

Oneurlan Deixin a	Robot car used crawler driving, capable of rotating 360 degrees and high
Grawler Driving	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.
LIDAR Sensor	360-degree scanning distance measurement, base on gmapping,
	hector/Karto algorithm map modeling, support keyboard and remote control.
Robotic Arm	4-DOF robotic arm with 180 degree free rotation range, provide APP control
	interface for virtual mechanical arm synchronous control.
Camera visual line follow	Robot car recognizes the black line arranged on the ground through the
	camera Image to implement the line follow function.

3. Specifications

Robot Car Body Specification			
Dimension	310*240*360mm		
Weight	3100g		
Material	Alloy Aluminum and Acrylic		
Driving Mode	Crawler Driving		
Remote Control	Android APP、 PC Software		
Motherboard Specification			
Model	Jetson Nano		
Communication Interface	I2C, Serial Port (UART)		
Display	HDMI		

Wireless Network	Intel8625		
Driver Board	STM32F105		
System	Ubuntu 18.044		
Programming Language	Python / C++		
LIDAR Sensor Specification			
Model	RPLIDAR-A1		
Working Voltage	4.9~5.5V		
Working Current	300~350mA		
Scan Frequency	5.5Hz		
Voltage Ripple	20~50mV		
Working Temperature	0~45°C		
Measuring Radius	8m		
Laser Working Area			
	Motor Specification		
Dimensions	Length 12mm, radius 4mm		
Weight	100g		
Working Voltage	6~24V		
Working Current	≤80mA (no-loading)		
Rated speed	100rpm		
No load speed	130rpm		
No load speed Locked-rotor current	130rpm ≤3.0mA		
No load speed Locked-rotor current Locked-rotor torque	130rpm ≤3.0mA 6.0kg.cm		



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
JETSON NANO Mother Board	1
Driver Board	1
Stainless Steel Chassis with Motor	1
Acrylic Car Body	1
1080P HD camera	1
PTZ kit	1
RPLIDAR-A1 LIDAR	1
4-DOF Robotic Arm	1
7 inch OLED Touch Screen	1
9-Axis Gyroscope	1
Antenna	2
Network Card	1
Wireless Keyboard & Mouse	1
M2 Screw	4
M2 Screw Nut	4
M2.5 Screw	8

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M2.5 Screw Nut	4
M3 Screw	15
M3 Screw Nut	15
M2.5 Nylon Column	8
M3 Single-Head Copper Pillar	4
M3 Hexagonal Double-Pass-25	4
M3-45 Double-Pass	4
M3-16 Screw	4
Spacer	12
Velcro	2
Data Cable	2
HDMI Extension Cable	1
Android Extension Cable	1
64GB SD Card	1
USB Docking Station	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 Jeston Nano 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 for human–computer interaction, LIDAR function, robotic arm control algorithm, etc. Support secondary development based on the existing code.