

## 3WD 100mm omni wheel robot kit 10003

This robot is based on a 3WD omni-wheel chaise. It could move in any direction by changing the velocity and direction of each wheels without changing its orientation. This robot help you get acquainted with the omni-wheel platform embedded svstem. Its aluminium alloy body and pre-drilled hole for screws make it convenient for you to add components as you like.



Aluminum alloy frame



3 wheels drive



Omni wheel



Ultrasonic sensor



IR sensor



Encoder



Programmable



Easily expand

### Features:

- Economical platform of 3WD omni-wheel
- Easy to install
- IR sensors and ultrasonic sensors included
- Encode motors
- Programmable Arduino microcontroller board
- Pre-drilled holes and spare space make it expandable

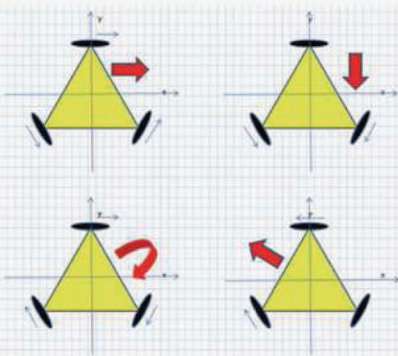
### Parts included:

- 3 100mm Plastic Omni Wheels
- 3 Faulhaber 12V DC Coreless Motors
- Arduino 328 Controller
- Arduino Io Expansion
- 3 Ultrasonic Range Finders
- 12V Ni-Mh Battery
- 12V Charger

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Working principle of omni wheel



A omni-wheel robot can instantaneously move in any direction. It does not need to do any complex motions to achieve a particular heading. This type of robot would have 2 degrees of freedom in that it can move in both the X and Y plane freely.

<b>Chassis</b>	Appearance	Triangle
	Max Width	330mm
	Height	108mm
	Chassis Height	24mm
	Wheel Base	275mm
	Radius	175mm
	Coupled Mode	Compaction
	Material	Aluminum
	Color	Yellow, Black
	Speed	0.6m/s
	Drive Mode	3 wheel drive
	Climbing Capacity	20 degree
	Load Capacity	15kg
	Mini-ITX Compatible	No
<b>Wheel</b>	Type	90 degree Omni Wheel
	Diameter	100mm
	Thickness	38mm
	Material	Plastic
	Load Capacity	10kg
	Material	Nylon
	Diameter of Roller	19mm
	Length of Roller	19mm
	Coupled Mode	2 603 bearings

<b>Motor</b>	Type	Faulhaber 12V DC Coreless Motor
	Power	17W
	RPM	120rpm
	Diameter	30mm
	Length	42mm
	Total Length	85mm
	Diameter of Shaft	6mm
	Length of Shaft	35mm
	No Load Current	75m
	Load Current	1400mA
<b>Encoder</b>	Gearbox Ratio	64:1
	Type	Optical
	Encoder Phase	AB
<b>Battery and Charger</b>	Encoder Resolution	12CPR
	Battery	12V Ni-Mh
	Slow Charger	100~240V In, 24~12V Out
	Duration of Charge	2 hours
	Running Time	0.5 hour

<b>Microcontroller Specification</b>	Atmega328
	14 Channels Digital I/O
	6 PWM Channels (Pin11, Pin10, Pin9, Pin6, Pin5, Pin3)
	8 Channels 10-bit Analog I/O
	USB interface
	Auto sensing/switching power input
	ICSP header for direct program download
	Serial Interface TTL Level
	Support AREF
	Support Male and Female Pin Header
	Integrated sockets for APC220 RF Module
	Five IIC Interface Pin Sets
	Two way Motor Drive with 2A maximum current
	7 key inputs
<b>IO expansion board</b>	DC Supply: USB Powered or External 7V~12V DC
	DC Output: 5V / 3.3V DC and External Power Output
	Dimension: 90x80mm
	To support RS485 interface or drive 4 motors

