

# **SM4SHING :: Battlebot 3lbs.**



## **Introduction.**

To build a battle robot there is no specific manual, it is about letting your imagination fly and applying the knowledge previously obtained in terms of mechanics and electronics.

## **Target.**

The objective of this project lies in designing, manufacturing, assembling and programming a battle robot that is capable of fighting with another. Said robot cannot exceed a weight of 3lbs.

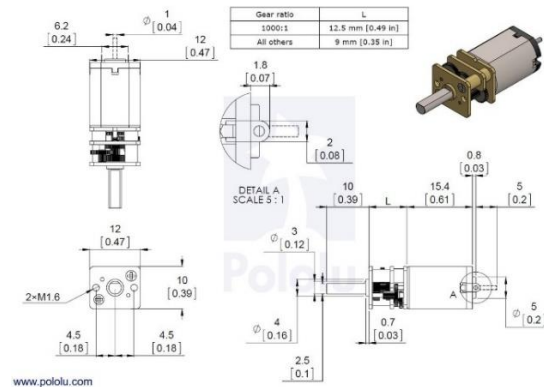
## **Material used, costs and suppliers.**

All the material was acquired in the free market, except for the weapon, which was designed with a hearth and the sheet metal chassis, which were left over from a previous job.

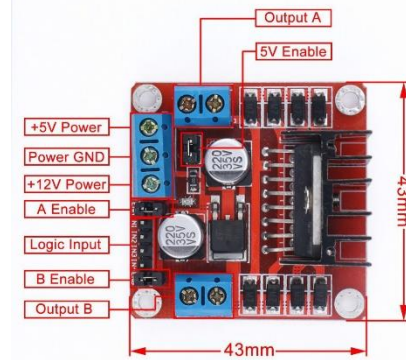
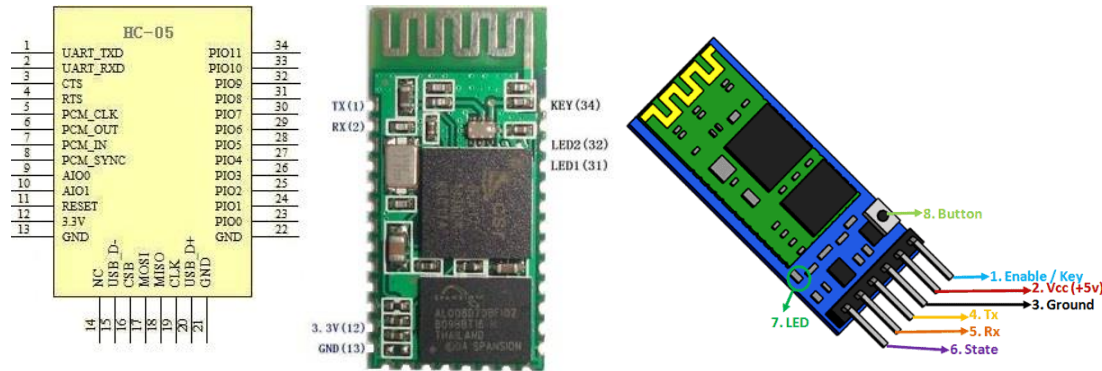
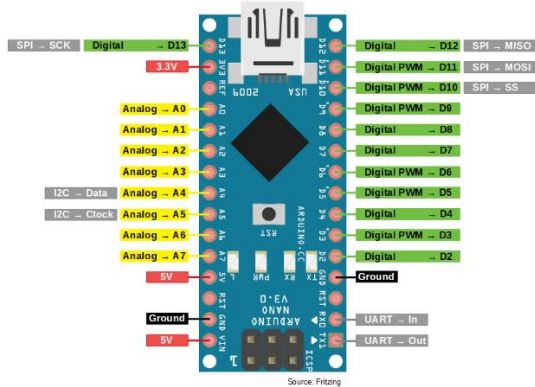
- Arduino Nano. \$106 MXN.
- Aluminum-copper alloy sheet 1m x 1m x 3mm. \$400 MXN.
- 2 steel hearth weapons. \$35 MXN each.
- 1 brushless motor of 1000KV. 30A ESC and Motor Kit \$412 MXN.
- 1 Bluetooth module HC-05. \$92 MXN.
- 2 pololu 6v motors. \$98 MXN each.
- 2 rims for pololu motors. \$39 MXN each.
- 1 bridge h. \$140 MXN.
- 1 11.1V Li-Po battery. \$950 MXN.
- Jumpers. \$15 MXN.
- 1 USB type AB cable. It is included with Arduino.
- Arduino IDE. It's free.

## Datasheets.

### • Dimensions.



www.pololu.com



## Micro Metal Gearmotors



### Performance summary and table of contents

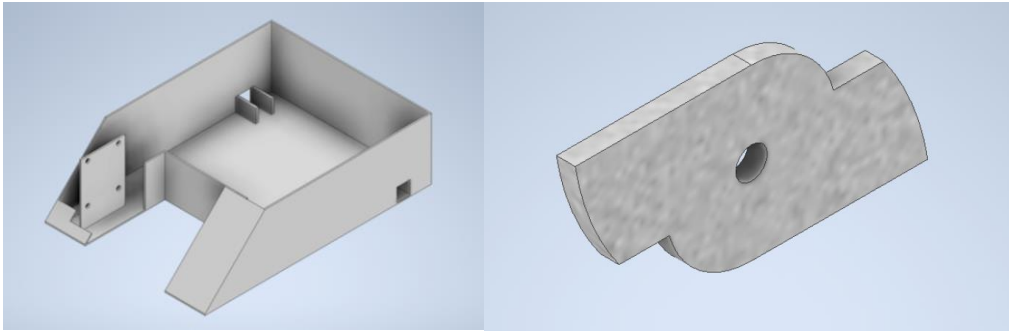
Motor Type	Rated Voltage	Pololu Item #	Gear Ratio	No Load Speed (RPM)	Current (A)	Speed (RPM)	Torque (kg mm)	Current (A)	Output (W)	Max Power (W)	Stall Extrapolation Torque (kg mm)	Current (A)	Graph Page
Low Power (3V)	6V	1100-2200	4.995	2500							0.5		
		1099-2201	9.98	1300							1.0		3
		4780-4781	15.25	860							1.7		4
		993-2202	29.86	450							2.9		5
		1098-2203	51.45	270							4.4		6
		2360-2209	75.81	180							6.4		7
		992-2204	100.37	130							7.4		8
		1097-2205	150.58	90							11		9
		1096-2206	210.59	65							16		10
		1095-2207	240.68	54							20		11
		1094-2208	297.92	45							25		12
		4790-4791	375.17	36							29		13
Medium Power (3V)	6V	1096-3056	986.41	13							56		14
		2362-2376	4.995	4400							0.6		15
		2363-2377	9.98	2200							1.1		16
		4782-4783	15.25	1400							2.0		17
		2364-2378	29.86	720							3.3		18
		2365-2379	51.45	420							5.4		19
		2366-2380	75.81	290							7.8		20
		2367-2381	100.37	220							9.4		21
		2368-2382	150.58	150							13		22
		2369-2383	210.59	100							17		23
		2370-2384	240.68	80							20		24
		2371-2385	297.92	73							24		25
		4792-4793	375.17	57							29		26
		2372-3059	986.41	22							63		27



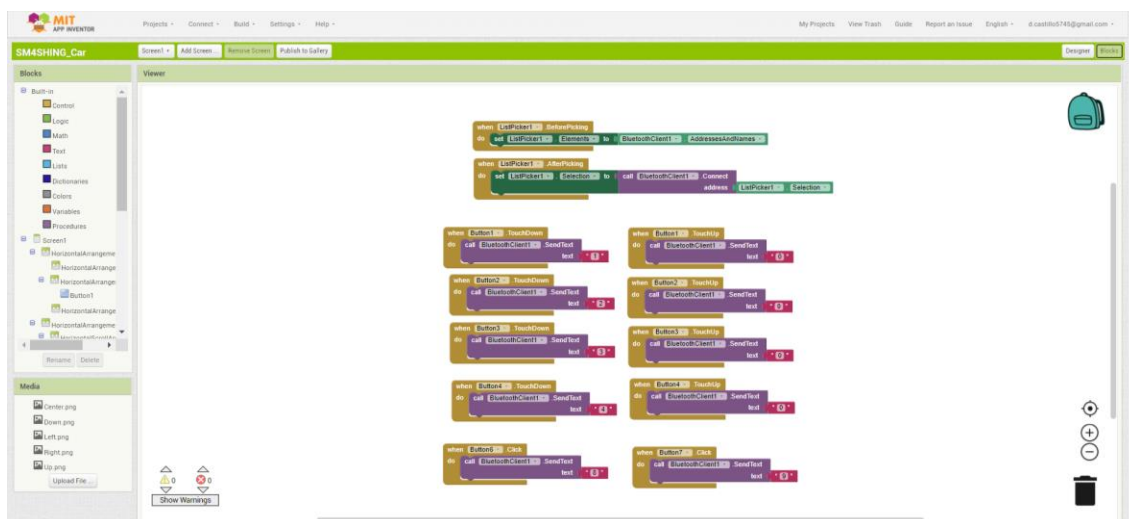
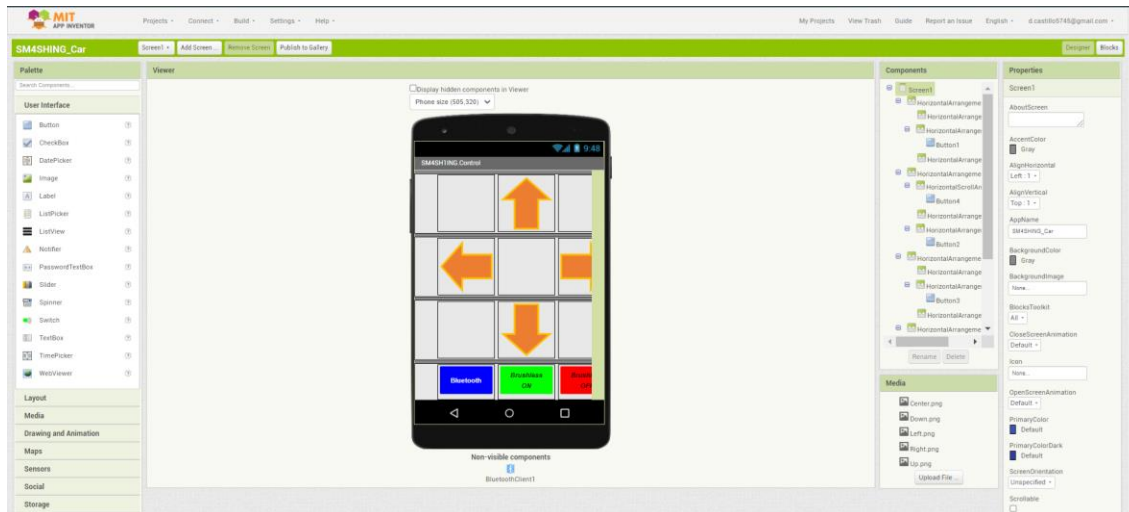
### Specifications:

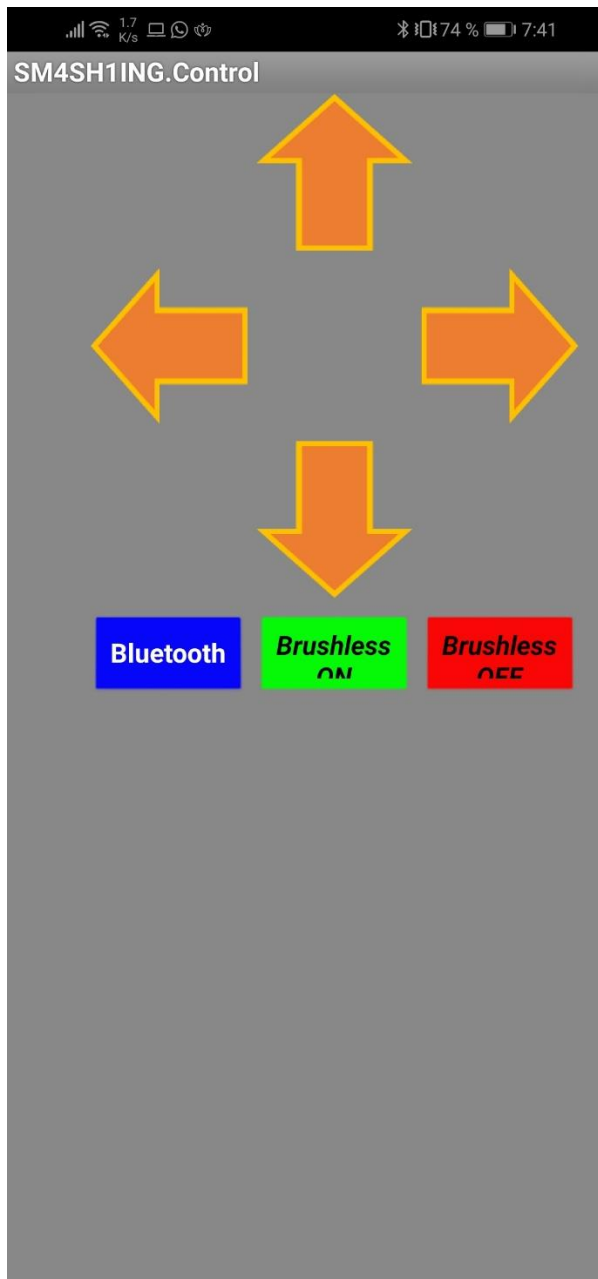
- Capacity: 2200mAh
- Voltage: 3S1P / 3 Cell / 11.1V
- Discharge: 25C Constant / 35C Burst
- Weight: 163g (including wire, plug & case)
- Dimensions: 107mm x 21mm x 34mm
- Balance Plug: JST-XH
- Discharge Plug: XT60

- CAD Design.



- App for control.





*IMPORTANT: It's necessary to have an android device to install the .APK*

*Contact me if you have doubts. 😊*