



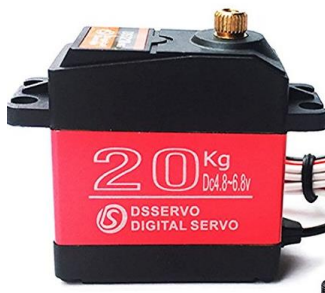

Billy





UNIDAD ADAPTABLE A DISTINTOS TERRENOS TELEOPERADA




Gabriel Marzullo | Wvaldo Graell | Kelvin Kung

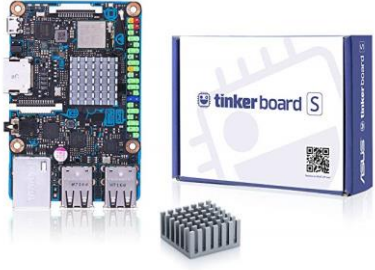
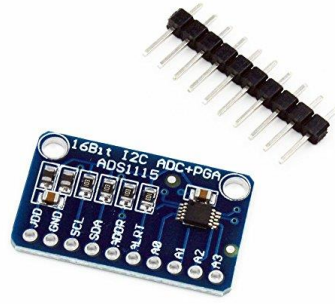


Asesor: Danilo Caceres

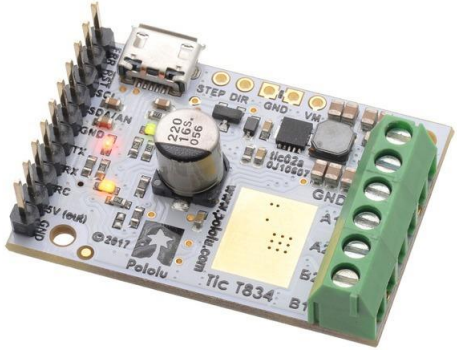

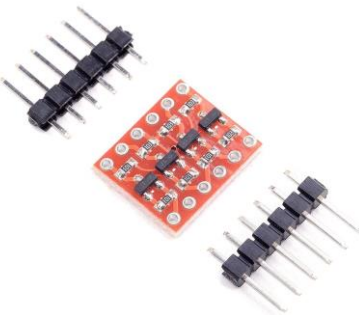

Laboratorio de Sistemas Inteligentes



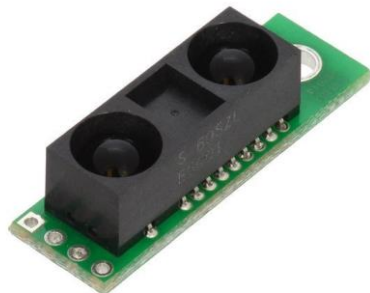
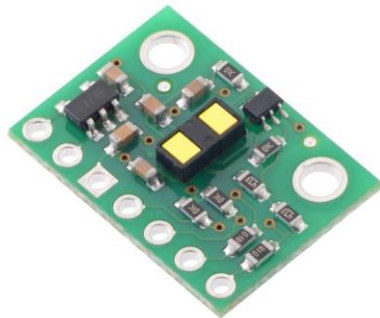
Piezas requeridas para la construcción de la unidad Movil Billy					
#	Descripción	Cant.	Precio Unitario	Sub. Total	Descripción Grafica
LOCOMOCIÓN					
<u>01</u>	Oblique U-shaped Servo Bracket	4	5.00	20.00	
https://www.amazon.com/BangBang-Oblique-U-shaped-Bracket-Manipulator/dp/Bo72J8PKL5/ref=sr_1_17?ie=UTF8&qid=1548035324&sr=8-17&keywords=servo+bracket					
<u>02</u>	LewanSoul LD-220MG 20kg High Torque Full Metal Gear Digital Servo Dual Ball Bearing	4	22.00	88.00	
https://www.amazon.com/LewanSoul-LD-220MG-Digital-Bearing-Aluminium/dp/Bo7CMBMWZW/ref=sr_1_7?ie=UTF8&qid=1548035324&sr=8-7&keywords=servo+bracket					
<u>03</u>	ANNIMOS 20KG Digital Servo High Torque Full Metal Gear	4	18.00	72	
https://www.amazon.com/d/Rc-Servos/ANNIMOS-Digital-Waterproof-DS3218MG-Control/Bo76CNKQX4/ref=sr_1_3?ie=UTF8&qid=1548270718&sr=8-3&keywords=20kg+servo					
<u>04</u>	Seamuing 10Pcs Servo Horn Arm Aluminum 25T Futaba Servo Disc	1	9.00	9.00	<p>25T Servo Horn</p> 
https://www.amazon.com/Seamuing-Aluminum-Futaba-Mechanical-Helicopter/dp/Bo7D56FVK5/ref=sr_1_5?ie=UTF8&qid=1548270793&sr=8-5&keywords=25T+disc					

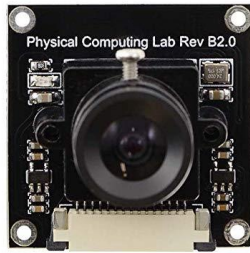



05	Magic&shell 2-Pack 6mm Flange Shaft Coupling High Hardness Metal Axis Bearing	2	12.00	24.00	
https://www.amazon.com/Magic-Coupling-Hardness-Accessory-Connector/dp/B07FLWQMNW/ref=sr_1_2_sspa?ie=UTF8&qid=1548271049&sr=8-2-spons&keywords=6mm+shaft&psc=1					
06	Boeray 1pcs 7 Hole Cross Joining Bracket Plate for Aluminum Extrusion Profile 2020 Series, 7 Hole Joint Plate	2	7.00	14.00	
https://www.amazon.com/Joining-Bracket-Aluminum-Extrusion-Profile/dp/B01H6NPID2/ref=sr_1_16?ie=UTF8&qid=1548271256&sr=8-16&keywords=2020+profile+aluminum+joint+plate					
07	IZTOSS 4PCS Die-Cast Zinc Alloy Pivot Joint for Aluminum Extrusion Profile 2020 Series	3	21.00	63.00	
https://www.amazon.com/IZTOSS-Die-Cast-Aluminum-Extrusion-Profile/dp/B078RH97L3/ref=sr_1_4?ie=UTF8&qid=1548271696&sr=8-4&keywords=2020+profile+aluminum+pivot					
08	Boeray 50pcs M5 Slide in T Nut Drop in Nut for Aluminum Extrusion with Profile 2020 Sereis Slot 6mm	1	10.00	10.00	
https://www.amazon.com/Boeray-Aluminum-Extrusion-Profile-Sereis/dp/B01GCDG2QO/ref=sr_1_8?ie=UTF8&qid=1548271800&sr=8-8&keywords=2020+profile+aluminum					

09	Greartisan DC 12V 100RPM Gear Motor High Torque Electric Micro Speed Reduction Geared Motor Centric Output Shaft 37mm Diameter Gearbox	4	16.00	64.00	
https://www.amazon.com/Greartisan-Electric-Reduction-Centric-Diameter/dp/B072R57C56/ref=sr_1_6?ie=UTF8&qid=1548271877&sr=8-6&keywords=dc%2Bgear%2Bmotor&th=1					
10	Hilitchi 510pcs M3 M4 M5 Stainless Steel Flat Head Hex Socket Head Cap Bolts Screws Nuts Assortment Kit - 304 Stainless Steel	1	15.00	15.00	
https://www.amazon.com/Hilitchi-510pcs-Stainless-Socket-Assortment/dp/B073SVMX3T/ref=sr_1_5?ie=UTF8&qid=1548272606&sr=8-5&keywords=m3+m4+m5+flat+head					
11	Linear Motion Aluminum Profiles - 200mm Length 2060 T-Slot Aluminum Profiles Extrusion Frame for CNC	3	15.00	45.00	
https://www.amazon.com/Linear-Motion-Aluminum-Profiles-Extrusion/dp/B07MMX1QW9/ref=sr_1_1?ie=UTF8&qid=1548272841&sr=8-1&keywords=2060+t-slot+200mm					
Hardware/Sensores					

12	ASUS Tinker Board Quad-Core	1	85.25	85.25	
https://www.amazon.com/gp/product/BooFS83U42/ref=ox_sc_saved_title_1?smid=ATVPDKIKXoDER&psc=1					
13	ADC 16 BIT I2C HILETGO	2	6.99	13.98	
https://www.amazon.com/HiLetgo-Converter-Programmable-Amplifier-Development-x/dp/B01DLHKMO2/ref=sr_1_4?ie=UTF8&qid=1550794750&sr=8-4&keywords=analog+digital+converter+raspberry+pi					
14	Mini Maestro 18-Channel USB Servo Controller	1	39.95	39.95	
https://www.pololu.com/product/1354					
15	Dual MAX14870 Motor Driver Shield for Arduino	2	12.75	25.50	
https://www.pololu.com/product/2519/specs					

16	Tic T834 USB Multi-interface Stepper Motor Controller	2	31.95	63.90	
https://www.pololu.com/product/3132/resources					
17	Arduino Mega 2560 REV3	1	33.88	33.88	
https://www.amazon.com/ARDUINO-MEGA-2560-REV3-A000067/dp/B0046AMGW0/ref=sr_1_3?s=pc&ie=UTF8&qid=1550887800&sr=1-3&keywords=ARDUINO+MEGA					
18	Cylewet 10Pcs 3.3V-5V 4 Channels Logic level converter	1	15.29	15.29	
https://www.amazon.com/Cylewet-3-3V-5V-Channels-Converter-Bi-Directional/dp/B074M8TM81/ref=sr_1_3?ie=UTF8&qid=1550887969&sr=8-3&keywords=logi+level+shifter+3.3v+to+5v					
19	Pololu 3.3v, 2.5A Step-Down Voltage Regulator D24V25F	1	10.95	10.95	
https://www.pololu.com/product/2849					

<u>20</u>	Pololu 5V, 2.5A Step-Down Voltage Regulator D24V25F	2	10.95	21.90	
https://www.pololu.com/product/2850					
<u>21</u>	AltIMU-10 v3 Gyro, Accelerometer, Compass, and Altimeter	1	13.95	13.95	
https://www.pololu.com/product/2469					
<u>22</u>	Pololu Carrier with Sharp GP2Y0A60SZL F Analog Distance Sensor 10-150cm, 5V	4	12.95	51.80	
https://www.pololu.com/product/2474					
<u>23</u>	VL53L1X Time-of-Flight Distance Sensor Carrier with Voltage Regulator, 400cm Max	4	11.95	47.80	
https://www.pololu.com/product/3415/specs					

24	Camera Module for Tinker Board (Adjustable Focus)	1	25.99	25.99	 
https://www.amazon.com/Camera-Module-Tinker-Board-Adjustable/dp/Bo7916CXJX					
25	Pixy2 Smart Vision Sensor	1	59.90	59.90	
https://www.amazon.com/Pixy2-Smart-Vision-Sensor-BeagleBone/dp/Bo7D1CLYD2/ref=sr_1_1_sspa?s=electronics&ie=UTF8&qid=1550892586&sr=1-1-spons&keywords=PIXY+CAM&psc=1					
26	HRB 3S 11.1V 6000mAh 50C RC LiPo Battery Pack with XT60 plug For RC Helicopter RC Airplane RC Hobby	1	48.99	48.99	
https://www.amazon.com/dp/Bo6XK9149L/ref=sspa_dk_detail_1?psc=1&pd_rd_i=Bo6XK9149L&pd_rd_w=6aPMo&pf_rd_p=733540df-430d-45cd-9525-21bc15boe6cc&pd_rd_wg=tWoal&pf_rd_r=NJ6KEVBX3CVN1KZ4D1AV&pd_rd_r=da2ea418-3974-11e9-adab-476bc8823d07					

27	Lipo Battery Charger - Energy tech Balance Charger AC/DC 20W 2A 2-4Cells for LiPo/Life/LiH V Airsoft RC Car Battery Charging	1	17.99	17.99	
https://www.amazon.com/dp/B07H3PS7DF/ref=sspa_dk_detail_2?psc=1&pd_rd_i=B07H3PS7DF&pd_rd_w=1FsPH&pf_rd_p=73354odf-43od-45cd-9525-21bc15boe6cc&pd_rd_wg=Ja7TE&pf_rd_r=WD6TTJW96o75JZRG6HQ4&pd_rd_r=b155ae89-3975-11e9-8d5f-8b5d7e09eabc					