

Arduino  
Compatible



# OSEPP™

Create With No Limit

version **2.0**

Hardware and Software  
for creating  
interactive projects



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Open Source Electronic Prototyping Platform

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# WHO WE ARE

We are a Canadian company with our head office in British Columbia, Canada. We design and manufacture a line of Arduino compatible products. with a focus on new to novice users.

Our category of products include Kits, Sensors, Breakout Boards(s), Shield Boards, Accessories, and Main Boards.





# ***FRIENDLY RISK FREE PARTNERSHIP***

Becoming a distributor for us is easy and most important of all RISK FREE. We treat our distributors as partners and not competitors. Our products are solely sold through YOU.

## **Guaranteed Sales Policy**

It means exactly that. We guarantee that our products will sell. If for whatever reason they don't, give it back to us for full credit or full refund.

## **No Case Quantity Requirements**

Being that we would take back any product that don't sell, we see no point in enforcing case quantities, so we don't. Only buy what you want—even if it is just one unit.

## **Low Prepaid Freight**

If your order is \$500 or more, we will pay for the shipping cost. Our warehouse is located in Canada but you don't have to worry about that. We will look after all clearance fees or duties (if applicable)—USA only.

Orders under \$500 are prepaid and charged. We will still look after all clearance and any applicable duties for cross boarder shipments (USA only).

## **Low Minimum Order**

Although we enforce a minimum dollar for each order, it is only \$250. Our shipping department would be upset otherwise.

## **Tech Support**

You don't have to know how to use our products to be a distributor. We have a team of technical staff who will look after all after sales support for you. All emails to support@osepp.com are guaranteed to be responded to before the end of the same business day. In most cases, it is responded to in the first 2 hrs!.

# ***STARTER KITS***

There are over 300,000 Arduino compatible products in the market. It can be overwhelming for anyone wanting to learn about Arduino and what it can do. This was the idea behind our Starter Kit Series.

Our focus is to teach new or novice users about Arduino by the use of easy to follow lessons with step by step instructions

**NO PRIOR ELECTRONICS KNOWLEDGE REQUIRED!**



# 101 Arduino Basics

- Discover Arduino through EASY and FUN lessons Step-by-step instructions with diagrams
- No prior electronics knowledge required
- Kit comes with everything you need to build your own:
  - Volt Meter
  - Buzzer Circuit and play melody
  - LED Game
  - INCLUDES the OSEPP UNO R3 PLUS board!

## Key Features

- Tutorial 1: Loading the First Sketch
- Tutorial 2: Controlling Digital Outputs
- Tutorial 3: Using Digital Input
- Tutorial 4: An LED Game
- Tutorial 5: Building Voltage Meter
- Tutorial 6: Using Buzzer to Play a Melody
- Tutorial 7: Counting Down with a 7 Segment LED
- Tutorial 8: Powering the UNO R3 PLUS Using Batteries



## Kit Content

OSEPP UNO R3 Plus.....	1
6 feet USB type A to mini-B .....	1
Tact push switch 6mm x 6mm – through hole .....	2
DIP switch 4 position – through hole .....	1
1Kohm potentiometer (variable resistor) – long pins .....	1
10Kohm potentiometer (variable resistor) – long pins .....	1
330 ohm axial resistor, 1/2W, 5% .....	20
1 kohm axial resistor, 1/2W, 5% .....	5
10kohm axial resistor, 1/2W, 5% .....	5
LED through hole – Red, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Yellow, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Green, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – White, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Blue, 8.7mm height, ~2V drop, ~10-20mA .....	2
Two digits 7-segment LED – RED .....	2
Buzzer, 5Vo-p .....	1
NPN transistor .....	2
Breadboard – 30 columns x 14 rows (include 2 VCC and 2 GND) .....	1
6 inches male-to-male jumper wires (red) .....	10
6 inches male-to-male jumper wires (black) .....	10
6 inches male-to-male jumper wires (white) .....	10
6 inches male-to-male jumper wires (grey) .....	10
6 inches male-to-male jumper wires (blue) .....	10
4x AA battery enclosure with DC power jack and ON/OFF switch, cable length 4" .....	1
2cm x 2cm x 3mm thick double side tape .....	2
Booklet – Arduino UNO diagram + basic electronic theory.....	1
Kit container .....	1

## Product Info

Stock Code	ARD-01
Description	ARDUINO BASICS STARTER KIT w/ UNO-03
Package Size	10" x 7" x 2"
UPC	899262000367

101 Arduino Basics Companion Kit

- Discover Arduino through EASY and FUN lessons Step-by-step instructions with diagrams
- No prior electronics knowledge required
- Kit comes with everything you need to build your own:
  - Volt Meter
  - Buzzer Circuit and play melody
  - LED Game
  - OSEPP UNO R3 PLUS board Not Included.

Key Features

- Tutorial 1: Loading the First Sketch
- Tutorial 2: Controlling Digital Outputs
- Tutorial 3: Using Digital Input
- Tutorial 4: An LED Game
- Tutorial 5: Building Voltage Meter
- Tutorial 6: Using Buzzer to Play a Melody
- Tutorial 7: Counting Down with a 7 Segment LED
- Tutorial 8: Powering the UNO R3 PLUS Using Batteries



Kit Content

6 feet USB type A to mini-B .....	1
Tact push switch 6mm x 6mm – through hole .....	2
DIP switch 4 position – through hole .....	1
1Kohm potentiometer (variable resistor) – long pins .....	1
10Kohm potentiometer (variable resistor) – long pins .....	1
330 ohm axial resistor, 1/2W, 5% .....	20
1 kohm axial resistor, 1/2W, 5% .....	5
10kohm axial resistor, 1/2W, 5% .....	5
LED through hole – Red, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Yellow, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Green, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – White, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Blue, 8.7mm height, ~2V drop, ~10-20mA .....	2
Two digits 7-segment LED – RED .....	2
Buzzer, 5Vo-p .....	1
NPN transistor .....	2
Breadboard – 30 columns x 14 rows (include 2 VCC and 2 GND) .....	1
6 inches male-to-male jumper wires (red) .....	10
6 inches male-to-male jumper wires (black) .....	10
6 inches male-to-male jumper wires (white) .....	10
6 inches male-to-male jumper wires (grey) .....	10
6 inches male-to-male jumper wires (blue) .....	10
4x AA battery enclosure with DC power jack and ON/OFF switch, cable length 4" .....	1
2cm x 2cm x 3mm thick double side tape .....	2
Information sheet – Arduino UNO diagram + basic electronic theory .....	1
Kit container .....	1

Product Info	
Stock Code	ARD-01B
Description	ARDUINO COMPANION KIT W/O UNO BOARD
Package Size	10" x 7" x 2"
UPC	899262000411

# 201 Arduino Basics

- Discover Arduino through EASY and FUN lessons
- Step-by-step instructions with diagrams
- No prior electronics knowledge required
- Kit comes with everything you need to build 15 projects across 8 categories:

## Key Features

Tutorial 1: Temperature  
 Tutorial 2: Light  
 Tutorial 3: LEDs  
 Tutorial 4: Sound  
 Tutorial 5: Ultrasonic  
 Tutorial 6: Servo Motors  
 Tutorial 7: Stepper Motors  
 Tutorial 8: LCD

Comes with one bonus project to help combine skills learnt in previous lessons into new projects



## Kit Content

OSEPP UNO R3 Plus .....	1
6 feet USB type A to mini-B .....	1
Tact push switch 6mm x 6mm – through hole .....	2
10K ohm linear potentiometer (variable resistor) – long pins .....	1
100 ohm axial resistor, 1/2W, 5% .....	5
330 ohm axial resistor, 1/2W, 5% .....	20
1k ohm axial resistor, 1/2W, 5% .....	5
10k ohm axial resistor, 1/2W, 5% .....	5
1M ohm axial resistor, 1/2W, 5% .....	2
LED through hole – Red, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Yellow, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Green, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – White, 8.7mm height, ~2V drop, ~10-20mA .....	2
LED through hole – Blue, 8.7mm height, ~2V drop, ~10-20mA .....	2
Buzzer, 5Vo-p .....	1
Speaker, 8-ohm .....	1
LM35 Temperature Sensor .....	1
Photo Cell .....	1
LCD 16×2 Character Display .....	1
Ultrasonic Range Finder .....	1
Servo Motor .....	1
Stepper Motor .....	1
Stepper Motor Driver .....	1
Breadboard – 30 columns x 14 rows (include 2 VCC and 2 GND) .....	1
2pin Screw Terminal .....	2
6 inches male-to-male jumper wires (red) .....	10
6 inches male-to-male jumper wires (black) .....	10
6 inches male-to-male jumper wires (white) .....	10
6 inches male-to-male jumper wires (grey) .....	10
6 inches male-to-male jumper wires (blue) .....	10
6 inches male-to-female jumper wires (white) .....	10
Arduino Basics 201 Tutorial book .....	1
Kit container .....	1

## Product Info

Stock Code	ARD-02
Description	201 ARDUINO BASICS STARTER KIT W/UNO-03
Package Size	10" x 7" x 2"
UPC	667510000007



# 101 Sensor Basics Starter Kit



## COMPONENT LIST

- OSEPP Sensor Shield
- 3-Pin Jumper Wires
- mini USB Cable
- 9 Volt Battery Adaptor
- Female to Female Jumper Cables
- 4-Digit Touch Sensor Module
- Fan Motor Module
- Flame Sensor Module
- LED Modules
- Light Sensor Module
- Temperature Sensor Module
- Passive Infrared Sensor Module
- Piezo Sensor Module
- Potentiometer Sensor Module
- Push Button Module
- Reed Switch Sensor Module
- Voltage Sensor Module
- Ultrasonic Sensor Module

Product Info	
Stock Code	SENS-01
Description	101 Sensor Basics Starter Kit
Package Size	10" x 7" x 2"
UPC	667510001400

## LESSONS

Lesson 1 – LEDs and Buttons : learn how to control LEDs with push Buttons

Lesson 2 – Musical Buzzer: Learn how to make a musical buzzer with your own musical notes.

Lesson 3 – Potentiometer: control the pitch of the musical buzzer and adjust the brightness of an led.

Lesson 4 – Fan Motor: adjust the direction and speed of a motor with a potentiometer knob and button.

Lesson 5 – Ping Sensor: change direction of a motor when you are within proximity of the motor using the ping sensor.

Lesson 6 – Reed Switch: turn an LED on and off based on the state of a reed switch.

Lesson 7 – PIR sensor: construct a smart motion sensing system that turns on an led based on movement.

Lesson 8 – Flame Sensor: create a smoke / fire alarm with the flame sensor.

Lesson 9 – Temperature Sensor: measure the temperature around you with the temperature sensor.

Lesson 10 -Light Sensor: detect the light surrounding you with the light sensor.

Lesson 11 -Sound Sensor: adjust the brightness of an led based on the ambient noise around you with the sound sensor.

Lesson 13 – 4-digit touch sensor: create a security access keypad with the 4 digit touch sensor.

Lesson 14 – Environmental Monitor: create an environmentally aware system with the sensors you have previously used

Lesson 15 – Security System : create a smart security system with sensors previously used.

# 101 Robotic Basics

## Autonomous Function \* Light Following \* Object Avoidance

This has to be one of the 'coolest' looking kits in the Arduino market. Custom designed aluminum chassis with a nice protective black coat that prevents the surface from scratching and oxidizing. The strategically placed holes on the chassis allows you to easily attach more sensors or other devices to the frame for more functions.

Kit comes with everything you need to make your own autonomously operating robot. Not only that, it is smart enough to 'chase' after the brightest light in the room. With this function, you can use a flash light as your remote! If you prefer using an IR remote, that works too.

We have included lessons that teaches you how to use two IR Detectors to give the robot object avoidance ability. The booklet that comes with this kit is close to 100 pages thick! Lots of great info, lessons, and codes.

## Kit Content

Uno R3 .....	1	
L298N Motor Driver .....	1	
IR Follower .....	1	
IR Receiver .....	1	
IR Detector .....	2	
Top Chassis Frame .....	1	
Bottom Chassis Frame .....	1	
Ball Caster Wheel Set Motor Mount Set .....	2	
Motor Assembly Set .....	2	
Standoffs 3 cm .....	8	
Standoffs 1cm .....	13	
Wheel .....	2	
Screw B 6 mm .....	20	(main board screws)
Battery Holder Screw Set Nuts .....	14	(for motor & battery holder)
Jumper wire 16 cm .....	2	(for motor driver to a Uno ISP)
Mini USB Cable x 1 F/F Jumper 10cm .....	6	(for IR Detector/Receiver)
Screw Cap .....	2	
Wire .....	1	
M/F Ribbon Jumper Wires 10cm .....	20	
Remote Control .....	1	
ON/OFF Switch .....	1	with screw
Screw A 6 mm .....	20	(for chassis frame)
Plastic Washer .....	4	(between UNO & standoffs)



Assembly is required and part of the learning process

## Product Info

Stock Code	ROB-01
Description	OSEPP 101 ROBOTIC BASICS KIT
Package Size	10" x 7" x 2"
UPC	667510001011

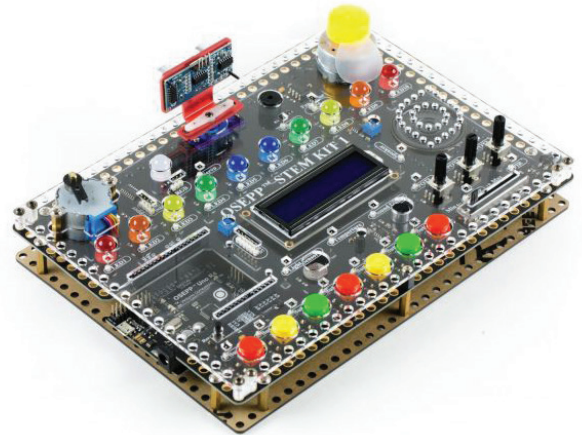
# OSEPP Stem Kit 1

When used with our new OseppBlock integrated development environment (IDE), this is the ultimate tool for anyone to learning how to code. Whether you are in Elementary school, University, a parent, teacher, or a grandparent, you can learn to code in the Arduino language. Absolutely no experience required.

The OSEPPTM Stem Kit 1 will teach you the eight most commonly used inputs and outputs in the Arduino environment. Once you have mastered these functions using our OseppBlock IDE, you will be well on your way to programming using the Arduino IDE without the graphical 'block' support.

## FEATURES:

- 100% Arduino Compatible
- Learn the most common Arduino functions with one board!
- Minimal cable 'jumping' required. More time spent on actual LEARNING!
- 8 Output Devices
- 8 Input Devices
- Includes graphical TUTORIAL BOOKLET (for use with OseppBlock IDE)
- For ages 10+
- No assembly required
- Includes protective case
- Includes OSEPP UNO R4 Plus Board (microcontroller)



## INPUT DEVICES:

- Push Buttons
- Potentiometers
- Slide Potentiometer
- Ultrasonic Sensor
- Passive Infrared Sensor (PIR)
- Light Sensor
- Sound Sensor
- LM35 Temperature Sensor

## OUTPUT DEVICES:

- LEDs
- Servo Motor
- Stepper Motor
- Fan Motor (DC)
- LCD Display
- Buzzer
- Speaker
- RGB (red, green and blue LED)

## Product Info

Stock Code	STEM-01
Description	OSEPP STEM KIT 1
Packaging Size	10" x 7" x 2"
UPC	667510001646

All the devices listed above are on ONE circuit board. This way, minimal time is spent 'jumping' cables from one module to the next and more time is spent on actual LEARNING. It is as easy as learning the ABCs.

This makes the perfect gift for the elementary student in your household to get them interested in coding and electronics. A stepping block (no pun intended) into a career in Computer Sciences.

## Lessons in Tutorial Booklet (INCLUDED):

### Chapter 1: Digital & Analog IO

1. Blinking an LED
2. Buzzer and LED
3. Turning on a Fan Motor
4. Display your name on Serial Monitor
5. Button state and PIR state
6. Display text on LCD
7. Display Slider Potentiometer value on LCD
8. Display light intensity value on LCD
9. Tone melody

### Chapter 2: If/Else command, For Loop command and While Loop Command

1. Turn on LED with button
2. Alarm System with PIR (Passive Infrared)
3. LED Control by Light Sensor
4. Tone Notes with Buttons
5. Fade LEDs
6. Fading multiple LEDs
7. Cycle 10 LEDs
8. Blink LED and Melody

### Chapter 3: Hardware

1. RGB LED Basics
2. Mixing RGB Colors with POTS (potentiometers)
3. Servo Basics
4. Control Servo with Slide POT
5. Stepper Motor Basics
6. Display Temperature Value on LCD
7. Sound Sensor Basics
8. Ultrasonic Basics
9. Set Fan Forward and Backward

### Chapter 3: Hardware

1. RGB LED Basics
2. Mixing RGB Colors with POTS (potentiometers)
3. Servo Basics
4. Control Servo with Slide POT
5. Stepper Motor Basics
6. Display Temperature Value on LCD
7. Sound Sensor Basics
8. Ultrasonic Basics
9. Set Fan Forward and Backward

## OseppBlock IDE

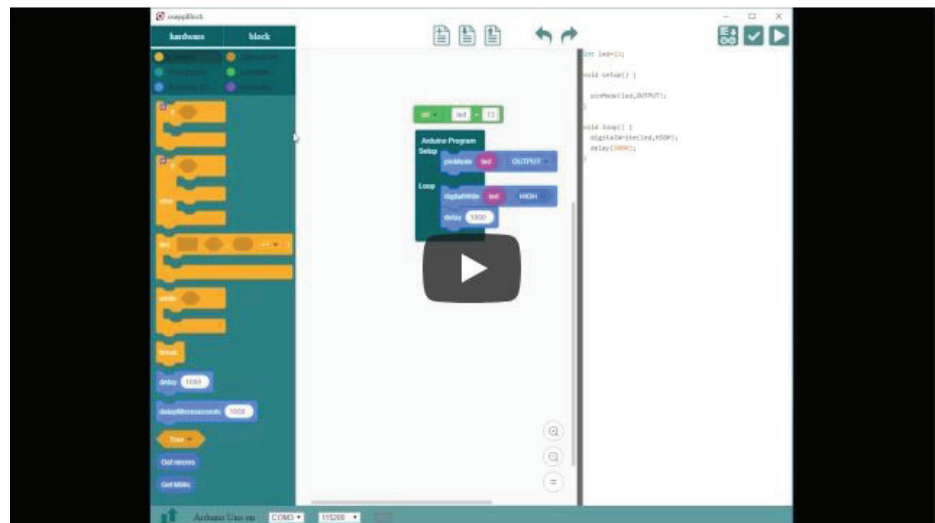
Learn to code with our easy to use drag and drop interface. This is where it all starts. Think of it as the ABC's of coding. Whether you are 8 years old or 80 years old, if you have not coded before and want to learn, this is where it all begins.

Our OseppBlock IDE is based on the Arduino platform (<https://arduino.cc>). We use a graphical block system to demystify coding concepts. As you drag the blocks to create projects, Arduino code syntax is automatically generated on the same screen for you to reference.

We have developed a STEM KIT 1 hardware board to be used with OseppBlock as an introduction electronics. You will be able to learn the 16 most commonly used Arduino functions using various input and output devices.

The STEM KIT 1 is an optional hardware tool. If you have a good understanding of Arduino, you can use our OseppBlock IDE with any compatible hardware.

Once you have mastered our DRAG n PLAY interface with the help of our Stem Kit 1, you can graduate into the Arduino IDE where you simply code with no block support. OseppBlock IDE supports exporting your blocks code into the Arduino environment with the push of a



Below is an interactive 'web' version of the OseppBlock IDE. See for yourself how easy it is to use:

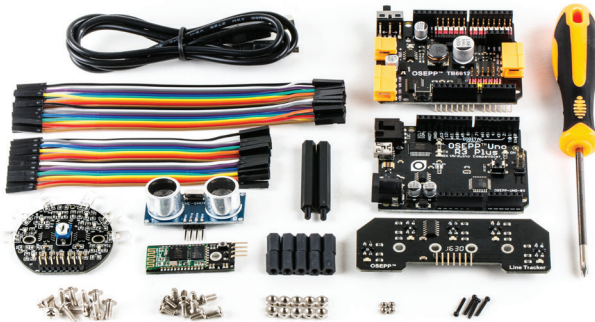
**[www.osepp.com/block/](http://www.osepp.com/block/)**

***MECHANICAL  
KITS & PARTS***



# Robotic Functional Kit

The Robotics Functional Kit adds smarts and control to your Mechanical Kits! This kit includes an OSEPP UNO R3 PLUS micro controller board, a high voltage TB6612 Motor Shield and sensors that gives users the most commonly requested robotic functions. All of the assembly instructions and code are open source and downloadable below.



- **Bluetooth (HC-06) Module** – This module allows the user to control their project using their Android smart device. Download our Android App for free below.
- **Ultrasonic Sensor** – This module provides object avoidance function.
- **IR Follower** – With this module, you can turn your flash light into a remote control.
- **Line Sensor** – This is no typical line sensor. Most line sensors in the market has one sensor so it is sensitive to the width of the line it is trying to follow. Our sensor module has FIVE sensors so it can follow lines of different widths and with increased accuracy. Works best following black lines on white background.
- 100% Arduino Compatible
- Add smart sensing functions to your Mechanical Kits

Product Info	
Stock Code	MECHF-01
Description	Robotic Functional Kit
Package Size	8.3" x 6" x 2"
UPC	667510001516

# 2-Wheel Balancing Mechanical Kit

The 2-Wheeler Balancing Mechanical Kit can handle all of your off road / all terrain needs! All of our Mechanical Kits are covered with a corrosion resistant coating. The 2-Wheeler requires minimum parts to create and easy to control!



- 100% Arduino Compatible
- Aerospace grade aluminum
- Corrosion resistant coating
- Includes MPU6050 Balancing Module included
- Everything you see in image is whats included – ASSEMBLY REQUIRED
- Operating voltage output : 9 volts ( x6 AA Batteries)
- 9v DC motors included
- Includes MPU6050 Balancing Module

Product Info	
Stock Code	2WBAL-01
Description	2-Wheel Balancing Mechanical Kit
Package Size	9" x 8.3" x 19"
UPC	667510001509

# Triangular Tank Mechanical Kit

The Triangular Tank Mechanical Kit can handle all of your off road / all terrain needs! All of our Mechanical Kits are covered with a corrosion resistant coating.



- 100% Arduino Compatible
- Aerospace grade aluminum & corrosion resistant coating
- Everything you see in image is whats included – ASSEMBLY REQUIRED
- Interchangeable parts for easy customization
- Optional tires / belt accessories for wheels
- Operating voltage output : 9 volts ( x6 AA Batteries)
- 100% compatible all OSEPP sensors
- High torque 9v DC motors included
- Suggested Accessories: OSEPP TB6612 Motor Driver and UNO Board
- THREE DIFFERENT CONFIGURATIONS: Triangular Tank, 90 Degree Triangular Tank and Extended Regular Tank

## Product Info

Stock Code	TRITANK-01
Description	Triangular Tank Mechanical Kit
Package Size	12" x 8.3" x 22.2"
UPC	667510001486

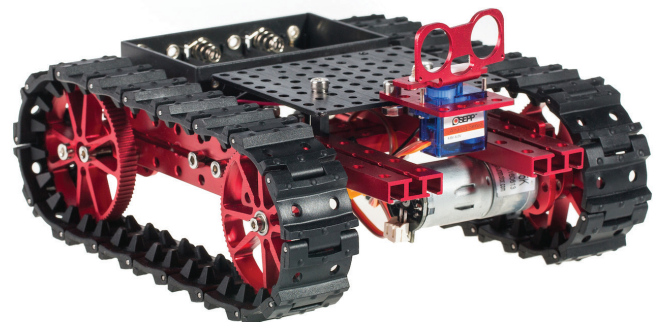
# Tank Mechanical Kit

Ideal frame work to start creating your robotic project. The Tank Robotics Mechanical Kit can handle all of your off road / all terrain needs! All of our mechanical parts are coated with an anodized finish to prevent from corroding. Enhance the Tank with our Functional Robotics Kit or select your own sensors and micro controller.

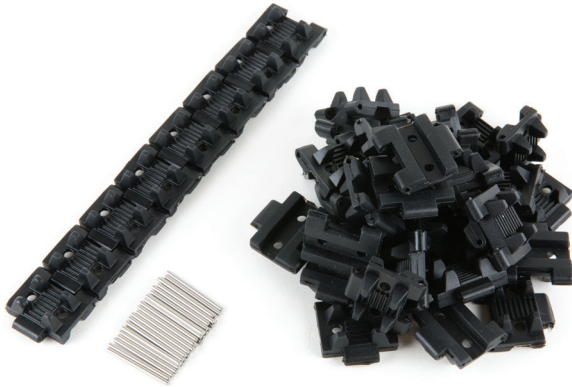
- 100% Arduino Compatible
- Aerospace grade anodized aluminum
- Corrosion resistant coating
- Everything you see in image is whats included – ASSEMBLY REQUIRED
- Optional tires / belt accessories for wheels
- Operating voltage output : 9 volts ( x6 AA Batteries)
- 100% compatible all OSEPP sensors
- 9v DC motors included
- Suggested Accessories: OSEPP TB6612 Motor Driver and UNO Board

## Product Info

Stock Code	TANK-01
Description	Tank Mechanical Kit
Package Size	12" x 8.3" x 19"
UPC	667510001493



# Tank Track Set with Axles (40 Pack)



High quality silicone track set for tank mobility projects. Tracks can be assembled into any length. Our silicone is high in tensile strength and elasticity making it extra durable. This is required in preventing the tracks from tearing.

Compatible with all OSEPP rims, LEGO Technic parts and MakeBlock tracks and wheels.

## Product Info

Stock Code	TRAKX40
Description	Tank Track Set with Axles (40 Pack)
Package Size	7" x 4"
UPC	667510001608

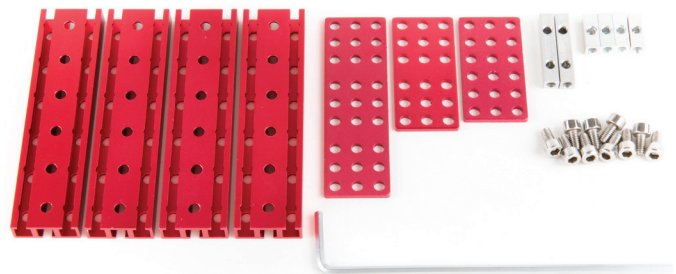
# Double Beam -06 Set

Double beams are some of the most commonly used parts when building projects. Our beams are made from high strength aluminum and anodised to protect them from corrosion. Not only are you getting the beams with our kit, you get all required parts to build many different configurations. It even comes with an allen key for your convenience.

Compatible with: OSEPP Mechanical Kits, LEGO Technic parts and MakeBlock.

Kit Content:

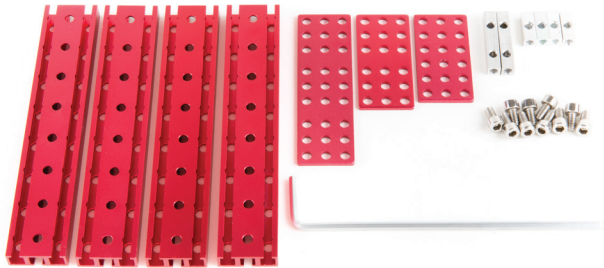
- 4 x Double Beam-06
- 4 x Beam Connectors
- 2 x Beam Connectors—long
- 1 x Plate A 3x6
- 1 x Plate B 3x6
- 1 x Plate B 3x9
- 10 x HEXM4\*8 Screws
- 1 X Allen Key



## Product Info

Stock Code	DB6WACC
Description	Double Beam -06 Set
Package Size	7" x 4"
UPC	667510001622

## Double Beam -08 Set



Double beams are some of the most commonly used parts when building projects. Our beams are made from high strength aluminum and anodised to protect them from corrosion. Not only are you getting the beams with our kit, you get all required parts to build many different configurations. It even comes with an allen key for your convenience.

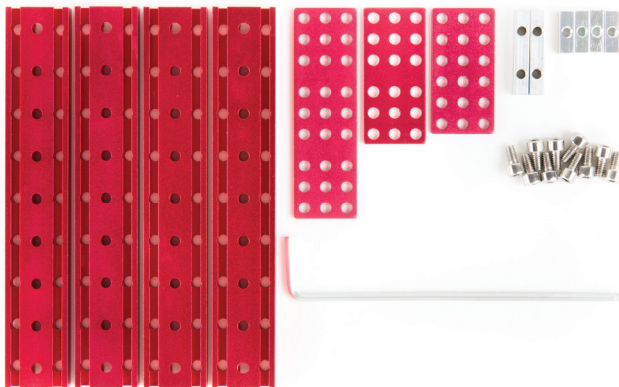
Compatible with: OSEPP Mechanical Kits, LEGO Technic parts and MakeBlock.

Kit Content:

- 4 x Double Beam-08
- 4 x Beam Connectors
- 2 x Beam Connectors—long
- 1 x Plate A 3x6
- 1 x Plate B 3x6
- 1 x Plate B 3x9
- 10 x HEXM4\*8 Screws
- 1 X Allen Key

Product Info	
Stock Code	DB8WACC
Description	Double Beam -08 Set
Package Size	7" x 4"
UPC	667510001585

## Double Beam -09 Set



Double beams are some of the most commonly used parts when building projects. Our beams are made from high strength aluminum and anodised to protect them from corrosion. Not only are you getting the beams with our kit, you get all required parts to build many different configurations. It even comes with an allen key for your convenience.

Compatible with: OSEPP Mechanical Kits, LEGO Technic parts and MakeBlock.

Kit Content:

- 4 x Double Beam-09
- 4 x Beam Connectors
- 2 x Beam Connectors—long
- 1 x Plate A 3x6
- 1 x Plate B 3x6
- 1 x Plate B 3x9
- 10 x HEXM4\*8 Screws
- 1 X Allen Key

Product Info	
Stock Code	DB9WACC
Description	Double Beam -09 Set
Package Size	7" x 4"
UPC	667510001615



# DC Motor-25 Wheel Kit



This kit is all about convenience. It has everything you need to have a motorized wheel assemble that is ready to be installed to your projects. All aluminum pieces (rim, motor bracket, terminal block) are extra strength and anodised to prevent corrosion.

Compatible with all OSEPP mechanical kits, LEGO Technic parts and MakeBlock parts and kits.

Kit Content:

- 1 x DC Motor-25mm w/ pcb
- 1 x DC Motor Bracket
- 1 x RIM-90T
- 1 x Shaft Connector
- 1 x Motor Cable
- 1 x Terminal Block
- 2 x HEXM4\*14
- 2 x Headless Screw M3\*10
- 2 x Flat Head Screw M3\*8
- 2 x Plastic Ring
- 1 x Tire

Product Info	
Stock Code	DC25WRIM
Description	DC Motor-25 Wheel Kit
Package Size	7" x 4"
UPC	667510001592

# RIM-90-T Kit

This rim set is made from high strength aluminum with an anodised coating to protect it from corrosion. We call this set a kit because it not only comes with two rims, it comes with everything you need to get it rolling (no pun intended). We've even included two high quality high grip silicone tires. For extra convenience, an allen key is also included.

Compatible with all OSEPP rims, LEGO Technic parts and MakeBlock tracks and wheels.

Kit Content:

- 2 x RIM-90T
- 2 x T-Shaft Connectors
- 4 x Flange Bearings
- 1 X Allen Key
- 2 x HEXM3\*6
- 2 X Nut M4
- 2 x Tires



Product Info	
Stock Code	RIMWACC
Description	RIM-90-T Kit
Package Size	7" x 4"
UPC	667510001639

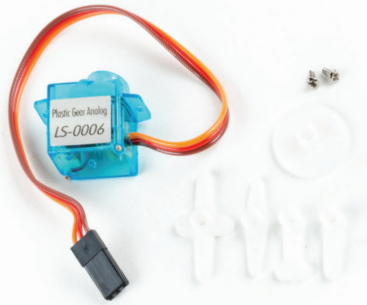


# Motors & Gears



Speed (sec/60°):	0.14 @6V, 0.12 @7.4V
Torque (Kg.cm):	0.5 @ 6V / 0.8 @ 7.4V
Size (mm):	19.8 x 8.4 x 21.3
Weight (g):	3.7

Product Info	
Stock Code	LS-S0307
Description	Plastic Analog (Small) Servo
Package Size	3.5" x 0.25" x 7"
UPC	667510001912



Speed (sec/60°):	0.12 @4.5V, 0.1@6V
Torque (Kg.cm):	1@4.5V, 1.2@6V
Size (mm):	21.5 x 11.8 x 22.7
Weight (g):	6

Product Info	
Stock Code	LS-0006
Description	Plastic Gear Analog (medium)
Package Size	3.5" x 0.5" x 7"
UPC	899262000206



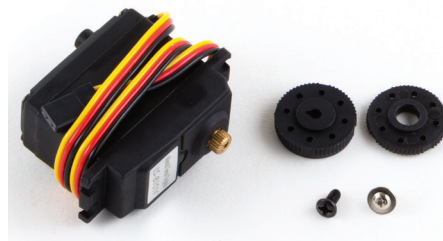
Speed (sec/60°):	0.14 @4.8V, 0.12@6V
Torque (Kg.cm):	6@4.8V, 6.5@6V
Size (mm):	40.8 x 20.1 x 38
Weight (g):	40

Product Info	
Stock Code	LS-3006
Description	Plastic Gear Analog Servo - 360
Package Size	3.5" x 0.8" x 7"
UPC	899262000244



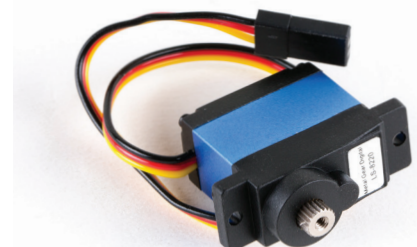
Speed (sec/60°):	0.1 @4.8V, 0.08@6V
Torque (Kg.cm):	1.3@4.8V, 1.5@6V
Size (mm):	22.3 x 11.8 x 26.3
Weight (g):	9

Product Info	
Stock Code	LS-0009AF
Description	Metal Gear Digital Servo
Package Size	3.5" x 0.5" x 7"
UPC	899262000213



Speed (sec/60°):	0.16 @6V, 0.14@7.2V
Torque (Kg.cm):	12.5@6V, 13@7.2V
Size (mm):	40.8 x 20.1 x 38
Weight (g):	58

Product Info	
Stock Code	LS-8101F
Description	Metal Gear Digital Servo - 360
Package Size	3.5" x 0.8" x 7"
UPC	899262000251



Speed (sec/60°):	1.5-3V 12000 RPM
Torque (Kg.cm):	1.2@4.8V, 1.5@6.0V
Size (mm):	22.9 x 12 x 25.4 mm
Weight (g):	13g

Product Info	
Stock Code	LS-S8220
Description	Metal Gear Digital Servo - 90
Package Size	3.5" x 0.5" x 7"
UPC	667510001868

# Motor & Gear



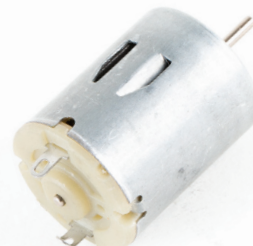
Speed (sec/60°):	5000-10000 RPM
Torque (Kg.cm):	N/A
Size (mm):	25 x 21mm
Weight (g):	19g

Product Info	
Stock Code	LS-00025
Description	R140 1.5-3V 10000 RPM Brushed DC Motor
Package Size	7" x 4" x 1"
UPC	667510001691



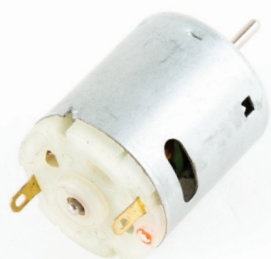
Speed (sec/60°):	8000-12000 RPM
Torque (Kg.cm):	N/A
Size (mm):	27 x 23.8 mm
Weight (g):	28g

Product Info	
Stock Code	LS-00026
Description	R260 3-6V 12000 RPM Brushed DC Motor
Package Size	7" x 4" x 1"
UPC	667510001707



Speed (sec/60°):	8000-12000 RPM
Torque (Kg.cm):	N/A
Size (mm):	30.5 x 23.8 mm
Weight (g):	42g

Product Info	
Stock Code	LS-00027
Description	R280 3-6V 12000 RPM Brushed DC Motor
Package Size	7" x 4" x 1"
UPC	667510001714



Speed (sec/60°):	8000-12000 RPM
Torque (Kg.cm):	N/A
Size (mm):	32.6 x 27.6 mm
Weight (g):	49g

Product Info	
Stock Code	LS-00028
Description	R360 3-9V 12000 RPM Brushed DC Motor
Package Size	7" x 4" x 1"
UPC	667510001721



Speed (sec/60°):	10000-15000 RPM
Torque (Kg.cm):	N/A
Size (mm):	50 x 35.8 mm
Weight (g):	160g

Product Info	
Stock Code	LS-00029
Description	R540 6-12V 15000 RPM Brushed DC Motor
Package Size	7" x 4" x 1"
UPC	667510001738



Speed (sec/60°):	220 RPM
Torque (Kg.cm):	N/A
Size (mm):	N/A
Weight (g):	N/A

Product Info	
Stock Code	LS-00041
Description	High Torque Motor - 220rpm@6V
Package Size	7" x 4" x 1"
UPC	667510001851

# Motor & Gear



Speed (sec/60°):	1.5-3V 12000 RPM
Torque (Kg.cm):	N/A
Size (mm):	25 x 20.1 x 15.1 mm
Weight (g):	17g

Product Info	
Stock Code	LS-00024
Description	F130 1.5-3V 12000 RPM Brushed DC Motor
Package Size	7" x 4" x 1"
UPC	667510001684



Speed (sec/60°):	118 RMP
Torque (Kg.cm):	N/A
Size (mm):	50 x 40 x 30 mm
Weight (g):	N/A

Product Info	
Stock Code	LS-00038
Description	C3 Gear Box A - 118rpm@3V
Package Size	7" x 4" x 1"
UPC	667510001820



Speed (sec/60°):	300 RMP
Torque (Kg.cm):	N/A
Size (mm):	40 x 40 x 15 mm
Weight (g):	N/A

Product Info	
Stock Code	LS-00039
Description	301 Gear Box B - 300rpm@3V
Package Size	7" x 4" x 1"
UPC	667510001837



Assorted plastic gear set suitable for hobby, models, science and other projects.

Qty. 20pcs  
Modulus 0.5  
Bore Diameter 1.9mm  
For 2mm shaft

Product Info	
Stock Code	LS-00021
Description	Assorted Plastic Pinion Gear Set
Package Size	7" x 4" x 1"
UPC	667510001653



Assorted plastic gear set suitable for hobby, models, science and other projects.

Qty. 20pcs  
Modulus 0.5  
Bore Diameter 2.05mm  
For 2mm shaft

Product Info	
Stock Code	LS-00022
Description	Assorted Plastic Twin Gear Set
Package Size	7" x 4" x 1"
UPC	667510001660

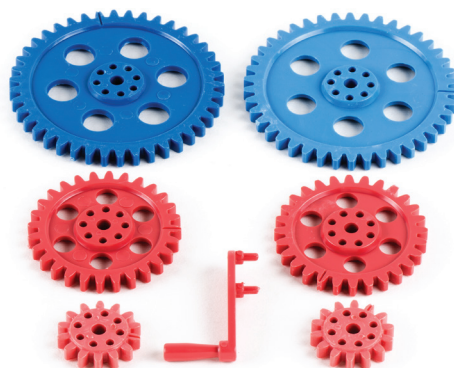


Suitable for hobby, models, science and other projects.

Modulus 0.5  
Bore Diameter 1.9mm/ 2.05mm  
For 2mm shaft

Product Info	
Stock Code	LS-00023
Description	Assorted Plastic Gear Set
Package Size	7" x 4" x 1"
UPC	667510001677

# Motor & Gear



Includes:

- \* 2 x 42T
- \* 2 x 28T
- \* 2 x 14T
- \* 1 x Crank Handle
- \*\* 5mm bore diameter

## Product Info

Stock Code	LS-00040
Description	Large Plastic Gear Set (7 pcs)
Package Size	7" x 4" x 1"
UPC	667510001844

Suitable for hobby, models, science and other projects.

- Comparable to Servocity # 31311S20
- Voltage Range: 4.8 – 7.2 Volts
- Stall Torque (6.0V): 4.1 kg.cm
- SStall Torque (4.8V): 3.2kg.cm
- JR Wire Configuration
- No-load Speed (6.0V / 4.8V): 0.19sec/60° / 0.23sec/60°
- Dimensions: 40.8\*20.1\*38mm
- Weight: 44g
- Rotation: Continuous
- Output Shaft Style: 25 tooth spline



## Product Info

Stock Code	LS-5010CR
Description	OSEPP - 5010CR ECON Servo - 360 (Comparable to ServoCity# 31311S20)
Package Size	7" x 4" x 1"
UPC	667510002490

Suitable for hobby, models, science and other projects.

- Comparable to Servocity # 31311S00
- Voltage Range: 4.8 – 7.2 Volts
- Stall Torque (6.0V): 4.1 kg.cm
- SStall Torque (4.8V): 3.2kg.cm
- JR Wire Configuration
- No-load Speed (6.0V / 4.8V): 0.19sec/60° / 0.23sec/60°
- Dimensions: 40.8\*20.1\*38mm
- Weight: 44g
- Rotation: 180° degrees
- Output Shaft Style: 25 tooth spline



## Product Info

Stock Code	LS-5010SR
Description	OSEPP - 5010SR ECON Servo - 180 (Comparable to ServoCity# 31311S00)
Package Size	7" x 4" x 1"
UPC	667510002483



# Motor & Gear



Suitable for hobby, models, science and other projects.

- Comparable to Servocity # 33485S20
- Voltage Range: 4.8 – 7.2 Volts
- Stall Torque (6.0V): 11 kg.cm
- Stall Torque (4.8V): 9.4kg.cm
- JR Wire Configuration
- No-load Speed (6.0V / 4.8V): 0.14sec/60° / 0.17sec/60°
- Dimensions: 40.8 \*20.1\*38mm
- Weight: 56g
- Rotation: 360° degrees
- Output Shaft Style: 25 tooth spline

Product Info	
Stock Code	LS-955CR
Description	OSEPP - 955CR High Torque Metal Gear Servo - 360, Comparable to ServoCity # 33485S20
Package Size	7" x 4" x 1"
UPC	667510002506



Suitable for hobby, models, science and other projects.

- Comparable to Servocity # 3348S00
- Voltage Range: 4.8 – 7.2 Volts
- Stall Torque (6.0V): 11 kg.cm
- Stall Torque (4.8V): 9.4kg.cm
- JR Wire Configuration
- No-load Speed (6.0V / 4.8V): 0.14sec/60° / 0.17sec/60°
- Dimensions: 40.8 \*20.1\*38mm
- Weight: 56g
- Rotation: 180° degrees
- Output Shaft Style: 25 tooth spline

Product Info	
Stock Code	LS-955SR
Description	OSEPP - 955SR High Torque Metal Gear Servo - 180, Comparable to ServoCity # 3348S00
Package Size	7" x 4" x 1"
UPC	667510002513



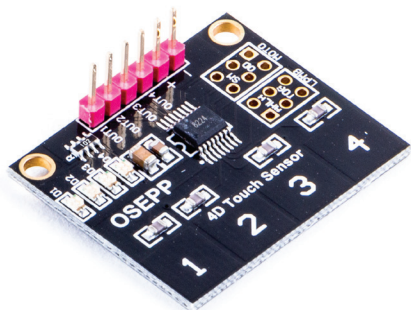
## ***SENSOR MODULES***

One of our main focuses is to provide the largest sensor selection in the market. This is a tall order but we plan on adding 20 new sensors a year!

We do sell some sensor components but you will notice that the majority of our sensors are designed as a module. This simplifies the learning process by taking out the need for breadboards and buying individual components.

OSEPP sensors are 100% Arduino compatible. This includes any boards in the market. Whether you're creating an environmentally aware quadcopter to a spatially aware robot, our sensors are fully compatible.

## 4-Digit Touch Sensor Module



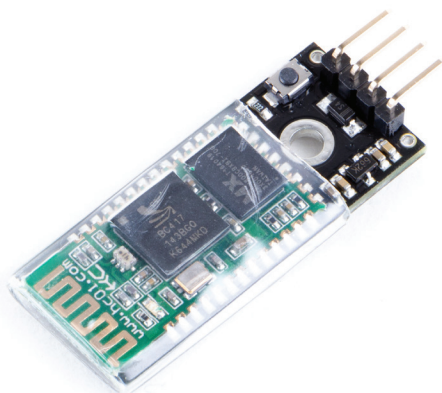
The touch sensor can detect when a person's body conductivity touches a pad.

- Operating voltage: 2.45v - 5.5v MAX
- Indicator LEDs on touch
- Capacitive touch
- Digital input

### Product Info

Stock Code	4DTOUCH-01
Description	4-Digit Touch Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001363

## HC-06 Bluetooth Module



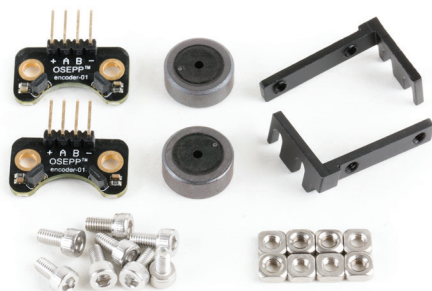
The HC-06 Bluetooth module is the simplest way to add bluetooth communication to your next Arduino project! Allow your projects to wirelessly communicate with each other! Whether you're looking to control an Arduino with a smart phone, or pair multiple Arduinos to each other, this is the module for the job!

- 100% Arduino Compatible
- Operating voltage: 3.3V – 5V MAX (suggested 3.3 volts)
- HC-06 Bluetooth Module
- Build-in 2.4GHz antenna
- Wirelessly control your Arduino

### Product Info

Stock Code	BTM-01
Description	HC-06 Bluetooth Module
Package Size	5" x 4" x 1"
UPC	667510001561

## Motor Encoder (set of 2)



The encoder modules are great for adding precise position sensing capabilities. The encoder has a 11-pole circumference and two A3144 hall effect sensors. You can attach the encoder to any number of 25mm equivalent motors. Ideal for making your own two-wheel balancing robots.

- 4.5 – 24 Volt operation
- 11 pole encoder
- Two solid state 3144 Hall effect sensors
- 100% Arduino compatible
- Designed for 25mm DC motors

### Product Info

Stock Code	ENC-01
Description	Motor Encoder (set of 2)
Package Size	5" x 4" x 1"
UPC	667510001530

Package Content:

2 x Motor Encoders, 2 x Metal mounts (for 25mm motors), 2 x Magnets

# Color Sensor Module



A complete color detector, including a TSC3200 RGB sensor chip and 4 white LEDs. Detects and measures a wide range of visible colors. Applications include color sorting, color matching, and ambient light sensing.

- Power: (2.7V to 5.5V)
- Interface: Digital TTL
- High-Resolution Conversion of Light Intensity to Frequency
- Programmable Color and Full-Scale Output Frequency
- Power Down Feature
- Communicates Directly to Microcontroller

## Product Info

Stock Code	COLOR-01
Description	OSEPP Color Sensor Module
Package Size	5" x 7.5" x 1"
UPC	667510001103

# Compass Sensor Module

The OSEPP Compass Sensor Module is a 3-axis digital compass for low-field magnetic sensing. It utilizes the Honeywell HMC5883L state-of-the-art high resolution magneto-resistive sensors, an ASIC containing amplification, automatic degaussing strap drivers, offset cancellation, and a 12-bit ADC that enables a compass heading accuracy to within 1-2 degrees.

The module uses the I<sup>2</sup>C interface for data communication. The I<sup>2</sup>C lines are packaged with the power and ground lines into a modular connector, which allows easy plug and play operation. There are two connectors on the module to enable daisy chaining of multiple I<sup>2</sup>C devices together.

The OSEPP Compass Sensor Module is ideal for applications that require the measurement of both the direction and the magnitude of Earth's magnetic field, from milligauss to 8 gauss.

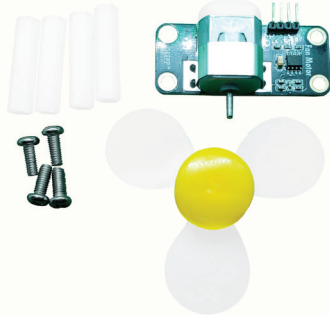
- Plug and play with OSEPP I<sup>2</sup>C Expansion Shield
- 12-Bit ADC with 2 milligauss field resolution in +/- 8 gauss field to enable 1-2 degree compass heading accuracy
- Fast 160 Hz maximum output rate
- Low power consumption
- Supports I<sup>2</sup>C interfacing with 7-bit address of 0x1E
- Provides pass-through connector to support daisy chaining of multiple sensors from the OSEPP Sensor Module family
- Provides 0.1" breakout points for power and I<sup>2</sup>C interface pins access



## Product Info

Stock Code	COMP-01
Description	OSEPP Compass Sensor
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000107

## Fan Motor Module



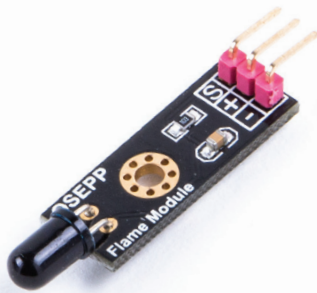
The fan motor controller board allows speed and direction control of a low power DC motor. 100% Arduino Compatible.

- Operating voltage output: 3V – 6V MAX
- Speed (no load): 15000 rpm
- Speed (6V): 8000 rpm
- Current (6V): 40mA
- Stall current (6V): 360mA
- Torque (6V): 0.111kg/cm

### Product Info

Stock Code	FAN-01
Description	Fan Motor Module
Package Size	5" x 4" x 1"
UPC	667510001370

## Flame Sensor Module



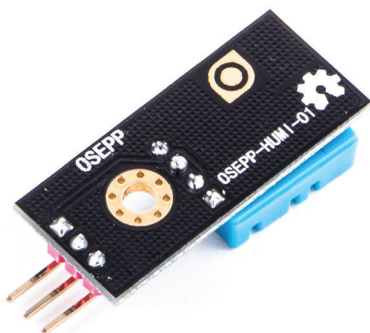
Use to detect variations in light wavelength (such as fire flame detection) in the range of 760nm - 1100 nm.

- 100% Arduino Compatible
- Operating voltage: 4.75V – 5V MAX
- Working current: 20 mA
- Spectral bandwidth range: 760 - 1100 nm.
- Detection range 0-1 m
- -25 ~ 85 degrees Celsius.

### Product Info

Stock Code	FLAME-01
Description	Flame Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001226

## Humidity & Temperature Sensor Module



Humidity and temperature sensor module that easily connects to Arduino microcontrollers. Pre calibrated at factory for precision measurements.

- 100% Arduino Compatible
- 3 pin outs: GRD (-) VCC (+) S – Signal
- 20 meter signal transmission
- Power supply voltage: 5V
- Temperature Range: 0-50°C
- Temperature Accuracy: +/- 2°C
- Humidity Range: 20-90%RH
- Humidity Accuracy: +/- 5%RH

### Product Info

Stock Code	HUMI-01
Description	OSEPP Humidity & Temperature Sensor Module
Package Size	5" x 7.5" x 1"
UPC	667510001097

## Joystick Module



The two axis joystick is equipped with independent potentiometers (one per axis) for analog reference. The joystick module comes equipped with headers to easily connect to a breadboard for rapid prototyping.

- 100% Arduino Compatible
- Operating voltage output 3.3V – 5V MAX
- Analog input
- Two 10K potentiometers with common ground per axis

Product Info	
Stock Code	JOY-01
Description	Joystick Module
Package Size	5" x 4" x 1"
UPC	667510001448

## Line Follower Array

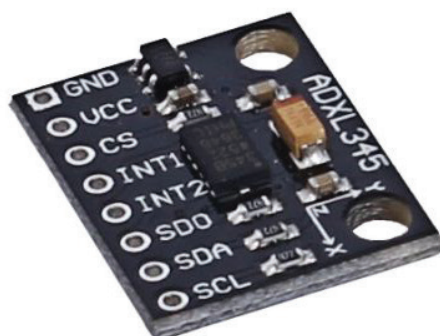


The Line Follower Array module is perfect for robotic navigation applications. The module features five reflective optical sensors used to accurately track black surfaces from white.

- 100% Arduino Compatible
- five reflective optical sensor (TCRT5000)
- 5v input logic
- five digital input pins for each optical sensor
- Provides 0.1" breakout points for power and I<sup>2</sup>C interface pins access

Product Info	
Stock Code	LINE-02
Description	Line Follower Array
Package Size	5" x 7.5" x 1"
UPC	667510001554

## Accelerometer ADXL345 3-axis MEMS w/13 bit resolution



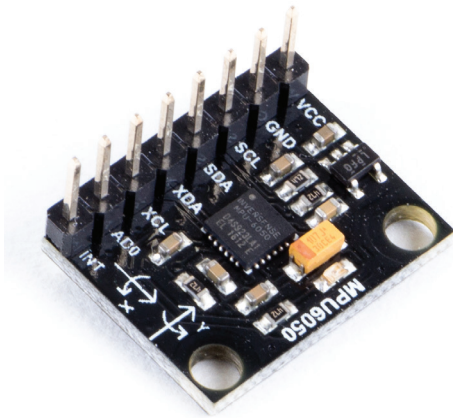
The OSEPP ADXL345 is a 3-axis MEMS accelerometer with 13-bit resolution measurement at up to  $\pm 16$  g. Digital output data is formatted as 16-bit twos complement and is accessible through either an SPI (3 or 4-wire) or I<sup>2</sup>C digital interface.

- 100% Arduino Compatible
- 3 axis MEMS Accelerometer 13 bit resolution

Product Info	
Stock Code	ACCEL-02
Description	Accelerometer, ADXL345 3-axis MEMS w/ 13 bit resolution.
Package Size	5.25" x 8.5" x 0.5"
UPC	667510001424



## Accelerometer & Gyro Breakout (Balancing Module)



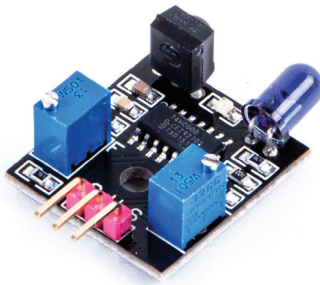
The MPU6050 Balancing Module is a 6-axis motion tracking device that combines a 3-axis gyroscope, 3-axis accelerometer, and a Digital Motion Processor (DMP) which allows Motion Processing and gesture recognition algorithms. Ideal for making your own 2-wheeler balancing robot.

- VDD supply voltage 3-16v MAX
- VLOGIC 3.3v to VDD
- I2C serial interface
- internal Digital Motion Processing engine supports 3D motion / gesture recognition algorithms
- 3-axis gyroscope, 3-axis accelerometer in one package
- 16-bit ADC for simultaneous sampling of accelerometers and gyros
- 100% Arduino compatible

### Product Info

Stock Code	BAL-01
Description	Accelerometer & Gyro Breakout (Balancing Module)
Package Size	5" x 4" x 1"
UPC	667510001547

## IR Detector Module



Obstacle avoidance module. Detects when objects are within the calibrated range.

- 100% Arduino Compatible
- 3 pin outs:
  - G – Ground
  - V – 5V
  - S – Signal

### Product Info

Stock Code	IRDET-01
Description	IR Detector Module
Package Size	5" x 7.5" x 1"
UPC	667510001035

## IR Follower Module



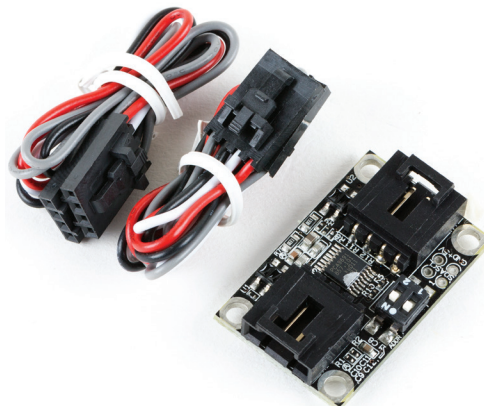
Consists of 6 IR diodes. This IR Follower module can be used to sense infrared light as a way to guide your Arduino project.

- 100% Arduino Compatible
- Can be used to build a light following robot
- 6 analog pins and power pins

### Product Info

Stock Code	IRFOL-01
Description	IR Follower Module
Package Size	5" x 7.5" x 1"
UPC	667510001066

## IR Line Sensor Module



The OSEPP IR Line Sensor Module differentiates the reflections between dark and light surfaces. It utilizes the Fairchild QRE1113GR miniature reflective object sensor and the NXP PCA9691 A/D converter. The 8-bit A/D converter digitalizes the sensor output. The sensor operates by emitting an IR signal via an LED, and then measuring the amount of reflection to determine the blackness of the surface.

The module uses the I<sup>2</sup>C interface for data communication. The I<sup>2</sup>C lines are packaged with the power and ground lines into a modular connector, which allows easy plug and play operation. There are two connectors on the module to enable daisy chaining of multiple I<sup>2</sup>C devices together. This sensor module is ideal for designs that required to track black line on a white surface (or vice versa), such as in a line-following robot, or used to detect the outer perimeters of a competition ring.

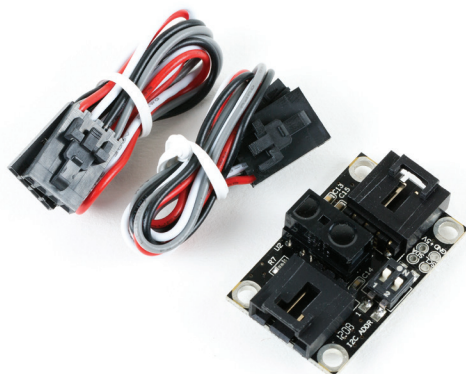
### Product Info

Stock Code	LINE-01
Description	OSEPP IR Line Sensor
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000145

## IR Proximity Sensor Module

The OSEPP IR Proximity Sensor Module measures distances. It utilizes the Sharp GP2Y0D805Z0F measuring sensor unit which is composed of an integrated combination of photo diode, infrared emitting diode and a signal processor. The digital value from the proximity sensor is read out on the I<sup>2</sup>C bus.

The module uses the I<sup>2</sup>C interface for data communication. The I<sup>2</sup>C lines are packaged with the power and ground lines into a modular connector, which allows easy plug and play operation. There are two connectors on the module to enable daisy chaining of multiple I<sup>2</sup>C devices together. This sensor module is ideal for designs that need to detect objects within a certain range or designs that need to avoid obstacles. It can also be used as a touchless switch.



- Plug and play with OSEPP I<sup>2</sup>C Expansion Shield
- Detection range of 0.5 – 5.0 cm
- Supports I<sup>2</sup>C interfacing with 4 programmable 7-bit address (0x20, 0x22, 0x24, 0x26) to allow up to 4 OSEPP IR Proximity Sensor module to exist on the same I<sup>2</sup>C bus
- Provides pass-through connector to support daisy chaining of multiple sensors from the OSEPP Sensor Module family
- Provides 0.1" breakout points for power and I<sup>2</sup>C interface pins access

### Product Info

Stock Code	PROX-01
Description	OSEPP IR Proximity Sensor
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000121

# IR Receiver Module W/ REMOTE

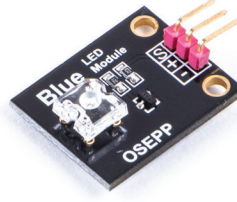
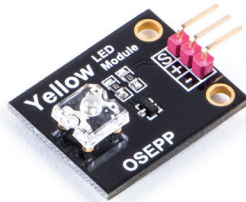
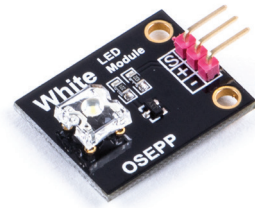
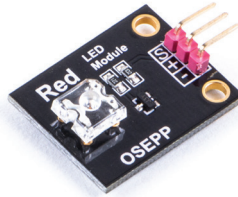
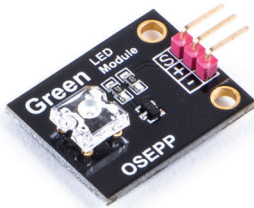


Wirelessly control your Arduino project with the IR Remote and IR Receiver Module.

- 100% Arduino Compatible
- 3 pin outs:
- G (GRD)
- V (VCC)
- S (Signal)
- 3-5 V operating range
- Operates at a frequency of 38khz

Product Info	
Stock Code	IRREC-02
Description	IR Receiver Module W/ REMOTE
Package Size	5" x 7.5" x 1"
UPC	667510001523

## LED Modules

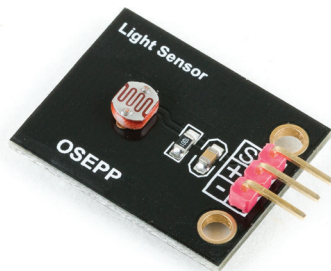


Product Info			
Stock Code	Description	Package Size	UPC
LEDBL-01	LED Module - BLUE	5" x 4" x 1"	667510001240
LEDGN-01	LED Module - GREEN	5" x 4" x 1"	667510001257
LEDWH-01	LED Module - WHITE	5" x 4" x 1"	667510001288
LEDYL-01	LED Module - YELLOW	5" x 4" x 1"	667510001295
LEDRD-01	LED Module - RED	5" x 4" x 1"	667510001271
LEDMX-01	LED Modules Mixed pack (one each of red, yellow, blue, white, and green)	5" x 4" x 1"	667510001264

The LED module allows easy plug and play configuration to your Arduino's I/O lines. The LED can be controlled through a PWM signal or a digital high/low output.

- 100% Arduino Compatible
- Operating voltage input : 5V (regulated)
- Digital/pulse width modulation output
- 25 mA operating voltage rating

## Light Sensor Module



Photoelectric sensor used to detect ambient light. Can be used to detect light intensity in numerous home automation/industrial applications.

Easily connect breakout board to Arduino.

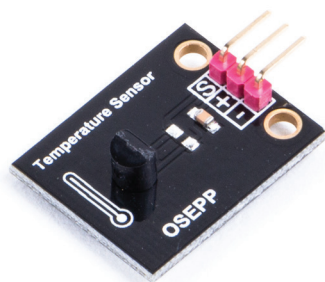
3 pin outs: GRD (-) VCC (+) S (Signal)

- Suitable supply voltage: +3 to 5Vdc
- Analog voltage output: 0 to 5Vdc
- Detects ambient light density
- Works with CdsPhotoresistor
- Interface with microcontrollers and logic circuits
- Analog sensors
- Uses PH 2.0 socket
- Special sensor with Arduino expansion boards

### Product Info

Stock Code	LIGHT-01
Description	OSEPP Light Sensor Module
Package Size	5" x 7.5" x 1"
UPC	667510001127

## LM35 Temperature Sensor Module



LM35 Temperature sensor uses the LM35 integrated circuit. Can be used in numerous weather detection applications for home automation / weather monitoring. Breakout board format allows for easy interfacing with Arduino.

3 Pin Outs: GRD (-) VCC (+) S-Signal

Rated for Full - 55°C to + 150°C Range

- Calibrated directly in ° Celsius (Centigrade)
- Linear + 10 mV/°C Scale Factor
- 0.5°C Ensure accuracy (at +25°C)
- Suitable for remote applications
- Low cost due to wafer-level trimming
- Operates from 4 to 30V
- Less than 60-

### Product Info

Stock Code	TEMP-01
Description	OSEPP LM35 Temperature Sensor Module
Package Size	5" x 7.5" x 1"
UPC	667510001134

## MQ-3 Alcohol Gas Sensor Module



The alcohol gas sensor can detect a range of different gases such as LPG, i-butane, methane, alcohol, Hydrogen, smoke and more.

- 100% Arduino Compatible
- Operating voltage input : 4.9-5v
- Analog input
- Heating consumption: 0.5-800mW
- Operating Temperature: -25~70°C

### Product Info

Stock Code	AGAS-01
Description	MQ-3 Alcohol Gas Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001356

# Passive Infrared Sensor (PIR) Module



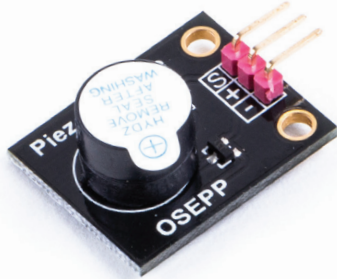
The Passive Infrared sensor detects changes in motion within its environment. 100% Arduino Compatible.

- Operating voltage 5V-12V
- Digital input sensor
- Detect variations in motion

## Product Info

Stock Code	PIR-01
Description	Passive Infrared Sensor (PIR) Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001394

# Piezo Sensor Module



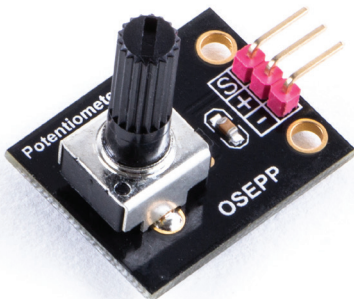
The Piezo sensor acts both as an output buzzer device and an input device measuring sound pressure.

- Wide supply voltage range: 3.3V to 5V
- Digital output buzzer
- Analog input sound pressure sensor

## Product Info

Stock Code	PIEZO-01
Description	Piezo Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001301

# Potentiometer Module



The potentiometer module is able to adjust and read variations in voltage.

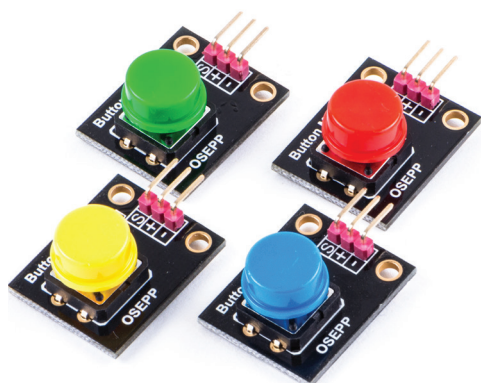
- 100% Arduino Compatible
- 360 degree rotation angle (non continuous)
- Analog reading of voltage
- Operating voltage 3.3V-5V

## Product Info

Stock Code	POTEN-01
Description	Potentiometer Module
Package Size	5" x 4" x 1"
UPC	667510001318



## Push Button Module



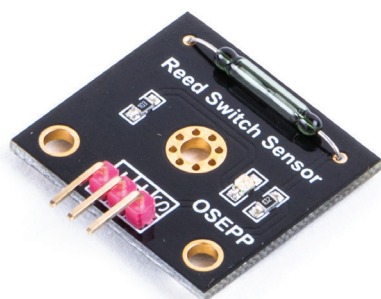
The push button module allows detection in states of high or low from the onboard momentary push button.

- 100% Arduino Compatible
- Operating voltage output : 3.3V – 5V MAX
- Digital input
- Plug and play configuration

### Product Info

Stock Code	PUSH-04
Description	Push Button Module
Package Size	5" x 4" x 1"
UPC	667510001325

## Reed Switch Sensor Module



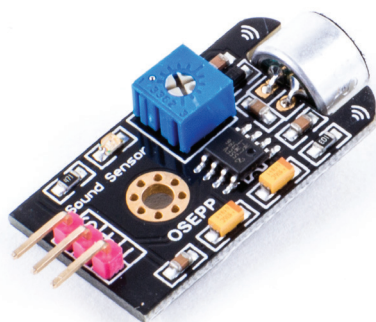
The Reed Switch module acts as a SPST (Single Pull Single Throw) switch. The reed switch state is triggered high or low based on the proximity of a magnet.

- 100% Arduino Compatible
- 10W rating
- Operating voltage 4.5V - 5.25V (5V typical)
- 500 mA rating
- Digital input device

### Product Info

Stock Code	REED-01
Description	Reed Switch Module
Package Size	5" x 4" x 1"
UPC	667510001332

## Sound Sensor Module



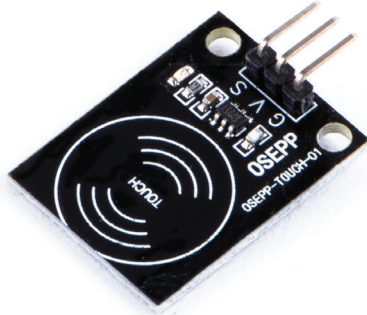
The sound sensor is the perfect sensor to detect environmental variations in noise.

- 100% Arduino Compatible
- Wide supply voltage range: 3v-5V
- 4mA current drain
- Analog voltage measurement through SIG pin
- Frequency range: 10 ~ 55 Hz

### Product Info

Stock Code	SOUND-01
Description	Sound Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001387

## Touch Sensor Module



Easy breakout to connect to Arduino. Detects body capacitive touch, outputting analog voltage.

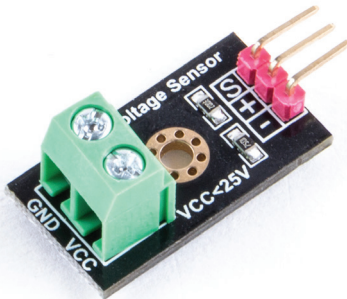
3 pin outs:

G (GRD)  
V (VCC)  
S (Signal)

- 3-5 V operating range
- 5 mA minimum current requirement.
- Capacitive touch detection

Product Info	
Stock Code	TOUCH-01
Description	OSEPP Touch Sensor Module
Package Size	5" x 7.5" x 1"
UPC	667510001110

## Voltage Sensor Module

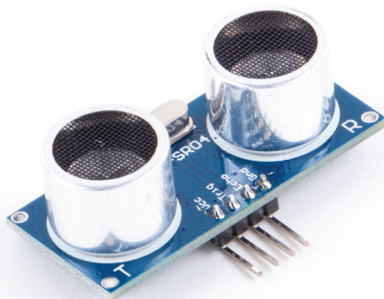


The voltage sensor can detect the supply voltage from 0.0245V to 25V.

- 100% Arduino Compatible
- Operating voltage output : 3.3V – 5V MAX
- Input voltage range 0.0245V ~ 25V MAX
- Analog input

Product Info	
Stock Code	VOLT-01
Description	Voltage Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001349

## Ultrasonic Sensor Module

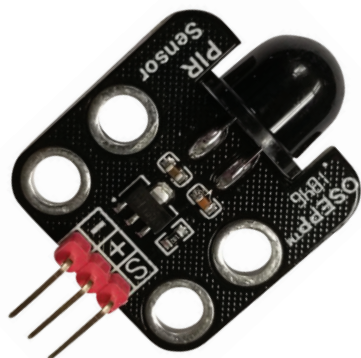


An ultrasonic transmitter and receiver sensor all in one.

- Operating Voltage: 5V
- Working Current: 15 mA
- Distance Range: 2cm to 400cm
- 100% Arduino Compatible

Product Info	
Stock Code	HC-SR04
Description	Ultrasonic Sensor Module
Package Size	5" x 4" x 1"
UPC	667510001219

# Passive Infrared Sensor (PIR) Sensor Module, added mounting holes on PCB



The Passive Infrared sensor detects changes in motion within its environment. 100% Arduino Compatible.

This newer versions comes with mounting holes on the PCB for ease of attachment to you projects.

- Operating voltage 5V-12V
- Digital input sensor
- Detect variations in motion

Product Info	
Stock Code	PIR-02
Description	Passive Infrared Sensor (PIR) Sensor Module, added mounting holes on PCB
Package Size	5" x 4" x 1"
UPC	667510002957

## PING Ultrasonic

This is an improved version over conventional ultrasonic sensors. It offers better quality, range, and sensivity making it ideal for robotic projects.



- Operating voltage 5V
- Working current: 15mA
- Range: 3cm to 4m
- 2.54mm breakout pins
- 16mm interval M4 mounting holes, compatible with OSEPP and Makeblock beams

Product Info	
Stock Code	ULTRA-01
Description	PING Ultrasonic
Package Size	5.25" x 8.5" x 0.5"
UPC	667510002940

***ACCESSORIES***

## F/F Premium Jumpers – 6"



These 6" long jumpers have female connectors on both ends. The connectors fit nicely with the headers on your Arduino and Arduino compatible board as well as any standard 0.025" square pin header. Use with our 6" M/M Premium Jumpers to create a male to female jumper. Multiple jumpers can be installed next to one another on a 0.1" header.

- 2AWG, UL1007
- 6" long v
- Mates with 0.025" (0.635mm) pin
- Red, Black, White, Grey and Blue
- Temperature Range: 14F (-10C) to 176F (80C)

Product Info	
Stock Code	LS-FFPJ-06
Description	6" F/F Premium Jumpers, 10 of each color (red, black, white, grey, blue)
Package Size	7" x 4"
UPC	899262000398

## M/F Premium Jumpers – 6"



- 2AWG,
- 6" long
- Mates with 0.025" (0.635mm) pin
- 0.1" header size (breadboard friendly)
- Red, Black, White, Grey, and Blue
- Temperature Range (UL 1007): -10C / 14F to 80C / 176F

Product Info	
Stock Code	LS-MFPJ-06
Description	6" M/F Premium Jumpers, 10 of each color (red, black, white, grey, blue)
Package Size	7" x 4"
UPC	899262000084

## M/M Premium Jumpers – 6"



These jumpers are a huge time saver. The 0.025" square pin size fits nice and snug to the sockets on your Arduino and Arduino Compatible board as well as any standard breadboards. The five different colors help you organize your circuit wiring and minimize connection error. Multiple jumpers can be installed next to one another on a 0.1" socket.

- 2AWG, UL1007
- 6" long
- Mates with 0.025" (0.635mm) pin
- Red, Black, White, Grey and Blue
- Temperature Range: 14F (-10C) to 176F (80C)

Product Info	
Stock Code	LS-MMPJ-06
Description	6" M/M Premium Jumpers, 10 of each color (red, black, white, grey, blue)
Package Size	7" x 4"
UPC	899262000596



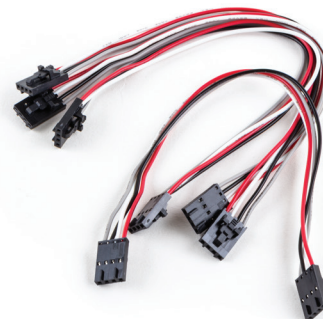
## 4-Pin I2C Connector F/F – 8"



- Length: 205mm +/- 5mm
- Connector: 4-pin 2.54mm pitch
- Wire: UL1007 -24AWG
- Pin mapping: straight through

Product Info	
Stock Code	FFI2C-01
Description	F/F 4-Pin I2C Connector - 4 pack
Package Size	5" x 4" x 1"
UPC	667510001165

## 4-Pin I2C Connector M/F – 8"



- Length: 205mm +/- 5mm
- Connector: 4-pin 2.54mm pitch
- Wire: UL1007 -24AWG
- Pin mapping: straight through

Product Info	
Stock Code	MFI2C-01
Description	M/F 4-Pin I2C Connector - 4 pack
Package Size	5" x 4" x 1"
UPC	667510001158

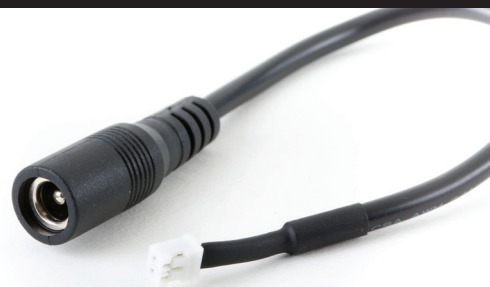
## 4-Pin I2C Connector M/M – 8"



- Length: 205mm +/- 5mm
- Connector: 4-pin 2.54mm pitch
- Wire: UL1571 -24AWG
- Pin mapping: straight through

Product Info	
Stock Code	LS-CAB4P-08
Description	4-Pin/I2C Connector, 8" cable (4 pack)
Package Size	~ 4" x 4"
UPC	899262000183

## Barrel Jack to 2-pin JST



- Use to adapt from a wall power supply to SMD JST connector
- Ideal for battery charging
- 5.5 x 2.1mm barrel jack to 2-pin JST connector
- 7.9 inch long jumper cable

Product Info	
Stock Code	LS-00012
Description	Barrel Jack to 2-pin JST
Package Size	7" x 4"
UPC	899262000039

## USB Barrel Jack Adapter



Allows user to pull 5 Volts of power from the USB port on computer, laptop, or car cigarette power supply to power an Arduino or other development board

- USB port to a 5.5 x 2.1mm center positive barrel jack
- 3' long cable
- 24 AWG Wire Cable

### Product Info

Stock Code	LS-00011
Description	USB Barrel Jack Adapter
Package Size	7" x 4"
UPC	899262000022

## Battery Holder



- 4 cell AA battery holder
- Standard 5.5 x 2.1mm center positive barrel jack
- Approximate output of 5.5V from normal alkaline batteries.
- Perfect for Arduino or Arduino Compatible boards
- 7.0" cable

### Product Info

Stock Code	LS-00013
Description	Battery Holder
Package Size	7" x 4"
UPC	899262000046

## 3 Pin Jumper Cable



Three wire cable that is great for jumping from board to board or just about anything else. Perfect for 3 pin out sensors. There is a 3-pin JST RE connector on both ends. Standard 0.1" pitch.

- Gauge 26 AWG
- Length - 18cm
- 3 pin wire - Black/Red/White

### Product Info

Stock Code	3PIN-01
Description	3 Pin Jumper Cable - 10 pack
Package Size	5" x 4" x 1"
UPC	667510001141

## DC Barrel Jack Adapter – Female



- Barrel jack to bare wires using screw terminal
- 5.5 x 2.1 mm center-positive femal barrel jack
- Ideal for connecting power supply with barrel jack to breadboard

### Product Info

Stock Code	LS-00015
Description	DC Barrel Jack Adapter - Female (2 pack)
Package Size	7" x 4"
UPC	899262000060

## DC Barrel Jack Adapter – Male

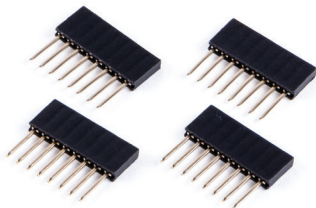


- Barrel jack to bare wires using screw terminal
- 5.5 x 2.1 mm center-positive male barrel jack
- Ideal for connecting bare wires to an Arduino or a development board

### Product Info

Stock Code	LS-00014
Description	DC Barrel Jack Adapter - Male (2 pack)
Package Size	7" x 4"
UPC	899262000053

## Arduino Stackable Header – 8 pin

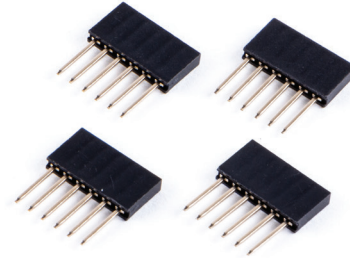


- 8 Pin female header with extra long legs
- Great for stacking Arduino or OSEPP Shields
- Pins are spaced by standard 0.1"

### Product Info

Stock Code	LS-00008
Description	Arduino Stackable Headers - 8 pin (4 pack)
Package Size	7" x 4"
UPC	8992620000565

## Arduino Stackable Header – 6 pin

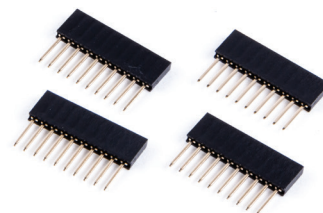


- 6 Pin female header with extra long legs
- Great for stacking Arduino or OSEPP Shields
- Pins are spaced by standard 0.1"

### Product Info

Stock Code	LS-00007
Description	Arduino Stackable Header - 6 pin (4 pack)
Package Size	7" x 4"
UPC	8992620000541

## Arduino Stackable Header – 10 pin

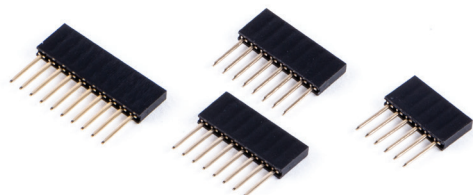


- 10 Pin female header with extra long legs
- Great for stacking Arduino or OSEPP Shields
- Pins are spaced by standard 0.1"

### Product Info

Stock Code	LS-00009
Description	Arduino Stackable Header - 10 pin (4 pack)
Package Size	7" x 4"
UPC	8992620000008

## Arduino Stackable Header Kit



- Made for Arduino Uno R3 or OSEPP Uno R3 Plus or other similar boards
- Perfect height clearance for USB-B connector
- Includes 4 headers needed to stack a shield

Product Info	
Stock Code	LS-00010
Description	Arduino Stackable Header Kit (1 x 6pin, 2 x 8 pin, 1 x 10 pin)
Package Size	7" x 4"
UPC	899262000015

## Break Away Headers – Straight



- Break or cut to fit
- 40 pins per roll
- Pins are spaced by standard 0.1"
- 11.5 mm pin length

Product Info	
Stock Code	LS-00004
Description	Break Away Headers - Straight (10 pack)
Package Size	7" x 4"
UPC	899262000510

## Break Away Headers – Long



- Standard break away headers but longer
- 20mm length allows you to use them socket to socket
- 40 pins per row
- Pins are spaced by standard 0.1"

Product Info	
Stock Code	LS-00005
Description	Break Away Headers - Long (4 pack)
Package Size	7" x 4"
UPC	899262000527

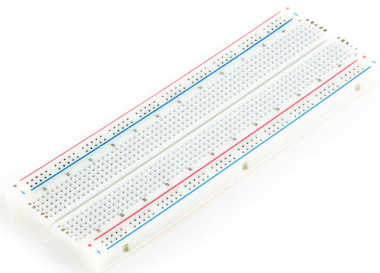
## Female Headers



- Single row of 40-holes, female header
- Can be cut to size with standard wire-cutters
- Pins are spaced by standard 0.1"
- Compatible to Olimex development boards
- Mates well with break away male headers

Product Info	
Stock Code	LS-00006
Description	Female Headers (10 pack)
Package Size	7" x 4"
UPC	899262000534

## Breadboard 830 Tie Points

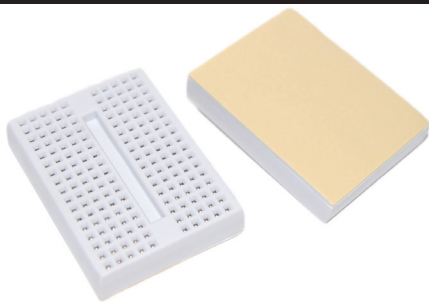


- Din
- 1 Terminal Strip, 630 tie points
- 2 Distribution Strips, 200 tie points
- Colour coordinated for easy component placement
- Phosphor bronze-nickel plated spring clips
- Accepts a variety of wire sizes (20-29 AWG)

### Product Info

Stock Code	LS-00019
Description	Breadboard - 830 Tie Points
Package Size	12.5" x 4"
UPC	899262000459

## Mini Breadboard Self Adhering

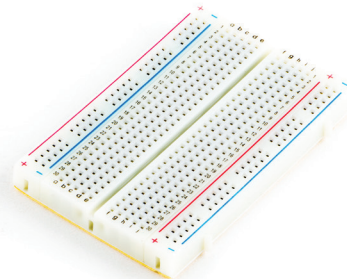


- Compatible with Arduino and all Osepp parts
- Dimensions: 1.8" x 1.4" • 170 tie points
- Phosphor bronze-nickel plated spring clips
- Accepts a variety of wire sizes (20 – 29 AWG)

### Product Info

Stock Code	LS-00017
Description	Mini Breadboard - Self Adhering (2 pack)
Package Size	7" x 4"
UPC	899262000428

## Breadboard 400 Tie Points



- Dimensions: 3.2" x 2.1"
- 1 Terminal Strip, 300 tie points
- 2 Distribution Strips, 100 tie points
- Color coordinated for easy component placement
- Phosphor bronze nickel plated spring clips
- Accepts a variety of wire sizes (20-29 AWG)

### Product Info

Stock Code	LS-00018
Description	Breadboard - 400 Tie Points
Package Size	7" x 4"
UPC	899262000435

## Mini Push Button Switch



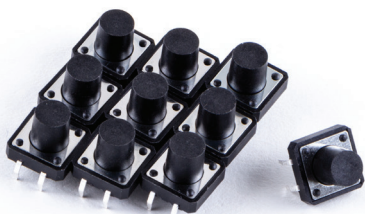
- 6mm Miniature Single Pole Single Throw switch
- Method of input for various projects
- Breadboard friendly
- Great as a tactile reset switch

### Product Info

Stock Code	LS-00003
Description	Mini Push Button Switch (25 pack)
Package Size	7" x 4"
UPC	899262000503



## Momentary Push Button Switch



- Standard 12mm square switch
- Breadboard friendly
- Method of input for various projects
- Great for use as reset button

Product Info	
Stock Code	LS-00002
Description	Momentary Push Button Switch - 12mm Square (10 pack)
Package Size	7" x 4"
UPC	899262000480

## Tactile Button Assortment



- Applicable for various projects
- Multiple color selections
- Removable caps
- Momentary push buttons

Product Info	
Stock Code	LS-00001
Description	Tactile Button Assortment (12 pack)
Package Size	7" x 4"
UPC	899262000473

## 16x2 LCD Display



The LCD display is a 16 character by 2 line (16x2) LCD display. The LCD contains a white LED for backlight display. The viewing angle of 180 degrees (your 6 o'clock). Operating voltage is 5 volts.

- 100% Arduino compatible.
- Input Data: 4-Bits or 8-Bits interface available
- Display Font : 5 x 8 Dots
- Power Supply : Single Power Supply (5V±10%)
- 5 volt operating voltage
- Display Mode: STN, BLUB

Product Info	
Stock Code	LCD-01
Description	16 x 2 LCD Display Panel Module
Package Size	5" x 4" x 1"
UPC	667510001172

# LM35 Temperature Sensor Component



LM35 Temperature sensor uses the LM35 integrated circuit. Can be used in numerous weather detection applications for home automation / weather monitoring.

- Rated for Full – 55°C to + 150°C Range
- Calibrated directly in ° Celsius (Centigrade)
- Linear + 10 mV/°C Scale Factor
- 0.5°C Ensure accuracy (at +25°C)
- Suitable for remote applications
- Low cost due to wafer-level trimming
- Operates from 4 to 30V
- Less than 60-

## Product Info

Stock Code	CTEMP-01
Description	LM35 Temperature Sensor Component - 5 pack
Package Size	5" x 4" x 1"
UPC	667510001202

# Mini Photo Cell



The Light sensor is able to detect variations in light conditions. The input readings of light are directly proportional to the light sensors output voltage. The light sensor is typically used in environmental conditions where light illuminance (LUX) needs to be measured such as phones, cameras, security systems, toys.

- Operating Temperature -30~+70degree
- Max voltage : 250V
- Resistance 5-10k oHM
- 10-600 LUX

## Product Info

Stock Code	PHOTO-01
Description	Photo cell component - 5 pack
Package Size	5" x 4" x 1"
UPC	667510001189

# Multi Colored LED Assortment Set

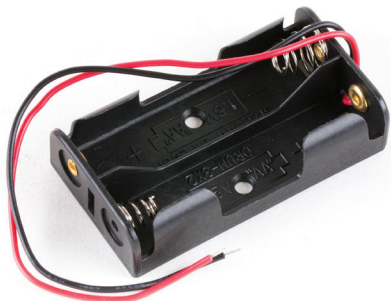


- 5mm round LEDs
- Five each of Red, Yellow, Green, Blue, and White
- Widely used in flashlights and general lighting applications
- Compatible with Infrared Reflow Solder and Wave Solder Process

## Product Info

Stock Code	LS-00016
Description	Multi Colored LED Assortment Set (25 pack)
Package Size	7" x 4"
UPC	899262000077

## 2AA Battery Holder



Suitable for hobby, models, science and other projects.

### Product Info

Stock Code	LS-00030
Description	2AA Battery Holder
Package Size	7" x 4" x 1"
UPC	667510001745

## 2AA Battery Holder - 2/pcs

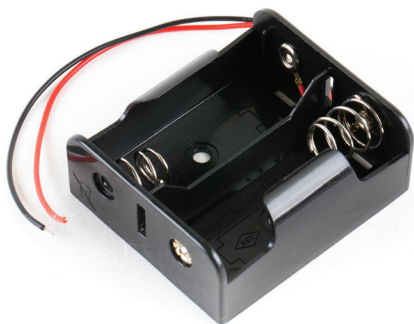


Suitable for hobby, models, science and other projects.

### Product Info

Stock Code	LS-00031
Description	2AA Battery Holder - 2/pcs
Package Size	7" x 4" x 1"
UPC	667510001752

## 2C Battery Holder

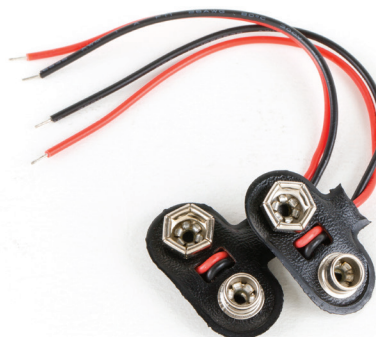


Suitable for hobby, models, science and other projects.

### Product Info

Stock Code	LS-00032
Description	2AA Battery Holder
Package Size	7" x 4" x 1"
UPC	667510001769

## 9V Battery Clip



Suitable for hobby, models, science and other projects.

• Wire Length: 120mm

### Product Info

Stock Code	LS-00033
Description	9V Battery Clip
Package Size	7" x 4" x 1"
UPC	667510001776

## 9V Barrel Jack Adaptor



The 9V to Barrel Jack Adaptor is an Arduino compatible power adaptor. The 9v battery jack allows you to power your Arduino with a 9V battery through the power supply input jack.

- Power anything with on-board barrel jack
- 5.5 x 2.1 mm center-positive barrel jack
- Great for Arduino, development boards, evaluation boards, etc

Product Info	
Stock Code	LS-00020
Description	9V to Barrel Jack Adapter
Package Size	7" x 4"
UPC	667510001417

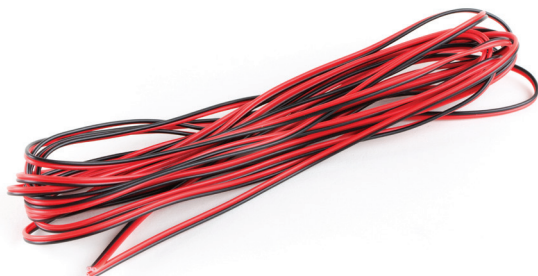
## Solid Copper Wire Single Strand wire - BV0.12 (16ft)



Suitable for hobby, models, science and other projects.

Product Info	
Stock Code	LS-00034
Description	Solid Copper Wire Single Strand wire - BV0.12 (16ft)
Package Size	7" x 4" x 1"
UPC	667510001783

## 2-Conductor Wire Red/Black - 26AWG(16ft)



Suitable for hobby, models, science and other projects.

- Gauge: 26 awg

Product Info	
Stock Code	LS-00035
Description	2-Conductor Wire Red/Black - 26AWG(16ft)
Package Size	7" x 4" x 1"
UPC	667510001790

## DC 12 0.5A Yellow On Off Mini Push Button



Suitable for hobby, models, science and other projects.

Product Info	
Stock Code	LS-00036
Description	DC 12 0.5A Yellow On Off Mini Push Button
Package Size	7" x 4" x 1"
UPC	667510001806

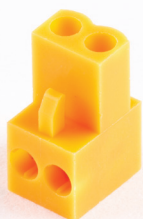
## DC 30V 1A Black On Off Mini Push Button



Suitable for hobby, models, science and other projects.

Product Info	
Stock Code	LS-00037
Description	DC 30V 1A Black On Off Mini Push Button
Package Size	7" x 4" x 1"
UPC	667510001813

## Terminal Block (10 pack)



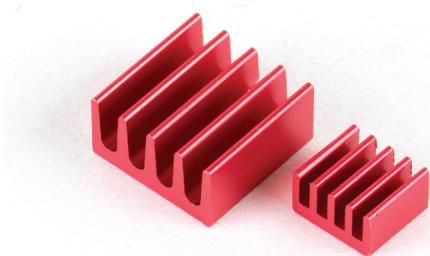
Suitable for hobby, models, science and other projects.

- 10 Pack
- Rated Voltage: 300V
- Rated Current: 8 A
- Wire Range: 26-16AWG
- Trip Length: 5-6mm
- Pitch: 3.96mm
- Poles: 2P-24P

Product Info	
Stock Code	LS-00042
Description	Terminal Block (10 pack)
Package Size	7" x 4" x 1"
UPC	667510001905



## **Aluminum Heat Sink for Raspberry Pi - Low Profile (2 pieces) - 1) 9mm x 9mm x 5mm 2) 14mm x 14mm x 7mm**

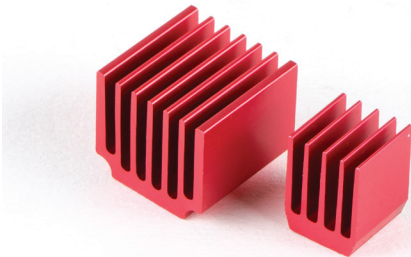


- 2 Piece set: (9mm x 9mm x 5mm) and (14mm x 14mm x 7mm)
- Perfectly sized for Processor and Ethernet controller
- Pre-cut 3M thermal adhesive for peel-and-stick installation
- Low-profile design can be used with HATs in place
- Keeps Raspberry Pi Running 30°F cooler

### **Product Info**

Stock Code	RPIHS-01
Description	Aluminum Heat Sink for Raspberry Pi - Low Profile (2 pieces) - 1) 9mm x 9mm x 5mm 2) 14mm x 14mm x 7mm
Package Size	7" x 4" x 1"
UPC	667510001875

## **Aluminum Heat Sink for Raspberry Pi - tall fin (2 pieces) - 1) 9mm x 9mm x 12mm 2) 15mm x 14.5mm x 13mm**

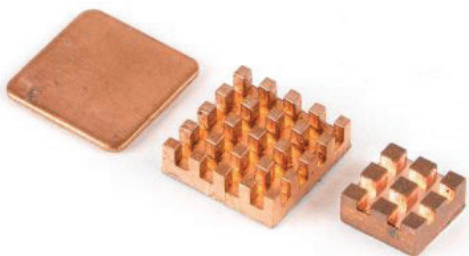


- 2 piece set: (9mm x 9mm x 12mm) and (15mm x 14.5mm x 13mm)
- Perfectly sized for Processor and Ethernet controller
- Pre-cut 3M thermal adhesive for peel-and-stick installation
- High-profile design for maximum heat dissipation
- Keeps Raspberry Pi Running 30°F cooler

### **Product Info**

Stock Code	RPIHS-02
Description	Aluminum Heat Sink for Raspberry Pi - Low Profile (2 pieces) - 1) 9mm x 9mm x 5mm 2) 14mm x 14mm x 7mm
Package Size	7" x 4" x 1"
UPC	667510001882

## **Premium Copper Heat Sink for Raspberry Pi (3 pieces) - 1) 9mm x 9mm x 4mm 2) 14mm x 14mm x 4.5mm 3) 15mm x 15mm x 2mm**



- 3 piece set: (9mm x 9mm x 4mm) and (14mm x 14mm x 4.5mm) and (15mm x 15mm x 2mm)
- Perfectly sized for Processor and Ethernet controller
- Pre-cut 3M thermal adhesive for peel-and-stick installation
- Low-profile design can be used with HATs in place
- Better heat dissipation than standard aluminum

### **Product Info**

Stock Code	RPIHS-03
Description	Premium Copper Heat Sink for Raspberry Pi (3 pieces) - 1) 9mm x 9mm x 4mm 2) 14mm x 14mm x 4.5mm 3) 15mm x 15mm x 2mm
Package Size	7" x 4" x 1"
UPC	667510001899

## 2.55" Press Fit Wheel (2 pack)



Suitable for hobby, models, science and other projects.

- Compatible to ServoCity # 595648 and OSEPP # LS-00160
- Easy snap-on install
- Rubber tires for great traction

### Product Info

Stock Code	LS-00161
Description	SEPP - 2.55" Press Fit Wheel (2 pack) , Comparable to ServoCity # 595648
Package Size	7" x 4" x 1"
UPC	667510002094

## RGB (tri-color) 10mm LED (10 pack)



Suitable for hobby, models, science and other projects.

- Case Pack: 10
- Forward Voltage (R/G/B): 2.0 / 3.2 / 3.1V
- Forward Current: 20mA
- Intensity (R/G/B): 550 / 250 / 700 mcd
- Common Cathode

### Product Info

Stock Code	LS-00043
Description	RGB (tri-color) 10mm LED (10 pack)
Package Size	7" x 4" x 1"
UPC	667510001929

## 10mm LED ( 2 x 6 colors )



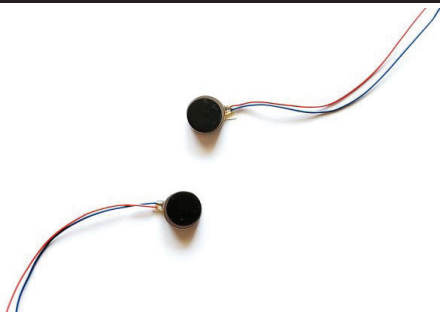
Suitable for hobby, models, science and other projects.

- Case Pack: 12
- 587-591nm Yellow
- 1.8-2.2VDC Forward Voltage
- 20mA Forward Current
- 40 degree viewing angle
- 100-150 MCD output

### Product Info

Stock Code	LS-00044
Description	10mm LED ( 2 x 6 colors )
Package Size	7" x 4" x 1"
UPC	667510001936

# Vibration Motor (2 pack)

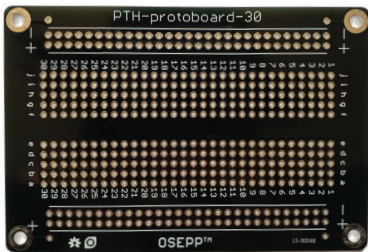


Suitable for hobby, models, science and other projects.

- Case Pack: 2
- Operating Voltage: 2.3V to 4.2V
- Rated Speed: 12000 +/- 2000 rpm
- Vibration Strength: 0.8G@3.0V
- Mechanical Noise: Max50dB-A range@30.V

Product Info	
Stock Code	LS-00046
Description	Vibration Motor (2 pack)
Package Size	7" x 4" x 1"
UPC	667510001943

# Solder-able Breadboard

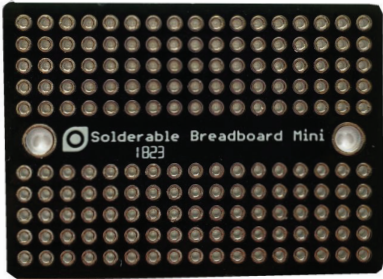


Suitable for hobby, models, science and other projects.

- Size: 2.2 x 3.4"
- 0.1" spaced
- Released under the Creative Commons Attribution Share-Alike 3.0 License. Designed by: Bryon Jacquot, Rev: V10

Product Info	
Stock Code	LS-00048
Description	Solder-able Breadboard
Package Size	7" x 4" x 1"
UPC	667510001967

# Solder-able Breadboard - Mini

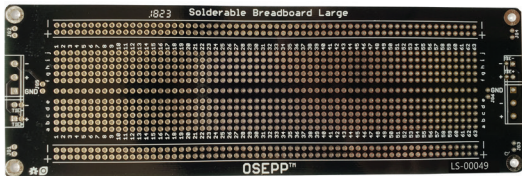


Suitable for hobby, models, science and other projects.

- Size: 1.8 x 1.4"
- 0.1" spaced
- Released under the Creative Commons Attribution Share-Alike 3.0 License. Designed by: Bryon Jacquot, Rev: V10

Product Info	
Stock Code	LS-00047
Description	Solder-able Breadboard - Mini
Package Size	7" x 4" x 1"
UPC	667510001950

# Solder-able Breadboard - Large

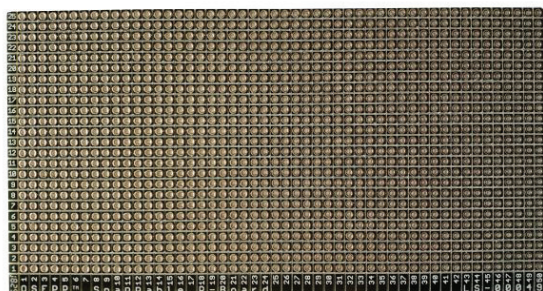


Suitable for hobby, models, science and other projects. Same as regular breadboard with the same connections to pins and power rails.

- Size: 2.2 x 6.7"
- 0.1" spaced
- Released under the Creative Commons Attribution Share-Alike 3.0 License. Designed by: Bryon Jacquot, Rev: V10

Product Info	
Stock Code	LS-00049
Description	Solder-able Breadboard - Large
Package Size	12.5" x 4"
UPC	667510001974

# Snappable Protoboard

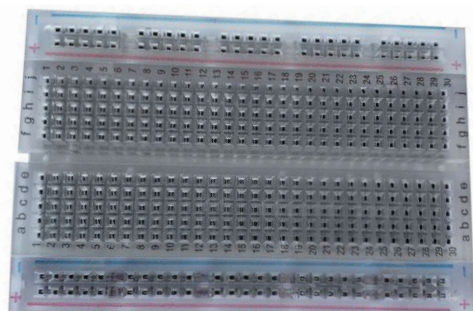


Suitable for hobby, models, science and other projects. Same as regular breadboard but you get to choose your own size.

- 0.1" spaced

Product Info	
Stock Code	LS-00050
Description	Snappable Protoboard
Package Size	7" x 4" x 1"
UPC	667510001981

# Breadboard - Translucent Self-Adhere (Clear)



Same as a regular breadboard except that it is clear.

- 400 tie in points
- 0.1" spaced
- Acceptable wire gauge of 29-20AWG
- Dimensions: 3.2 x 2.1"

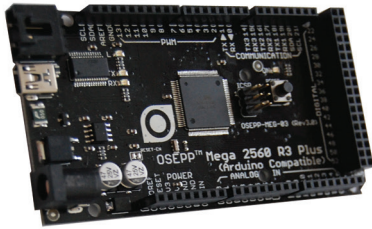
Product Info	
Stock Code	LS-00051
Description	Breadboard - Translucent Self-Adhere (Clear)
Package Size	7" x 4" x 1"
UPC	667510001998

# ***MAIN CONTROLLER BOARDS***

***(MICRO CONTROLLERS)***



## Mega 2560 R3 Plus



The OSEPP Mega 2560 R3 Plus is the bigger brother to the OSEPP Uno board with more flash memory, more SRAM, more EEPROM, and more pins. This board is perfect for projects that require a lot of inputs/outputs or that require more complex programs that cannot fit into the smaller memory of the ATmega328P.

- 8-bit AVR RISC-based microcontroller running at 16 MHz
- 8x more flash and 4x more SRAM and EEPROM than the Uno
- Connects to a computer via a standard USB cable
- Flexible power source (USB or DC power)
- ICSP header for programming microcontroller
- Compatible with existing Arduino software libraries
- Compatible with the Ethernet and Motor Controller Shields

Product Info	
Stock Code	MEG-03
Description	OSEPP Mega 2560 R3 Plus
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000350

## Osepp Uno R4 Plus



The OSEPP™ Uno R4 Plus board is the most popular Arduino board out in the Arduino market! This board uses the 8-bit, AVR, RISC-based ATmega328P microcontroller from Atmel.

New Features in R4:

- ATMEGA 16U2 Chipset
- Micro USB connector
- 4 additional 5v and GND power pins
- Additional analog pins A6 & A7
- removed the Molex connector

- 8-bit AVR RISC-based microcontroller running at 16 MHz
- Connects to a computer via a standard USB cable
- Flexible power source (USB or DC power)
- ICSP header for programming microcontroller
- Compatible with existing Arduino software libraries
- Compatible with all Arduino shields make for Arduino UNOs

Product Info	
Stock Code	UNO-04
Description	OSEPP Uno R4 Plus
Package Size	5" x 7.5" x 1"
UPC	667510001431

## Fio



The OSEPP™ Fio board has wireless in mind. This board may connect to an XBee radio (sold separately) and has a connector for a lithium polymer battery which can be charged over the USB connection.

- 8-bit AVR RISC-based microcontroller running at 8 MHz
- On/off slide switch
- Charging circuit for lithium polymer battery
- Connector for interfacing with XBee modules
- Flexible power source (USB or lithium polymer battery)
- Compatible with existing Arduino software libraries

Product Info	
Stock Code	FIO-01
Description	OSEPP Fio
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000220

# Pro



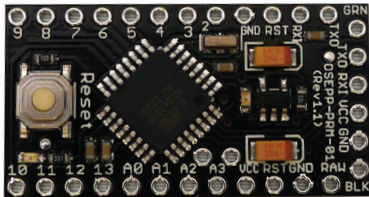
The OSEPP Pro board is tailored to more professional users who do not mind a build-it-yourself approach compared to the OSEPP Uno. Unlike the Uno model this barebones board lacks headers, which gives this board a low profile. Pro users can choose to connect only the needed pins by mounting headers or soldering wires directly.

- 8-bit AVR RISC-based microcontroller running at 16 MHz
- About 2/3 the size of the OSEPP Uno board
- Flexible power source (lithium polymer battery or DC power)
- ICSP header for programming microcontroller
- Compatible with existing Arduino software libraries
- Compatible with the Ethernet and Motor Controller Shields

### Product Info

Stock Code	PRO-01
Description	Pro
Package Size	1 Pack
UPC	5.25" x 8.5" x 0.5"

# Pro Mini



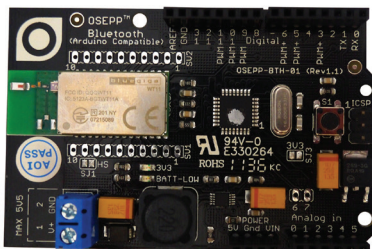
The OSEPP Pro Mini board is a miniaturized version of the OSEPP Pro, which in turn is a stripped down version of the OSEPP Uno. Basically, this is as small as it gets which allows for easy concealment in projects.

- 8-bit AVR RISC-based microcontroller running at 16 MHz
- Extremely small profile – less than 1/5 the size of the OSEPP Pro board
- Compatible with existing Arduino software libraries

### Product Info

Stock Code	PRM-01
Description	Pro Mini
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000558

# Bluetooth



The OSEPP™ Bluetooth board introduces Bluetooth connectivity to its users with the Bluegiga WT11, class 1, Bluetooth 2.1 + EDR module. With more than 10 supported Bluetooth profiles, this board can be used for a multitude of BT-related projects.

- 8-bit AVR RISC-based microcontroller running at 16 MHz
- Bluegiga WT11 class 1 Bluetooth 2.1 + EDR module
- Input voltage can be as low as 1.2V
- Connects to a computer via Bluetooth serial COM
- ICSP header for programming microcontroller
- Compatible with existing Arduino software libraries
- Compatible with the Ethernet and Motor Controller Shields

### Product Info

Stock Code	BTH-01
Description	Pro
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000114

# Nano



The OSEPP Nano is a breadboard-friendly, downsized version of the Uno board with much of the same functionality. The main workhorse is still the ATmega328P; however, the number of analog pins has gone up from four to eight. The other difference is the lack of a DC power connector.

- 8-bit AVR RISC-based microcontroller running at 16 MHz
- Single mini-USB connector for both power and serial communication
- Form factor is breadboard friendly
- Less than 1/3 the size of the OSEPP Uno
- Two extra analog input pins compared to the OSEPP Uno
- Compatible with existing Arduino software libraries

Product Info	
Stock Code	NAN-01
Description	OSEPP Nano
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000442

# UNO MAX Microcontroller (ARDUINO COMPATIBLE)



This is the ultimate UNO for Arduino enthusiasts. We've applied every lesson learned from existing modesla and created the UNO Max. The USB to serial is now done with the ubiquitous CH340G requiring fewer driver installs. It now has built-in sensor pins, motor driver headers, bluetooth headers and Wi-Fi 8266 headers making it even easier to build projects.

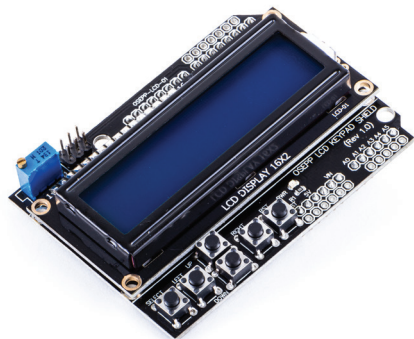
- ATmega328P microcontroller with Optiboot (UNO) Bootloader
- CH340G USB to Serial IC
- Flat bottom, all SMD construction
- Built in Sensor Pin
- Built in Motor Driver Headers
- Built in Bluetooth Headers
- Built in Wifi 8266 Headers

Product Info	
Stock Code	UNO-05
Description	OSEPP - UNO MAX Microcontroller (Arduino Compatible)
Package Size	7" x 4" x 1"
UPC	667510002476

***SHIELD BOARDS***

# 16x2 LCD Display & Keypad Shield

The OSEPP 16 x 2 LCD Display and Keypad shield can plug directly onto the Arduino and Arduino compatible boards. The LCD panel displays characters in white with a blue backlit and can display up to two lines of 16 characters. The shield includes 6 momentary push button that can be used to implement a 5 buttons keypad including up, down, left, right and select function. The sixth push button brings out the Arduino's reset button to the top of the shield. The OSEPP 16 x 2 LCD Display and Keypad shield interfaces with the Arduino board using digital pin 4 to 10 and analog pin 0. The contrast can be adjusted via a trim pot and the backlit can be turn on and off. The shield is 5V compatible.



- Mate with Arduino and Arduino compatible boards
- Display up to 16 characters by 2 line
- Integrated the SPLC780D 16 COMs x 40 SEGs dot-matrix LCD controller and driver
- 5V operating voltage
- 5 button keypad – up, down, left, right, and select
- Brings out the Arduino's reset button to the top of the shield

## Product Info

Stock Code	16X2SHD-01
Description	16 x 2 LCD Display and Keypad Shield
Package Size	5" x 7"
UPC	899262000466

# I2C Expansion Shield

The OSEPP I2C Expansion Shield is an Arduino-Compatible daughter (extension) card. It provides easy interconnection with other I2C devices, such as the OSEPP Sensor Modules family. As well, it integrates an I2C switch that provides 4 additional isolated I2C buses to enable the use without collisions of multiple I2C devices with same I2C addresses. The main I2C bus and each of the 4 additional I2C bus are brought out to a robust latchable 4-pin connector that allow easy plug and play functionality.



- 1-to-4 I2C switch to provide four isolated I2C buses
- Stackable with other Arduino and Arduino Compatible shields
- Provides pass through of all I/O as well as reset button and ICSP connector.
- Three selectable address bits for I2C switch to allow stacking of up to eight Shields
- Supports boards with the Arduino Shield interface, such as (but not limited to): Duemilanove • Uno • Pro • Bluetooth • Mega/Mega 2560
- Works with 3.3 V and 5 V boards
- Plug and play I2C connectors that provide I2C, power, and ground signals
- Easily connect OSEPP i2c sensor line

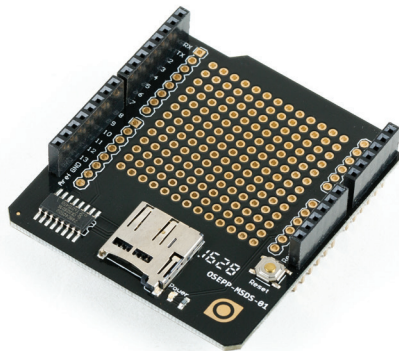
## Product Info

Stock Code	I2CSHD-01
Description	OSEPP I2C Expansion Shield
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000169



## microSD Shield

Bring mass storage to your Arduino projects with this convenient microSD shield.



- 5v+3v3 or 3v3 operation
- 13×12 0.1" pitch prototyping area
- Compatible with popular libraries
- Interfaces over SPI with CS on pin 8

The SD card interfaces over SPI (SCK on D13, MISO on D12, MOSI on D11, and CS on D8). Since SD cards run at 3v3 we've included a level shifter so you can use the 5v logic found on popular Arduino boards.

### Product Info

Stock Code	MSDS-01
Description	OSEPP microSD Shield
Package Size	5" x 7.5" x 1"
UPC	667510001080

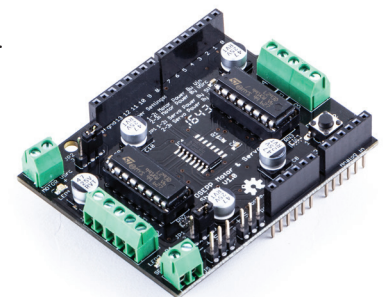
## Motor and Servo Shield

The OSEPP Motor and Servo Shield can plug directly onto the Arduino and Arduino compatible boards. It supports up to 2 servo motors and 4 bi-directional DC motors, or 2 servo motor and 2 stepper motors. Servo header and terminal blocks are provided for easy connection to motor. The servo power supply and motor power supply can be configured to source from an individual terminal block or from the Arduino board providing flexibility to your project.

- Mate with Arduino and Arduino compatible boards
- Provides connectors to support 2 servos.
- Servo power supply can be configured to source from the servo power terminal block or from the Arduino's 5V pin.
- Support up to 4 bi-directional DC motors with individual 8-bit speed selection, and up to 2 stepper motors (unipolar or bipolar) with single coil, double coil or interleaved stepping.
- Motor power supply can be configured to source from the motor power terminal block or from the Arduino's VIN pin. Support motors operating between 4.5V to 25V DC.
- Includes two L293D Quad H-Bridges chipset that can provide 0.6A per bridge (1.2A peak) with thermal shutdown protection, internal kickback protection diodes.
- Provides DIP sockets to support other pin compatible motor bridge chipset.
- Integrated pull down resistor to keep motor disable during start up.
- Individual LED indicator for motor power supply state and servo power supply state.
- Brings out the Arduino's reset button to the top of the shield

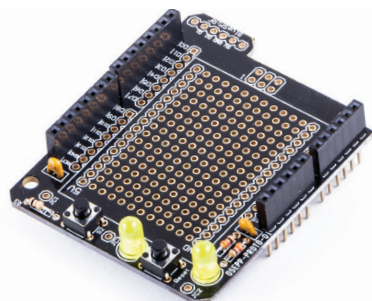
### Product Info

Stock Code	SCSHD-01
Description	Motor and Servo Shield
Package Size	5" x 7"
UPC	899262000091



## Proto Shield

This Prototyping shield brings a small prototyping area to your Arduino for you to build your projects on. It includes two general purpose LEDs with resistors ready to use, just connect the anode pin to your Arduino. Also includes a user push-button with a pull-up resistor and brings the Arduino reset button to the shield. The Arduino headers are duplicated to solder pins on the board so you can stack with other shields without losing access to your headers. Fits a 47mm x 36.5mm mini breadboard.



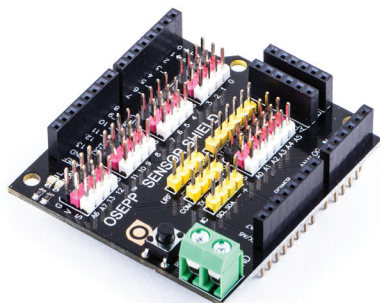
- 13x16 0.1" pitch prototyping area
- Two LEDs with the anode pin exposed (JC2, JC3)
- Arduino Reset button • A User push-button with Pull-up (JC1)
- BlueSMiRF header

### Product Info

Stock Code	PROTO-01
Description	OSEPP Proto Shield
Package Size	5" x 7.5" x 1"
UPC	667510001073

## Sensor Shield

Easily connect Servo motors, Sensors, and Bluetooth/RF modules to your Arduino or Arduino Compatible board. This Sensor Shield provides breakout connectors for standard Servo Motors and various 3-pin Sensors. A 5v DC screw terminal enables you to drive power hungry servo motors with an additional 5v DC power supply. Standard Arduino Shield form factor fits perfectly on top of the Arduino UNO and Mega. Pin Outs: For detailed Pin Outs, visit [OSEPP.COM](http://OSEPP.COM) to download schematic.



- 100% Arduino Compatible
- Servo Breakout Connectors (6 with PWM)
- Sensor Breakout Connectors (5 Analog, up to 14 Digital)
- 6-pin Bluetooth Module Connector
- 6-pin APC220 RF Module Connector

### Product Info

Stock Code	SENSHD-01
Description	OSEPP Sensor Shield
Package Size	5" x 7.5" x 1"
UPC	667510001042

## Motor Shield - 6612

This 6612 motor shield is the most powerful motor shield we have created. This shield features the TB6612 IC chip for driving DC motors. It can drive up to 4 DC motors with a maximum rating of 12 volt at 5 amps.



- 1100% Arduino Compatible
- 1.2 - 3.2 Amp peak
- DC to DC TB54331 Power chip
- control any of our Mechanical Kits

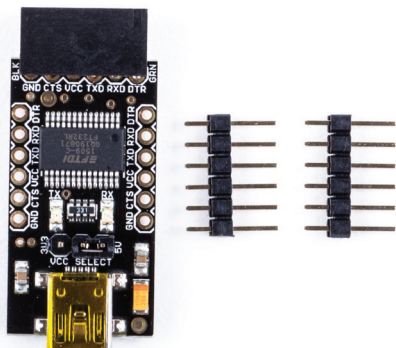
### Product Info

Stock Code	TBSHD-01
Description	Motor Shield - 6612
Package Size	5" x 7.5" x 1"
UPC	667510001578

***BREAKOUT  
&  
DRIVER BOARDS***

## FTDI Breakout Board

The OSEPP FTDI is a USB-to-serial (TTL) converter for serial communication with devices like the OSEPP Pro and Pro Mini boards. The board uses the popular FT232RL chip from FTDI. The pinout is designed to work with Arduino and compatible boards that do not have a built-in USB-to-serial converter, such as the Pro and Pro Mini. The pin VCC can be easily configured to be 3.3 or 5 V by placement of a jumper. This allows the board to be used with boards that operate on either 3.3 or 5 V nominal voltage. The FTDI board is designed for flexible connections to other boards. For example, its female header connects easily to the male pin header of the OSEPP Pro. Furthermore, connecting the provided male pin headers to the female pin header allows connections to pinout of the Pro Mini. The male pin headers can also be soldered to the FTDI board to make it breadboard mountable. Drivers for the Virtual COM Port (VCP) is available for virtually all mainstream operating systems.



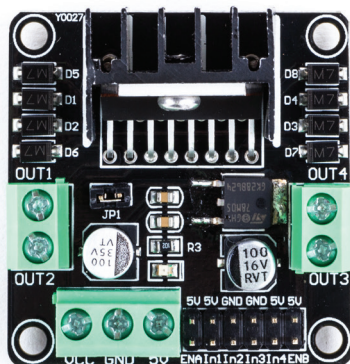
- Pinout compatible with Arduino boards such as OSEPP brand
- Form factor is breadboard friendly
- Selectable common-collector voltage

### Product Info

Stock Code	FTD-01
Description	FTDI Breakout Board
Package Size	5.25" x 8.5" x 0.5"
UPC	899262000176

## Motor Driver Module

Motor driver can drive a 4-wire stepper motors, or two DC motors simultaneously for your Arduino project. Ability to control motor direction and speed when used with an Arduino.



- 100% Arduino Compatible
- L298 dual h bridge driver
- Reverse motor polarity (motor direction)

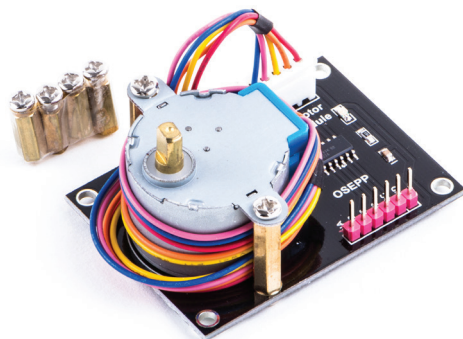
### Product Info

Stock Code	MTD-01
Description	Motor Driver Module
Package Size	5" x 7.5" x 1"
UPC	667510001059

## Stepper Motor & Driver

The ULN2003A stepper motor board is used to control 4 phase bipolar stepper motors such as the 28BYJ-48 stepper motor.

- 100% Arduino Compatible
- See back panel for detailed specifications

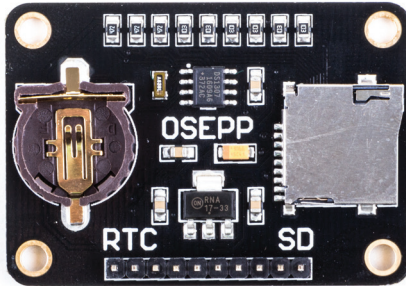


### Product Info

Stock Code	STEPPD-01
Description	Stepper Motor & Driver
Package Size	5" x 4" x 1"
UPC	667510001196

## Real-time Clock & microSD Breakout

The Real-time clock & microSD breakout keeps accurate time and supports external memory through a microSD. The breakout features the DS1307 Real-time clock with battery holder for reliable time readings in case of breakout power outage. The RTC/SD Breakout also features a microSD card slot, adding external memory to read/write pictures, text files, audio and much more. Add accurate time measurement and external memory to your next Arduino project!



- 100% Arduino Compatible
- Operating voltage: 3.3V – 5V MAX
- counts seconds, minutes, hours, date of the month, month, day of the week, and year with leap year compensation valid up to 2100
- microSD card support
- 5v to 3.3v regulator for SD card operation.
- microSD SPI interface
- DS1307 RTC I<sup>2</sup>C interface
- CR1220 battery required (not included)

### Product Info

Stock Code	RTCS-01
Description	SD and RTC Breakout
Package Size	5" x 4" x 1"
UPC	667510001462

## Moisture & Humidity Breakout



The Moisture & Humidity breakout measures soil moisture, temperature and humidity. The breakout features the DHT11 humidity sensor for accurate readings of ambient temperature and moisture. The Moisture/Humidity breakout also features two probes used for measuring the moisture levels in soil. Add smarts to your next botanical Arduino project!

- 100% Arduino Compatible
- Operating voltage: 3V – 5V MAX
- analog pin interface for moisture sensor
- DHT11 humidity sensor
- 20-80% humidity readings with 5% accuracy
- 0-50°C temperature readings  $\pm 2^\circ\text{C}$  accuracy

### Product Info

Stock Code	MHUM-01
Description	Humidity & Moisture Breakout
Package Size	5" x 4" x 1"
UPC	667510001455

## TB6612 Motor Driver (Arduino Compatible)



TB6612 can drive two DC motors with power supply of 6V-12V and has the PWM speed regulation function.

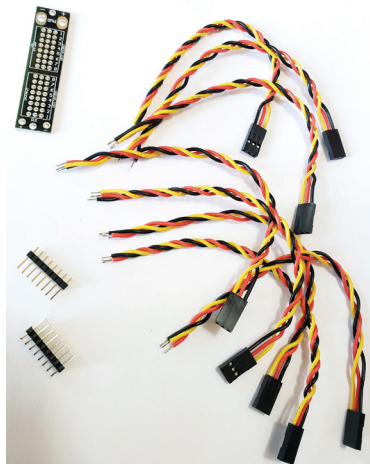
- B6612PNG motor driver IC
- Operating Voltage: 6V – 12V
- Constant current: 1.2A / 3.2A (peak)
- DHT11 humidity sensor
- Direct plug-in to OSEPP Uno Max (no cables required)
- Over-current protection
- Control mode: 2 I/O (direction and PWM speed regulation)

### Product Info

Stock Code	TBMTD-01
Description	OSEPP - TB6612 Motor Driver (Arduino Compatible)
Package Size	7" x 4" x 1"
UPC	667510002735



## Servo Power Board (unassembled with pins and male servo leads),



The Servo Power Board allows you to cleanly isolate current and voltage from your receiver to protect the tiny traces within from burning out.

- Compatible to ServoCity # SC71350
- 8 Channels
- Wire Gauge of 22 AWG
- 3A per channel continuous / up to 9A total

### Product Info

Stock Code	LS-00077
Description	Servo Power Board (unassembled with pins and male servo leads), Comparable to Servocity # SC71350
Package Size	7" x 4" x 1"
UPC	667510002056

## Servo Power Board (unassembled with full pins),



The Servo Power Board allows you to cleanly isolate current and voltage from your receiver to protect the tiny traces within from burning out.

- Compatible to Servocity # 575112
- Compatible to nearly all Actorbotic and OSEPP parts
- Standard servo size compatible
- Extra strength and light weight premium aluminum

### Product Info

Stock Code	LS-00078
Description	Servo Power Board (unassembled with full pins), Comparable to Servocity # SC71352
Package Size	7" x 4" x 1"

## Servo Power Board (assembled with pins and male servo leads)



The Servo Power Board allows you to cleanly isolate current and voltage from your receiver to protect the tiny traces within from burning out.

- Compatible to ServoCity # SC71351
- 8 Channels
- Wire Gauge of 22 AWG
- 6" wire length
- 3A per channel continuous / up to 9A total

### Product Info

Stock Code	LS-00079
Description	OSEPP - Servo Power Board (assembled with pins and male servo leads), Comparable to Servocity # SC71351
Package Size	7" x 4" x 1"
UPC	667510002070

# Solar Cells



Maximum efficiency Monocrystalline solar cells. Encapsulated with low reflecting water clear epoxy to protect against physical impact and harsh outdoor environments.

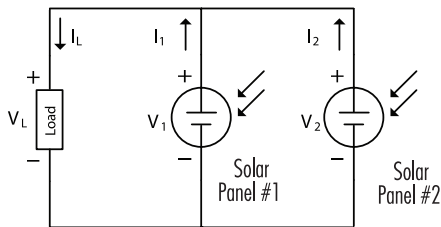
Stock Code	Description	Package Size	UPC
SC10036	Monocrystalline Solar Cell, 100mA, 3.6V	2.4 X 2.4 X 0.2"	899262000268
SC10050	Monocrystalline Solar Cell, 100mA, 5.0V	3.0 X 2.4 X 0.2"	899262000275
SC10072	Monocrystalline Solar Cell, 100mA, 7.2V	3.5 X 2.8 X 0.2"	899262000282
SC20036	Monocrystalline Solar Cell, 200mA, 3.6V	3.3 X 3.3 X 0.2"	899262000299
SC20050	Monocrystalline Solar Cell, 200mA, 5.0V	4.7 X 2.8 X 0.2"	899262000312
SC20072	Monocrystalline Solar Cell, 200mA, 7.2V	5.5 X 3.5 X 0.2"	899262000329

## Helpful Tips

Calculating Watts Power [Watt] = Voltage [Volt] x Current [Ampere]

## Wiring Multiple Solar Panels

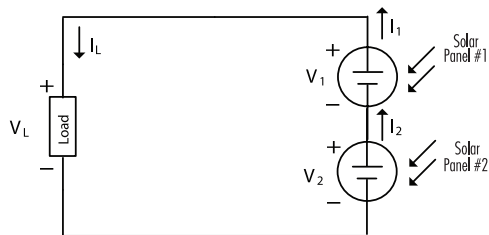
### Parallel Wiring



Formula:  $I_L = I_1 + I_2$   
 $V_L = V_1 = V_2$

If your application needs a higher voltage supply source, you can wire multiple solar panels in series. You can wire the positive terminal of solar panel #1 to the load, and connecting the negative terminal of solar panel #1 to the positive terminal of solar panel #2. In this wiring, the total voltage delivered to the load will be doubled and the rated current supply will remain the same.

### Series Wiring



Formula:  $I_L = I_1 = I_2$   
 $V_L = V_1 + V_2$

If your application needs more power, you can wire multiple solar panels in parallel. By connecting the positive terminal of solar panel #1 to the positive terminal of solar panel #2, and connecting the negative terminal of solar panel #1 to the negative terminal of solar panel #2, the maximum current that can be delivered to the load will be doubled. The rated voltage will remain the same.



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#### Become a Distributor

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