OMEGA2 MAKER KIT

OM-K-MK

Take your IoT development into overdrive with the Omega2 Maker Kit. It includes everything from the Starter Kit and the Relay, Servo, and OLED Expansions, our three most popular expansions!

Build the same circuits as in the Starter Kit AND conduct 8 additional experiments using the Onion Expansions, including how to control servos, use an H-bridge to control a DC motor, write text and images to the OLED display, and control other high-powered circuits with the Relay Expansion.
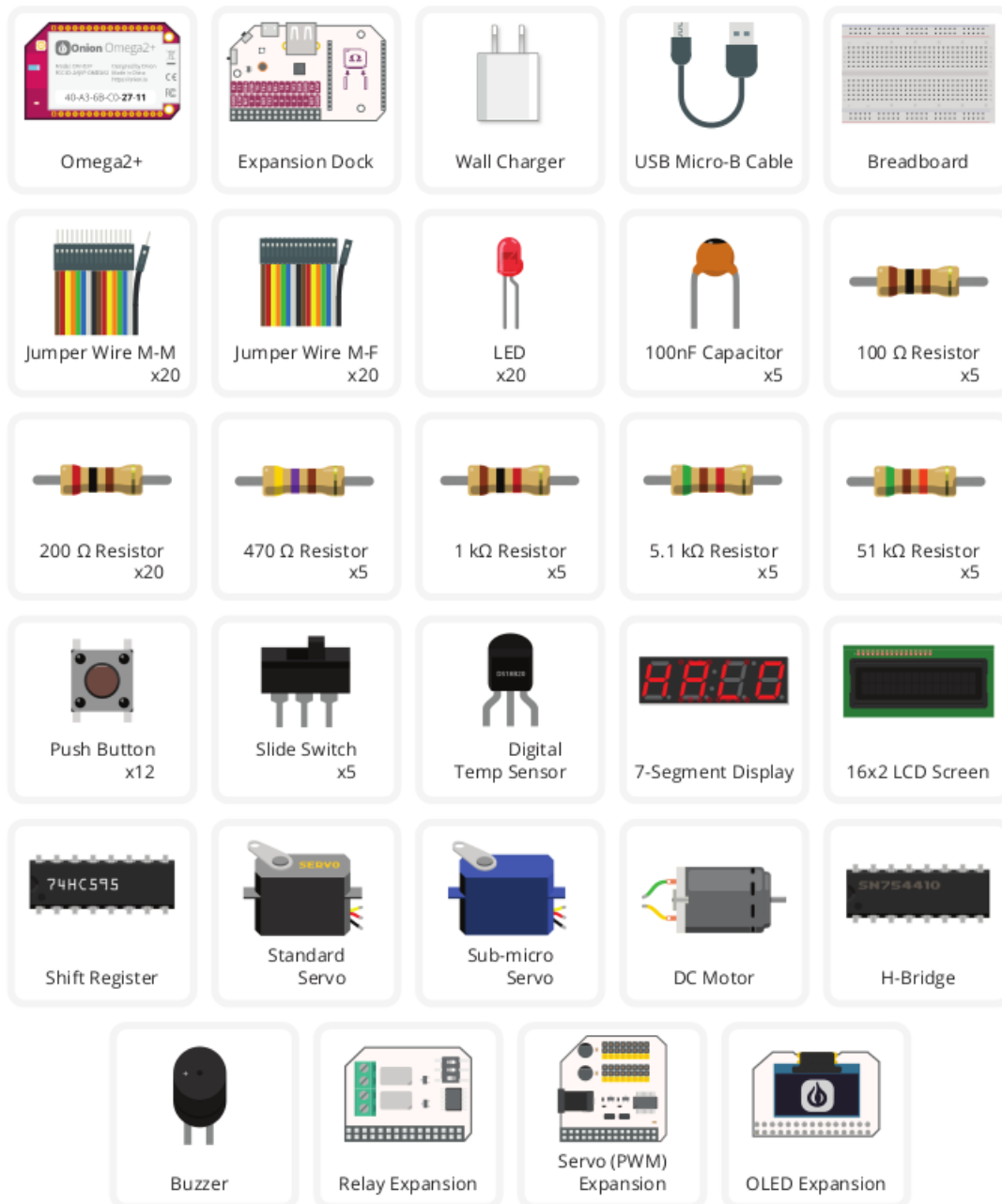
Step by step instructions for building each circuit and running through each experiment can be found in the online Maker Kit Guide.

PRODUCT DESCRIPTION

What's Included

Your Maker Kit contains the following items; we've labelled them here for your convenience.

Onion Omega2 Maker Kit

Omega2+	Expansion Dock	Wall Charger	USB Micro-B Cable	Breadboard
Jumper Wire M-M x20	Jumper Wire M-F x20	LED x20	100nF Capacitor x5	100 Ω Resistor x5
200 Ω Resistor x20	470 Ω Resistor x5	1 kΩ Resistor x5	5.1 kΩ Resistor x5	51 kΩ Resistor x5
Push Button x12	Slide Switch x5	Digital Temp Sensor	7-Segment Display	16x2 LCD Screen
Shift Register	Standard Servo	Sub-micro Servo	DC Motor	H-Bridge
Buzzer	Relay Expansion	Servo (PWM) Expansion	OLED Expansion	

How to Use This Kit

See the full online Maker Kit Guide for all details!

Before getting started on the experiments, set up your Omega by following the First Time Setup Guide.

Then you can learn more on:

1. Connecting to the Omega's Command Line
2. An introduction to using the command line
3. Installing the software we need for the experiments

Once you've done those, we recommend working your way through the experiments in order as they usually build on what we've learned in each one.

What Exactly Will I Learn?

Here's a list of all of the experiments we're going to build with your Kit:

1. Blinking an LED
- Learn the basics of programming the Omega by turning an LED on and off.
2. Blinking Multiple LEDs
- Learn some more programming concepts by controlling multiple LEDs at once.
3. Fading an LED
- Create a cool LED fading effect using the pulse width modulation technique.
4. Reading a Switch
- Use a physical switch to control an LED through the Omega.
5. Using a Shift Register
- Use a shift register chip to control 8 LEDs using only a few GPIOs.
6. Controlling a Seven-Segment Display
- Add a seven-segment display to the previous circuit to display numbers.
7. Reading a 1-Wire Temperature Sensor
- Use a 1-Wire temperature sensor to read the ambient temperature.
8. Controlling LCD Screen
- Use the I2C protocol to control an LCD screen attached to the previous circuit.

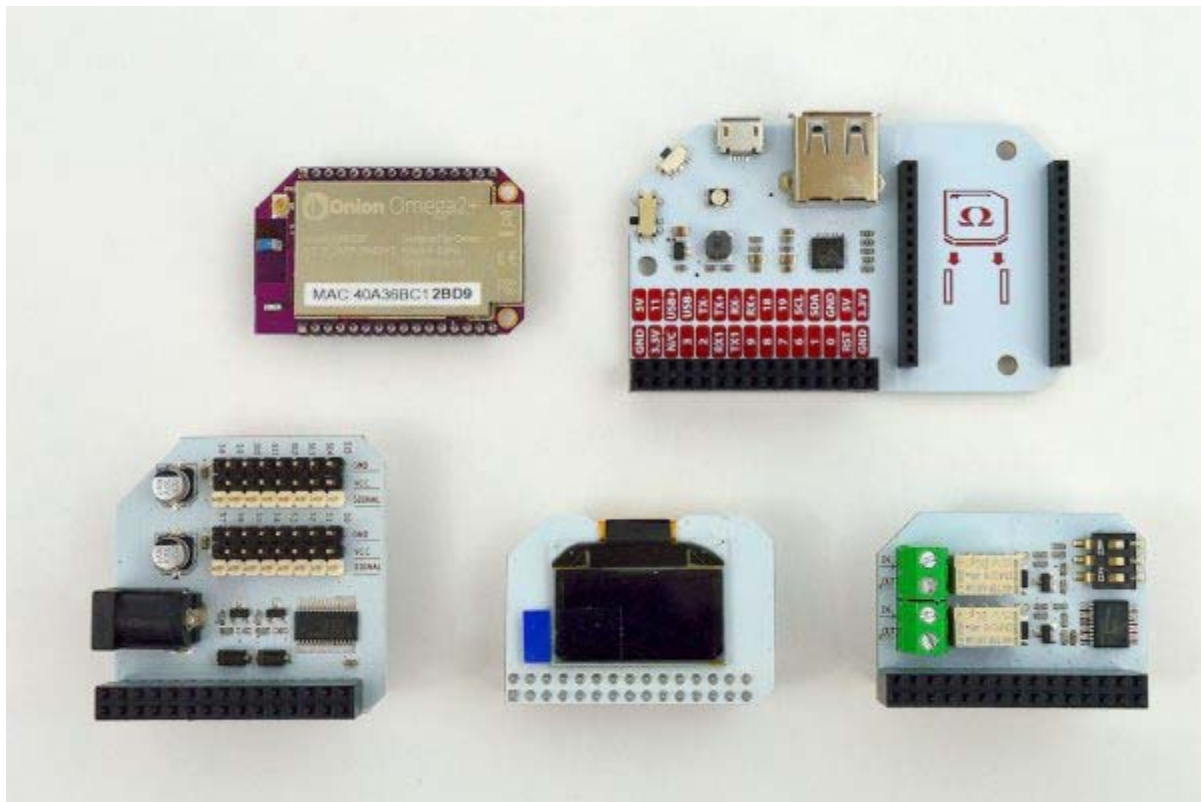And a list of tutorials on using the PWM, OLED, and Relay Expansions:

1. Dimming LEDs
- Learn about Pulse Width Modulation and controlling LEDs
2. Controlling Servos
- Use the PWM Expansion to control Servos and pick up some Python skills along the way
3. Run a DC Motor with an H-Bridge
- We'll get really creative and use the PWM Expansion to control an H-Bridge chip which will in turn drive a DC motor

4. Writing text to the screen
- We'll use Python to programmatically write text to the screen
5. Changing the screen's settings
- Learn how we can use user input to change display settings
6. Draw lines!
- Prompt the user for input and use it to draw lines on the screen
7. Controlling isolated circuits
- Learn how to control circuits electrically isolated from the Omega's circuits

ADDITIONAL INFORMATION

Weight	*0.775 kg*
Dimensions	*30 × 21 × 6 cm*

https://onion.io/store/omega2-maker-kit/2-14-19