

# VORTEX IT

Battery Recycling

## ASCD Nano 4x 18650 - Parts List

### Core Parts

Component	Quantity	AliExpress Link	eBay Link	Amazon Link	Banggood Link	Notes
Arduino Nano 3.0 ATmega328P	1	AliExpress	eBay	Amazon	Banggood	328P chip only not 168
ESP8266 Arduino Adaptor	1	AliExpress	eBay	Amazon	Banggood	Converts 5v signal to 3.3v for the ESP serial communication.
ESP8266 ESP-01	1	AliExpress	eBay	Amazon	Banggood	For WIFI communication to the Battery Portal.
LCD 1602 16x2 Serial I2C	1	AliExpress	eBay	Amazon	Banggood	
Battery Holder 4 x 18650	1	AliExpress	eBay	Amazon	Banggood	
TP5100	4	AliExpress	eBay	Amazon	Banggood	Charging

Module							modules. Check PCB footprint.
CD74HC4067 Module	1	AliExpress	eBay	Amazon	Banggood		Be careful on PCB size some are larger
74HC595N DIP16	1	AliExpress	eBay	Amazon	Banggood		Shift out Register
DIP16 Socket	1	AliExpress	eBay	Amazon	Banggood		
Temp Sensor DS18B20	5	AliExpress	eBay	Amazon	Banggood		Tes before soldering.
Tactile Switch 6MM	1	AliExpress	eBay	Amazon	Banggood		
Connector KF301-2P 5.08mm	4	AliExpress	eBay	Amazon	Banggood		Optional - For connecting the Discharge resistors or JST
DC Jack 5.5 x 2.1mm	1	AliExpress	eBay	Amazon	Banggood		12V power input
Resistor Carbon Film 3.3ohm 5W	4	AliExpress	eBay	Amazon	Banggood		Banggood is 30hm Aluminum. 6.80hm for 500mA discharge.
Conical Rubber Feet 14x8mm	8	AliExpress	eBay	Amazon	Banggood		For non 3D print case design screwed to 35mm standoffs
Insulating Washers 3x7x0.8mm	16	AliExpress	eBay	Amazon	Banggood		Banggood link is nylon

M3 x 12mm Flat Head Stainless Steel 304 Hex Socket Screw	8	AliExpress	<a href="https://ebay.us/Z9pBrK">https://ebay.us/Z9pBrK</a>	Amazon	Banggood	Optional - Used to mount the board and Battery Holder
M3 304 Stainless Steel 304 Hex Nuts	4	AliExpress	eBay	Amazon	Banggood	Optional - Used to mount the Battery Holder
M3 Standoff 18mm Brass F-F	4	AliExpress	eBay	Amazon	Banggood	For LCD mounting. Banggood link is for a pack
M3 Standoff 35mm brass F-F	4	AliExpress	eBay	Amazon	Banggood	Optional - For non 3D print case standoffs. Banggood link is for a pack
Header Female 2.54mm 1x4	1	AliExpress	eBay	Amazon	Banggood	Banggood link is 40pin cut to size
Headers Male 2.54mm 1x40 Pin	1	AliExpress	eBay	Amazon	Banggood	Used for all headers
Header Female Right Angle 2.54mm 1x4	1	AliExpress	eBay	Amazon	Banggood	For the ESP Adaptor. Banggood is a stackable 8P. Need to cut to size and bend.
USB to ESP8266 ESP-01	1	AliExpress	eBay	Amazon	Banggood	For programming the ESP you

Programmer							only need one.
Fan 80MM x 80MM x 15MM 12V	1	AliExpress	eBay	Amazon	Banggood		For the new 3D printed case design.
BD139 NPN Transistor	1	AliExpress	eBay	Amazon			For the fan speed controller
100uF 16V Electrolytic Capacitor 5x11mm	1	AliExpress	eBay	Amazon	Banggood		For the fan speed controller
JST 2.0 PH 2pin M-F	1	AliExpress	eBay	Amazon	Banggood		Optional - for the discharge resistors and fan output.
5V Active Buzzer	1	AliExpress	eBay	Amazon	Banggood		Optional
Header Female 2.54mm 1x8	1	AliExpress	eBay	Amazon	Banggood		Banggood link is 40pin cut to size
Header Female 2.54mm 1x15	2	AliExpress	eBay	Amazon	Banggood		Banggood link is 40pin cut to size
Header Female 2.54mm 1x16	1	AliExpress	eBay	Amazon	Banggood		Banggood link is 40pin cut to size
M3 x 4mm Flat Head Stainless Steel 304 Hex Socket Screw	8	AliExpress	eBay	Amazon	Banggood		For mounting the LCD

# SMD or THT Components

THT Components		SMD Components				
Component	Quantity	AliExpress Link	eBay Link	Amazon Link	Banggood Link	Notes
10k – 1/8w Resistor SMD 0603	7	AliExpress	eBay	Amazon	Banggood	
4.7k – 1/8w Resistor SMD 0603	1	AliExpress	eBay	Amazon	Banggood	
1k – 1/8w Resistor SMD 0603	8	AliExpress	eBay	Amazon	Banggood	
N-Channel Mosfet IRLML2502TRPBF	8	AliExpress	eBay	Amazon		
P-Channel Mosfet AO3407 SOT-23	4	AliExpress	eBay	Amazon		
NPN Transistor SOT23 BC847	4	AliExpress	eBay	Amazon		
Diode 1N4148 0603	2	AliExpress	eBay	Amazon		

# Tools

Component	AliExpress Link	eBay Link	Amazon Link	Banggood Link	Notes
Solder Wire 60/40 0.7mm	AliExpress	eBay			
Diagonal Pliers	AliExpress	eBay			
A3 PVC Cutting Mat	AliExpress	eBay			
Youyue 8586 SMD Soldering Rework Station	AliExpress	eBay			
UNI-T UT39A Digital Multimeter	AliExpress	eBay			
Wire Strippers	AliExpress	eBay			
Barcode Scanner	AliExpress	eBay			
Barcode Printer	AliExpress	eBay			
Barcode Labels 30mm x 20mm x700	AliExpress	eBay			
MECHANIC Solder Paste	AliExpress	eBay			
Anti-Static Tweezers	AliExpress	eBay			
Third Hand Soldering Stand	AliExpress	eBay			
AMTECH NC-559-ASM No-Clean Solder Flux	AliExpress	eBay			
Solder Wick	AliExpress	eBay			
Precision Magnetic Screwdriver Set	AliExpress	eBay			