

Quantity	Name	Type	Specification	Additional notes	Example
Parts with water contact					
30 cm	Soft Hose Ø4 - Ø2 mm	Material: PVC	outerØ 4 mm, innerØ 2 mm	transparent looks best	https://ebay.us/ntEGVZ
15 cm	Soft Hose Ø7 - Ø5 mm	Material: PVC	outerØ 7 mm, innerØ 5 mm	transparent looks best	https://ebay.us/ntEGVZ
40 cm	Hard Hose Ø4 - Ø2 mm	Material: PTFE, PA?, PU?	outerØ 4 mm, innerØ 2 mm	transparent looks best	https://ebay.us/sQVEkS
1	T-Connector Hose	T-shape, plastic	outerØ 3.2 mm, innerØ 2.4 mm	Size for link in example is 3.2 mm	https://ebay.us/po10i3
1	Diaphragm water pump (XYT SP130-XH)	DC 3.7V	Ø20 x 45 mm, Hose connections Ø3.5 mm	2 visible diaphragms -> suitable for water	https://de.aliexpress.com/item/4000974989453.html?sp
20 mL	Silicon sealant	Sealant for electronics works best (more liquid)	Any, Additional nozzle is very useful	transparent, local hardware store?	https://ebay.us/K84adc
Parts to be soldered					
1	Resistor 33 kOhm	Carbon Film, THT axial	33 kOhm, 1/4 W		https://amzn.to/37WaeuK
3	Resistor 100 kOhm	Carbon Film, THT axial	100 kOhm, 1/4 W		https://amzn.to/37WaeuK
1	Resistor 270 Ohm	Carbon Film, THT axial	270 Ohm, 1/4 W		https://amzn.to/37WaeuK
1	Capacitor 100 nF	THT (Pitch 2.54 mm)	100 nF		https://ebay.us/KCRTnK
1	Diode 1N4007	DO-41, THT	1 A		https://ebay.us/PQQNdj
1	MOSFET IRLZ44N	N-Channel, THT (Pitch 2.54 mm)	Logic level (L)	Don't confuse with : IRLZ44N	https://ebay.us/49aZjN
1	Push button (XUNPU TS-1002N-08526)	Tactile Switch, THT Side operation	6 x 7.5 x 8.5 mm, 50 mA	switch lever length: 5 mm	https://lcsc.com/product-detail/Tactile-
1	Power switch (SHOU HAN SK12D07VG5)	Toggle Switch, THT Side operation	4.7 x 8.7 x 9.4 mm, 500 mA	switch lever length: 5 mm	https://lcsc.com/product-detail/Toggle-
1	Pin Header Female 12 Pins	THT (Pitch 2.54 mm)	Female, 12 Pins, Height 8.5 mm		https://ebay.us/DgdD9i
1	Pin Header Female 16 Pins	THT (Pitch 2.54 mm)	Female, 16 Pins, Height 8.5 mm		https://ebay.us/DgdD9i

1	Pin Header Male 3 Pins	THT (Pitch 2.54 mm)	Male, 3 Pins	seperatable into 3 pins	https://ebay.us/TkIBPI
2	JST Connector Female 2 Pins with Cable	JST Connector Female, PH (Pitch 2.0 mm)	2 Pins, Cable > 10 cm, AWG24 or AWG22	Don't use common AWG26	https://amzn.to/3AY5RMa
1	JST Connector Female 6 Pins with Cable	JST Connector Female, PH (Pitch 2.0 mm)	6 Pins, Cable > 30 cm, AWG26	AWG26 is okay here	https://ebay.us/j6QXjK
2	JST Connector Male 2 Pins	JST Connector Male, PH (Pitch 2.0 mm)	2 Pins, Straight	See note on connector types (last page)	https://amzn.to/3AY5RMa
1	JST Connector Male 6 Pins	JST Connector Male, PH (Pitch 2.0 mm)	6 Pins, Straight	See note on connector types (last page)	https://ebay.us/j6QXjK
1	Custom PCB (curcuit board)	FR-4, 2 Layers	thickness 1.6 mm, copper weight 1 oz, HASL	custom-made (Gerber file)	Custom PCB manufacturer
Other parts					
22	Self tapping Screw Ø3 x 8 mm	Thread forming screw for thermoplastic (e.g. DIN 9091)	Ø3 x 8 mm, Pan head		https://ebay.us/V4vZwn
1	Li-Ion Battery 3.7V with Connector	18650 Format, JST Connector Female, PH (Pitch 2.0 mm)	3.7V, > 2000 mAh, Protection circuitry included		https://www.adafruit.com/product/1781
1	Microcontroller ESP32	Wemos LOLIN 32 Development board	not the "lite" or "pro" variants, ME6211 LDO	Look at the next page of this file	
1	Capacitve Soil Moisture Sensor	Capacitve Soil Moisture Sensor v1.2	TL555Q/C/I timer chip, 662K LDO	Look at the next page of this file	
Optional					
1	Planter		upperØ 110 mm, lowerØ 85 mm, height 90 mm		Local gardening store

Most things you can currently find in online shops are imitations that look the same at first glance, but some have cheaper electronic components soldered on and do not work properly.

When ordering, it is very important to look carefully at the product images and to check the markings on the electronic components on the circuit board. If the image quality is so poor, that you can't read the markings - DO NOT ORDER from this store. If the markings are the ones we are looking for: ask the store to confirm these markings.

It happened to me, that I didn't receive the exact product as shown in the product pictures, but a different one with the wrong electronic components on it. Even if I ordered from a store from which I initially received a suitable product, I sometimes received a different product with the second order. I didn't include a link for the ESP32 microcontroller and capacitive soil moisture sensor because I had some bad experiences when ordering them and I don't want to be responsible if this happens to others.

Here's what to look for with each component:

Wemos LOLIN 32 Development board

watch out for undersized LDO's and JST PH connector (watch my Youtube video for more details),

<https://www.youtube.com/watch?v=GNNzLwCidCE>

Good markings: S2RY, S2RK, S2MD, S2PC, S2SL, S2TD (that's an ME6211 LDO)

Bad markings: 4A**, 4B** (that's an XC6204 or XC6205 LDO)

Capacitive Soil Moisture Sensor

watch out for correct 555 Timer chip, present 662k LDO and correct positioning of via hole (watch my Youtube video for more details)

<https://www.youtube.com/watch?v=IGP38bz-K48>

Good markings: TL555C, TL555Q, TL555I

Bad markings: NE555

If you don't want to order all parts individually: I'm thinking of offering all the parts for Flora as a kit in the future if enough people are interested. To find out, I created a short Google form that you can fill out if you would like to buy such a kit.

<https://docs.google.com/forms/d/1GDRpVRxuvAgHPNp1CEXVgIKZr3mZhqmVqcmtKoSIDA8>

Note on connector types:

Globally speaking, there seem to be different opinions what male and female connectors are, also among sellers of these parts.

Better make sure the product you want to buy matches those in my videos.