

Part Name	Category	Requirement	# Quantity	Cost	Net Cost	Source	Link	Part Number
Micro HDMI Adapter	Cable	Required	1	\$10.00	\$10.00	Amazon	https://www.amazon.com/dp/B00JDRHQ58	B00JDRHQ58
120V Cable	Cable	Required	1	\$10.00	\$10.00	Amazon	https://www.amazon.com/dp/B06XRKMYKR	B06XRKMYKR
Qwiic Cables	Cable	Required	1	\$10.00	\$10.00	Amazon	https://www.amazon.com/dp/B08HQ1VSVL	B08HQ1VSVL
HDMI Cable 3.3ft	Cable	Required	1	\$8.80	\$8.80	Amazon	https://www.amazon.com/dp/B09FT1MNSC	B09FT1MNSC
HDMI Cable 1.6ft	Cable	Required	1	\$8.70	\$8.70	Amazon	https://www.amazon.com/dp/B09LS9LS24	B09LS9LS24
USB Cable (Monitor)	Cable	Required	1	\$18.00	\$18.00	Amazon	https://www.amazon.com/dp/B09MCVHQWW	B09MCVHQWW
FPC Ribbon Cable(100mm)	Cable	Required	1	\$5.70	\$5.70	Amazon	https://www.amazon.com/dp/B09R8X3QML	B09R8X3QML
FPC Ribbon Cable (500mm)	Cable	Required	1	\$9.70	\$9.70	Amazon	https://www.amazon.com/dp/B09R9VM566	B09R9VM566
22 AWG Ribbon Cable	Cable	Required	1	\$15.00	\$15.00	Amazon	https://www.amazon.com/dp/B09X47XBFS	B09X47XBFS
USB Cable (keyboard)	Cable	Required	1	\$9.00	\$9.00	Amazon	https://www.amazon.com/dp/B09Y5HH44X	B09Y5HH44X
18 AWG Power Wire	Cable	Required	1	\$7.20	\$7.20	Amazon	https://www.amazon.com/dp/B0B9JBS7TS	B0B9JBS7TS
USB 3.0 Cable	Cable	Required	1	\$0.00	\$0.00	Other	included with hub	na
18 AWG Male Barrel Connector	Cable	Required	1	\$5.00	\$5.00	Amazon	https://www.amazon.com/dp/B0DGGYQBNL	B0DGGYQBNL
5V Barrel Jack	Electronics	Required	1	\$0.64	\$0.64	Digikey	https://www.digikey.com/product-detail/en/839-54-00167-ND	839-54-00167-ND
USB Hub	Electronics	Required	1	\$41.00	\$41.00	Amazon	https://www.amazon.com/dp/B004DVEWH4	B004DVEWH4
FPC Connector	Electronics	Required	1	\$9.70	\$9.70	Amazon	https://www.amazon.com/dp/B016D0AA14	B016D0AA14
Momentary Pushbutton	Electronics	Required	1	\$5.40	\$5.40	Amazon	https://www.amazon.com/dp/B01CGMP9GY	B01CGMP9GY
Dip Switch 8 Position	Electronics	Required	1	\$14.30	\$14.30	Amazon	https://www.amazon.com/dp/B07M9YHW9N	B07M9YHW9N
Rotary Encoder	Electronics	Required	1	\$12.00	\$12.00	Amazon	https://www.amazon.com/dp/B07T3672VK	B07T3672VK
90 Degree Header	Electronics	Required	1	\$8.40	\$8.40	Amazon	https://www.amazon.com/dp/B07VK75P9L	B07VK75P9L
Linear Potentiometer 50K	Electronics	Required	1	\$12.70	\$12.70	Amazon	https://www.amazon.com/dp/B07W3HQRSN	B07W3HQRSN
10k Ohm & 10 Ohm 1206 Resistor	Electronics	Required	1	\$10.00	\$10.00	Amazon	https://www.amazon.com/dp/B08RYMYWG9	B08RYMYWG9
USB Breakout Male	Electronics	Required	1	\$9.00	\$9.00	Amazon	https://www.amazon.com/dp/B094NNWKJX	B094NNWKJX
USB Breakout Female	Electronics	Required	1	\$7.00	\$7.00	Amazon	https://www.amazon.com/dp/B09N8X9N4Y	B09N8X9N4Y
Keyboard	Electronics	Required	1	\$27.00	\$27.00	Amazon	https://www.amazon.com/dp/B0B6HZXRZD	B0B6HZXRZD
Monitor	Electronics	Required	2	\$46.00	\$92.00	Amazon	https://www.amazon.com/dp/B0C68TC6HK	B0C68TC6HK
Raspberry Pi 5	Electronics	Required	1	\$90.00	\$90.00	Amazon	https://www.amazon.com/dp/B0CK2FCG1K	B0CK2FCG1K
Micro SD Card	Electronics	Required	1	\$14.00	\$14.00	Amazon	https://www.amazon.com/dp/B0BDYVC5TD	B0BDYVC5TD

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Heatsink w Cooling Fan (Raspberry Pi 5)	Electronics	Required	1	\$10.00	\$10.00	Amazon	https://www.amazon.com/dp/B0CLXZBR5P	B0CLXZBR5P
5V Power Supply	Electronics	Required	1	\$12.00	\$12.00	Amazon	https://www.amazon.com/dp/B0CSVT325W	B0CSVT325W
Mini HDMI to HDMI 90 Degree Connector	Electronics	Required	1	\$14.00	\$14.00	Amazon	https://www.amazon.com/dp/B0CYCB2RNS	B0CYCB2RNS
USB-C 90 Degree Connector	Electronics	Required	1	\$14.00	\$14.00	Amazon	https://www.amazon.com/dp/B0CYCB2RNS	B0CYCB2RNS
Power Slide Switch	Electronics	Required	1	\$6.00	\$6.00	Amazon	https://www.amazon.com/dp/B0DN69L9SG	B0DN69L9SG
MOSFET	Electronics	Required	1	\$3.08	\$3.08	Digikey	https://www.digikey.com/product-detail/en/IRFP054NPBF-ND	IRFP054NPBF-ND
Extended Header	Electronics	Required	1	\$2.95	\$2.95	Adafruit	https://www.adafruit.com/product/1992	Product ID: 1992
Qwiic Connector	Electronics	Required	1	\$3.50	\$3.50	Adafruit	https://www.adafruit.com/product/4392	Product ID: 4392
PCB1	Electronics	Required	1	\$22.50	\$22.50	PCBWay	https://www.pcbway.com/product-detail/649354-ASM21	W649354ASM21
PCB2	Electronics	Required	1	\$22.50	\$22.50	PCBWay	https://www.pcbway.com/product-detail/649354-ASM22	W649354ASM22
PCB3	Electronics	Required	1	\$22.50	\$22.50	PCBWay	https://www.pcbway.com/product-detail/649354-ASM23	W649354ASM23
PCF8591 Analog to I2C Board	Electronics	Required	1	\$6.50	\$6.50	Adafruit	https://www.adafruit.com/product/4648	Product ID: 4648
Orange PLA 1kg	Filament	Required	1	\$28.00	\$28.00	Amazon	https://www.amazon.com/dp/B00J0EE1D4	B00J0EE1D4
Grey Matte PLA 1kg	Filament	Required	1	\$19.00	\$19.00	Amazon	https://www.amazon.com/dp/B0CFV69PCV	B0CFV69PCV
White Matte PLA 1kg	Filament	Required	1	\$21.00	\$21.00	Amazon	https://www.amazon.com/dp/B0D7ZW4P79	B0D7ZW4P79
Threadlocker Red	Hardware	Required	1	\$11.40	\$11.40	Amazon	https://www.amazon.com/dp/B07FMP2TBK	B07FMP2TBK
Dowel Pin, 4 x 14mm	Hardware	Required	1	\$8.00	\$8.00	Amazon	https://www.amazon.com/dp/B07YKXQTXG	B07YKXQTXG
M3 x 10mm Button Head Screw	Hardware	Required	1	\$8.80	\$8.80	Amazon	https://www.amazon.com/dp/B08H2HSPQD	B08H2HSPQD
M5 x 18mm Button Head Screw	Hardware	Required	1	\$9.00	\$9.00	Amazon	https://www.amazon.com/dp/B09HQQTH6Q	B09HQQTH6Q
M5 x 10mm Flat Head Screw	Hardware	Required	1	\$5.60	\$5.60	Amazon	https://www.amazon.com/dp/B0C1SFHGCW	B0C1SFHGCW
M5 Heatset Insert	Hardware	Required	1	\$7.00	\$7.00	Amazon	https://www.amazon.com/dp/B0CTCQN775	B0CTCQN775
M5 Locknut	Hardware	Required	1	\$0.57	\$0.57	Menards	https://www.menards.com/product/2028704	SKU: 2028704
Nuphy Keycaps	Electronics	Optional	1	\$60.00	\$60.00	Nuphy	https://nuphy.com/	The EM Lab
Temp Sensor	Electronics	Optional	1	\$11.00	\$11.00	Amazon	https://www.amazon.com/dp/B00M1PM55K	B00M1PM55K
FPC Breakout	Electronics	Optional	1	\$7.50	\$7.50	Amazon	https://www.amazon.com/dp/B09VPHW2QY	B09VPHW2QY
Lux Sensor	Electronics	Optional	1	\$4.95	\$4.95	Adafruit	https://www.adafruit.com/product/4162	Product ID: 4162
PCF8591 Analog to I2C Board	Electronics	Optional	1	\$6.50	\$6.50	Adafruit	https://www.adafruit.com/product/4648	Product ID: 4648
1 Wire to I2C Board	Electronics	Optional	1	\$7.50	\$7.50	Adafruit	https://www.adafruit.com/product/5976	Product ID: 5976

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pH Sensor	Electronics	Optional		1	\$65.00	\$65.00	DFRobot	https://www.dfrobot.com	SKU: SEN0169-V2
PCB4	Electronics	Optional		1	\$22.50	\$22.50	PCBWay	https://www.pcbway.com	W649354ASM20
USB Male Connector	Electronics	Optional		1	\$6.00	\$6.00	Amazon	https://www.amazon.com	B00DC54FK6
USB WiFi Extender Antenna	Electronics	Optional		1	\$11.00	\$11.00	Amazon	https://www.amazon.com	B0CGJGTZLQ
Rubber Pads, anti skid	Hardware	Optional		1	\$8.00	\$8.00	Amazon	https://www.amazon.com	B07CNQC695
Required Items Cost	\$728.14								
Required + Optional Item Cost	\$938.09								
These prices do not include shipping or tax. Many of these parts are sold in quantities greater than necessary. You may be able to reduce cost by sourcing parts at the quantity required or from other vendors. The prices listed are current as of 07/01/2025.									

[1] Used hatchbox matte grey but not available at the time of documenting sources. This color is similar but I have not tested it.