

Part Name	Category	Requirement	# Quantity	Cost	Net Cost	Source	Link	Part Number
Micro HDMI Adapter	Cable	Required	1	\$10.00	\$10.00	Amazon	<a href="https://www.amazon.com/dp/B00JDRHQ58">https://www.amazon.com/dp/B00JDRHQ58</a>	B00JDRHQ58
120V Cable	Cable	Required	1	\$10.00	\$10.00	Amazon	<a href="https://www.amazon.com/dp/B06XRKMYKR">https://www.amazon.com/dp/B06XRKMYKR</a>	B06XRKMYKR
Qwiic Cables	Cable	Required	1	\$10.00	\$10.00	Amazon	<a href="https://www.amazon.com/dp/B08HQ1VSVL">https://www.amazon.com/dp/B08HQ1VSVL</a>	B08HQ1VSVL
HDMI Cable 3.3ft	Cable	Required	1	\$8.80	\$8.80	Amazon	<a href="https://www.amazon.com/dp/B09FT1MNSC">https://www.amazon.com/dp/B09FT1MNSC</a>	B09FT1MNSC
HDMI Cable 1.6ft	Cable	Required	1	\$8.70	\$8.70	Amazon	<a href="https://www.amazon.com/dp/B09LS9LS24">https://www.amazon.com/dp/B09LS9LS24</a>	B09LS9LS24
USB Cable (Monitor)	Cable	Required	1	\$18.00	\$18.00	Amazon	<a href="https://www.amazon.com/dp/B09MCVHQWW">https://www.amazon.com/dp/B09MCVHQWW</a>	B09MCVHQWW
FPC Ribbon Cable(100mm)	Cable	Required	1	\$5.70	\$5.70	Amazon	<a href="https://www.amazon.com/dp/B09R8X3QML">https://www.amazon.com/dp/B09R8X3QML</a>	B09R8X3QML
FPC Ribbon Cable (500mm)	Cable	Required	1	\$9.70	\$9.70	Amazon	<a href="https://www.amazon.com/dp/B09R9VM566">https://www.amazon.com/dp/B09R9VM566</a>	B09R9VM566
22 AWG Ribbon Cable	Cable	Required	1	\$15.00	\$15.00	Amazon	<a href="https://www.amazon.com/dp/B09X47XBFS">https://www.amazon.com/dp/B09X47XBFS</a>	B09X47XBFS
USB Cable (keyboard)	Cable	Required	1	\$9.00	\$9.00	Amazon	<a href="https://www.amazon.com/dp/B09Y5HH44X">https://www.amazon.com/dp/B09Y5HH44X</a>	B09Y5HH44X
18 AWG Power Wire	Cable	Required	1	\$7.20	\$7.20	Amazon	<a href="https://www.amazon.com/dp/B0B9JBS7TS">https://www.amazon.com/dp/B0B9JBS7TS</a>	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	<a href="https://www.amazon.com/dp/B0DGGYQBNL">https://www.amazon.com/dp/B0DGGYQBNL</a>	B0DGGYQBNL
5V Barrel Jack	Electronics	Required	1	\$0.64	\$0.64	Digikey	<a href="https://www.digikey.com/product-detail/en/839-54-00167-ND">https://www.digikey.com/product-detail/en/839-54-00167-ND</a>	839-54-00167-ND
USB Hub	Electronics	Required	1	\$41.00	\$41.00	Amazon	<a href="https://www.amazon.com/dp/B004DVEWH4">https://www.amazon.com/dp/B004DVEWH4</a>	B004DVEWH4
FPC Connector	Electronics	Required	1	\$9.70	\$9.70	Amazon	<a href="https://www.amazon.com/dp/B016D0AA14">https://www.amazon.com/dp/B016D0AA14</a>	B016D0AA14
Momentary Pushbutton	Electronics	Required	1	\$5.40	\$5.40	Amazon	<a href="https://www.amazon.com/dp/B01CGMP9GY">https://www.amazon.com/dp/B01CGMP9GY</a>	B01CGMP9GY
Dip Switch 8 Position	Electronics	Required	1	\$14.30	\$14.30	Amazon	<a href="https://www.amazon.com/dp/B07M9YHW9N">https://www.amazon.com/dp/B07M9YHW9N</a>	B07M9YHW9N
Rotary Encoder	Electronics	Required	1	\$12.00	\$12.00	Amazon	<a href="https://www.amazon.com/dp/B07T3672VK">https://www.amazon.com/dp/B07T3672VK</a>	B07T3672VK
90 Degree Header	Electronics	Required	1	\$8.40	\$8.40	Amazon	<a href="https://www.amazon.com/dp/B07VK75P9L">https://www.amazon.com/dp/B07VK75P9L</a>	B07VK75P9L
Linear Potentiometer 50K	Electronics	Required	1	\$12.70	\$12.70	Amazon	<a href="https://www.amazon.com/dp/B07W3HQRSN">https://www.amazon.com/dp/B07W3HQRSN</a>	B07W3HQRSN
10k Ohm & 10 Ohm 1206 Resistor	Electronics	Required	1	\$10.00	\$10.00	Amazon	<a href="https://www.amazon.com/dp/B08RYMYWG9">https://www.amazon.com/dp/B08RYMYWG9</a>	B08RYMYWG9
USB Breakout Male	Electronics	Required	1	\$9.00	\$9.00	Amazon	<a href="https://www.amazon.com/dp/B094NNWKJX">https://www.amazon.com/dp/B094NNWKJX</a>	B094NNWKJX
USB Breakout Female	Electronics	Required	1	\$7.00	\$7.00	Amazon	<a href="https://www.amazon.com/dp/B09N8X9N4Y">https://www.amazon.com/dp/B09N8X9N4Y</a>	B09N8X9N4Y
Keyboard	Electronics	Required	1	\$27.00	\$27.00	Amazon	<a href="https://www.amazon.com/dp/B0B6HZXRZD">https://www.amazon.com/dp/B0B6HZXRZD</a>	B0B6HZXRZD
Monitor (Original listing has changed since built. This appears to be a direct replacement though I cannot confirm)	Electronics	Required	2	\$46.00	\$92.00	Amazon	<a href="https://www.amazon.com/dp/B0C697QBK4">https://www.amazon.com/dp/B0C697QBK4</a>	B0C697QBK4
Raspberry Pi 5	Electronics	Required	1	\$90.00	\$90.00	Amazon	<a href="https://www.amazon.com/dp/B0CK2FCG1K">https://www.amazon.com/dp/B0CK2FCG1K</a>	B0CK2FCG1K

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Micro SD Card	Electronics	Required	1	\$14.00	\$14.00	Amazon	<a href="https://www.amazon.com/s?k=Micro+SD+Card">https://www.amazon.com/s?k=Micro+SD+Card</a>	B0BDYVC5TD
Heatsink w Cooling Fan (Raspberry Pi 5)	Electronics	Required	1	\$10.00	\$10.00	Amazon	<a href="https://www.amazon.com/s?k=Heatsink+w+Cooling+Fan+(Raspberry+Pi+5)">https://www.amazon.com/s?k=Heatsink+w+Cooling+Fan+(Raspberry+Pi+5)</a>	B0CLXZBR5P
5V Power Supply	Electronics	Required	1	\$12.00	\$12.00	Amazon	<a href="https://www.amazon.com/s?k=5V+Power+Supply">https://www.amazon.com/s?k=5V+Power+Supply</a>	B0CSVT325W
Mini HDMI to HDMI 90 Degree Connector	Electronics	Required	1	\$14.00	\$14.00	Amazon	<a href="https://www.amazon.com/s?k=Mini+HDMI+to+HDMI+90+Degree+Connector">https://www.amazon.com/s?k=Mini+HDMI+to+HDMI+90+Degree+Connector</a>	B0CYCB2RNS
USB-C 90 Degree Connector	Electronics	Required	1	\$14.00	\$14.00	Amazon	<a href="https://www.amazon.com/s?k=USB-C+90+Degree+Connector">https://www.amazon.com/s?k=USB-C+90+Degree+Connector</a>	B0CYCB2RNS
Power Slide Switch	Electronics	Required	1	\$6.00	\$6.00	Amazon	<a href="https://www.amazon.com/s?k=Power+Slide+Switch">https://www.amazon.com/s?k=Power+Slide+Switch</a>	B0DN69L9SG
MOSFET	Electronics	Required	1	\$3.08	\$3.08	Digikey	<a href="https://www.digikey.com/en/products/detail/Infineon-Technologies/IRFP054NPBF-ND">https://www.digikey.com/en/products/detail/Infineon-Technologies/IRFP054NPBF-ND</a>	IRFP054NPBF-ND
Extended Header	Electronics	Required	1	\$2.95	\$2.95	Adafruit	<a href="https://www.adafruit.com/product/1992">https://www.adafruit.com/product/1992</a>	Product ID: 1992
Qwiic Connector	Electronics	Required	1	\$3.50	\$3.50	Adafruit	<a href="https://www.adafruit.com/product/4392">https://www.adafruit.com/product/4392</a>	Product ID: 4392
PCB1	Electronics	Required	1	\$22.50	\$22.50	PCBWay	<a href="https://www.pcbway.com/Products/PCB/649354ASM21.aspx">https://www.pcbway.com/Products/PCB/649354ASM21.aspx</a>	W649354ASM21
PCB2	Electronics	Required	1	\$22.50	\$22.50	PCBWay	<a href="https://www.pcbway.com/Products/PCB/649354ASM22.aspx">https://www.pcbway.com/Products/PCB/649354ASM22.aspx</a>	W649354ASM22
PCB3	Electronics	Required	1	\$22.50	\$22.50	PCBWay	<a href="https://www.pcbway.com/Products/PCB/649354ASM23.aspx">https://www.pcbway.com/Products/PCB/649354ASM23.aspx</a>	W649354ASM23
PCF8591 Analog to I2C Board	Electronics	Required	1	\$6.50	\$6.50	Adafruit	<a href="https://www.adafruit.com/product/4648">https://www.adafruit.com/product/4648</a>	Product ID: 4648
Orange PLA 1kg	Filament	Required	1	\$28.00	\$28.00	Amazon	<a href="https://www.amazon.com/s?k=Orange+PLA+1kg">https://www.amazon.com/s?k=Orange+PLA+1kg</a>	B00J0EE1D4
Grey Matte PLA 1kg	Filament	Required	1	\$19.00	\$19.00	Amazon	<a href="https://www.amazon.com/s?k=Grey+Matte+PLA+1kg">https://www.amazon.com/s?k=Grey+Matte+PLA+1kg</a>	B0CFV69PCV
White Matte PLA 1kg	Filament	Required	1	\$21.00	\$21.00	Amazon	<a href="https://www.amazon.com/s?k=White+Matte+PLA+1kg">https://www.amazon.com/s?k=White+Matte+PLA+1kg</a>	B0D7ZW4P79
Threadlocker Red	Hardware	Required	1	\$11.40	\$11.40	Amazon	<a href="https://www.amazon.com/s?k=Threadlocker+Red">https://www.amazon.com/s?k=Threadlocker+Red</a>	B07FMP2TBK
Dowel Pin, 4 x 14mm	Hardware	Required	1	\$8.00	\$8.00	Amazon	<a href="https://www.amazon.com/s?k=Dowel+Pin,+4+x+14mm">https://www.amazon.com/s?k=Dowel+Pin,+4+x+14mm</a>	B07YKXQTXG
M3 x 10mm Button Head Screw	Hardware	Required	1	\$8.80	\$8.80	Amazon	<a href="https://www.amazon.com/s?k=M3+x+10mm+Button+Head+Screw">https://www.amazon.com/s?k=M3+x+10mm+Button+Head+Screw</a>	B08H2HSPQD
M5 x 18mm Button Head Screw	Hardware	Required	1	\$9.00	\$9.00	Amazon	<a href="https://www.amazon.com/s?k=M5+x+18mm+Button+Head+Screw">https://www.amazon.com/s?k=M5+x+18mm+Button+Head+Screw</a>	B09HQKTH6Q
M5 x 10mm Flat Head Screw	Hardware	Required	1	\$5.60	\$5.60	Amazon	<a href="https://www.amazon.com/s?k=M5+x+10mm+Flat+Head+Screw">https://www.amazon.com/s?k=M5+x+10mm+Flat+Head+Screw</a>	B0C1SFHGCW
M5 Heatset Insert	Hardware	Required	1	\$7.00	\$7.00	Amazon	<a href="https://www.amazon.com/s?k=M5+Heatset+Insert">https://www.amazon.com/s?k=M5+Heatset+Insert</a>	B0CTCQN775
M5 Locknut	Hardware	Required	1	\$0.57	\$0.57	Menards	<a href="https://www.menards.com/main/hardware/locks-and-fasteners/locknuts/2028704/pdp.aspx?cid=menards">https://www.menards.com/main/hardware/locks-and-fasteners/locknuts/2028704/pdp.aspx?cid=menards</a>	SKU: 2028704
Nuphy Keycaps	Electronics	Optional	1	\$60.00	\$60.00	Nuphy	<a href="https://nuphy.com/">https://nuphy.com/</a>	The EM Lab
Temp Sensor	Electronics	Optional	1	\$11.00	\$11.00	Amazon	<a href="https://www.amazon.com/s?k=Temp+Sensor">https://www.amazon.com/s?k=Temp+Sensor</a>	B00M1PM55K
FPC Breakout	Electronics	Optional	1	\$7.50	\$7.50	Amazon	<a href="https://www.amazon.com/s?k=FPC+Breakout">https://www.amazon.com/s?k=FPC+Breakout</a>	B09VPHW2QY
Lux Sensor	Electronics	Optional	1	\$4.95	\$4.95	Adafruit	<a href="https://www.adafruit.com/product/4162">https://www.adafruit.com/product/4162</a>	Product ID: 4162
PCF8591 Analog to I2C Board	Electronics	Optional	1	\$6.50	\$6.50	Adafruit	<a href="https://www.adafruit.com/product/4648">https://www.adafruit.com/product/4648</a>	Product ID: 4648

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1 Wire to I2C Board	Electronics	Optional		1	\$7.50	\$7.50	<a href="#">Adafruit</a>	<a href="https://www.adafru">https://www.adafru</a>	Product ID: 5976
pH Sensor	Electronics	Optional		1	\$65.00	\$65.00	<a href="#">DFRobot</a>	<a href="https://www.dfrobo">https://www.dfrobo</a>	SKU: SEN0169-V2
PCB4	Electronics	Optional		1	\$22.50	\$22.50	<a href="#">PCBWay</a>	<a href="https://www.pcbwa">https://www.pcbwa</a>	W649354ASM20
USB Male Connector	Electronics	Optional		1	\$6.00	\$6.00	<a href="#">Amazon</a>	<a href="https://www.amazc">https://www.amazc</a>	B00DC54FK6
USB WiFi Extender Antenna	Electronics	Optional		1	\$11.00	\$11.00	<a href="#">Amazon</a>	<a href="https://www.amazc">https://www.amazc</a>	B0CGJGTZLQ
Rubber Pads, anti skid	Hardware	Optional		1	\$8.00	\$8.00	<a href="#">Amazon</a>	<a href="https://www.amazc">https://www.amazc</a>	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.