1. **Microcontroller** - SeeedXiao ESP32S3
2. **Stepper Motor Driver** - (U2) - ULN2003
3. **Stepper Motor** - x27.168
4. **LED (D1)** - Standard indicator LED
5. **Resistor (R5)** - 2k ohm
6. **Resistors:**
     a. R1, R2, R3, R4 - 4.7k ohm.
     b. R5 - 2k ohm.
     c. R6 - 2k ohm.
7. **Capacitors:**
     a. C1 - 10uF.
     b. C2, C3 - 0.1uF.
8. **Potentiometer (RV1)** - uxcell; Item model number : a19032800ux0903
9. **OLED Display (J3)** - SSD1306
10. **Push Switch (SW1)** - B3F
11. **SPDT Switch (SW2)** - Breadboard-friendly SPDT Slide Switch, Product ID: 805
12. **Voltage Regulator (U1)** - AMS1117-3.3 (3.3V output)
13. **Power** - 4 AA Battery Holder with wires

SW2
SW_SPDT

J1 PWR_FLAG
POWER

+5V

U1
AMS1117-3.3

+3V3

PWR_FLAG
GND

C1
10uF

VI GND VO

C2
10uF

C3
0.1uF

R5
2K

GND   GND   GND   GND

D1
LED

GND

+5V

R1
4.7K

R2
4.7K

R3
4.7K

R4
4.7K

U2
ULN2003

+5V

COM 9

P10 1 I1   O1 16
P11 2 I2   O2 15
P12 3 I3   O3 14
P13 4 I4   O4 13
     5 I5   O5 12
     6 I6   O6 11
     7 I7   O7 10

     8 GND

GND   GND

M1
Stepper_Motor_bipolar

SW1
SW_Push

U3

+5V +3V3

+3V3

GND

RV1
R_Potentiometer_Small

1 GPIO1_A0_D0
2 GPIO2_A1_D1
3 GPIO3_A2_D2
4 GPIO4_A3_D3
5 GPIO4_A3_D3_SDA
6 GPIO6_A5_D5_SCL
7 GPIO43_TX_D6

5V   8
GND   9
3V3   10
GPIO9_A10_D10_COPI 11
GPIO8_A9_D9_CIPO   12
GPIO7_A8_D8_SCK   13
GPIO44_D7_RX   14

GND

P10
P11
P12
P13

R6
2K

J3
OLED

1
2
3 +5V
4 GND

GND

H1
MountingHole_Pad

H2
MountingHole_Pad

H3
MountingHole_Pad

H4
MountingHole_Pad

GND   GND   GND   GND

Stepper_Motor_bipolar

H1
GND
MountingHole_Pad

H2
GND
MountingHole_Pad

M1
M1

R6
RV1 1K
R4
U2
R3
R2
R1
R5
LED
D1
2K
0.1uF
C3
U1 C2
4.7K
ULN2003
U2

+3V3
+5V

+3V3
+3V3
+5V
+5V
AMS...7.3.3
C1
1uF
+5V
+5V

SW_SPDT
SW2
GND
GND

SW1
SW1
SW1
SW_Push

J1
POWER

J3

OLED

H3
GND
MountingHole_Pad

Jingyi Jia
Display Device
V 1.0

H4
GND
MountingHole_Pad