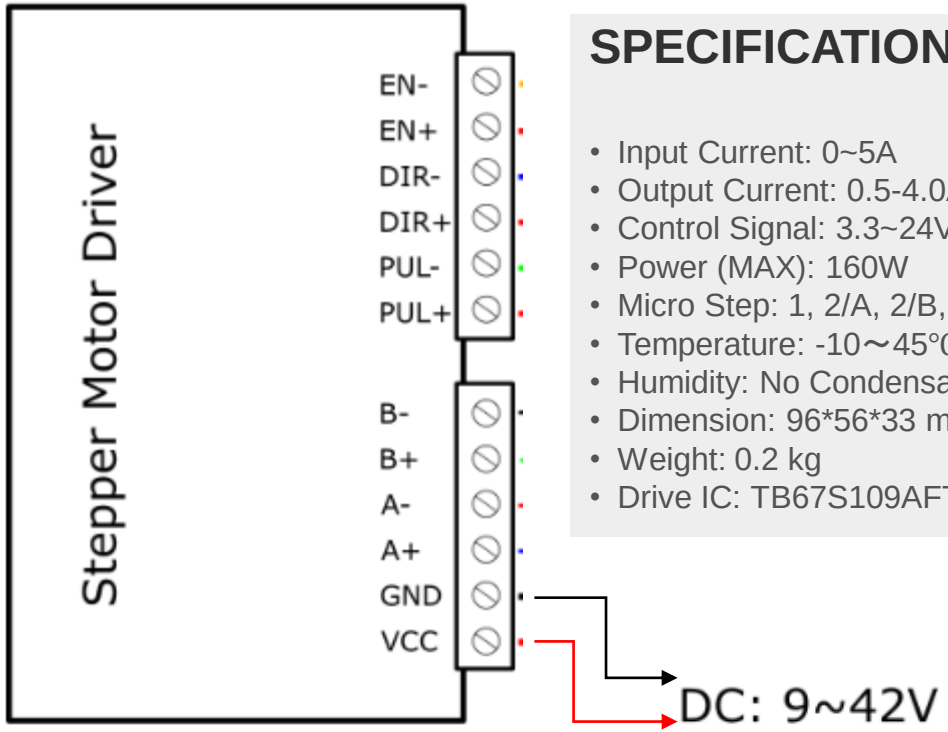
Dear Duilio,

This document specifies both the connection diagram and the assembly scheme of the system according to the photo that you sent me of the valves, considering the averages.

The proof of concept is made for a valve as requested, but I was thinking that a mobile or desktop application could be made to communicate with the ESP-32 since it is a card that works as IoT, I put that suggestion to your criterion.

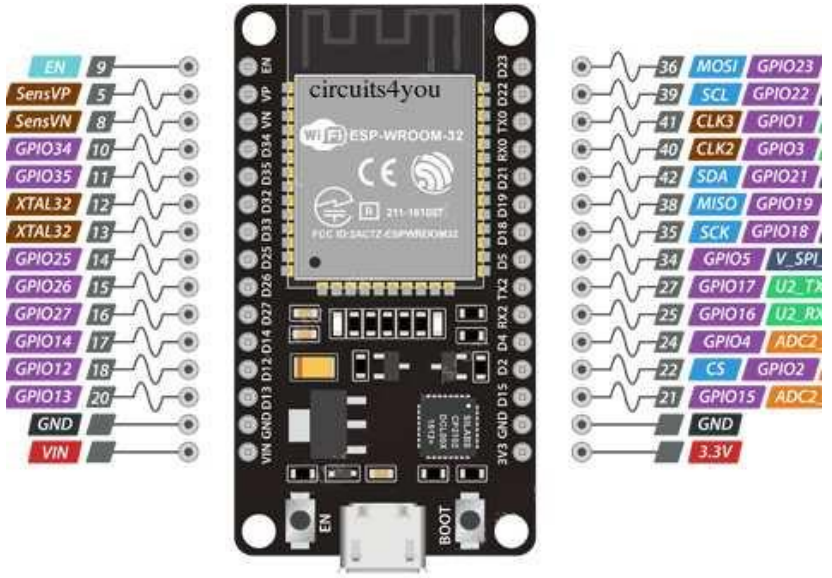
Do not hesitate to contact me if you have any questions or difficulties, I will be willing to help

ELEMENTS



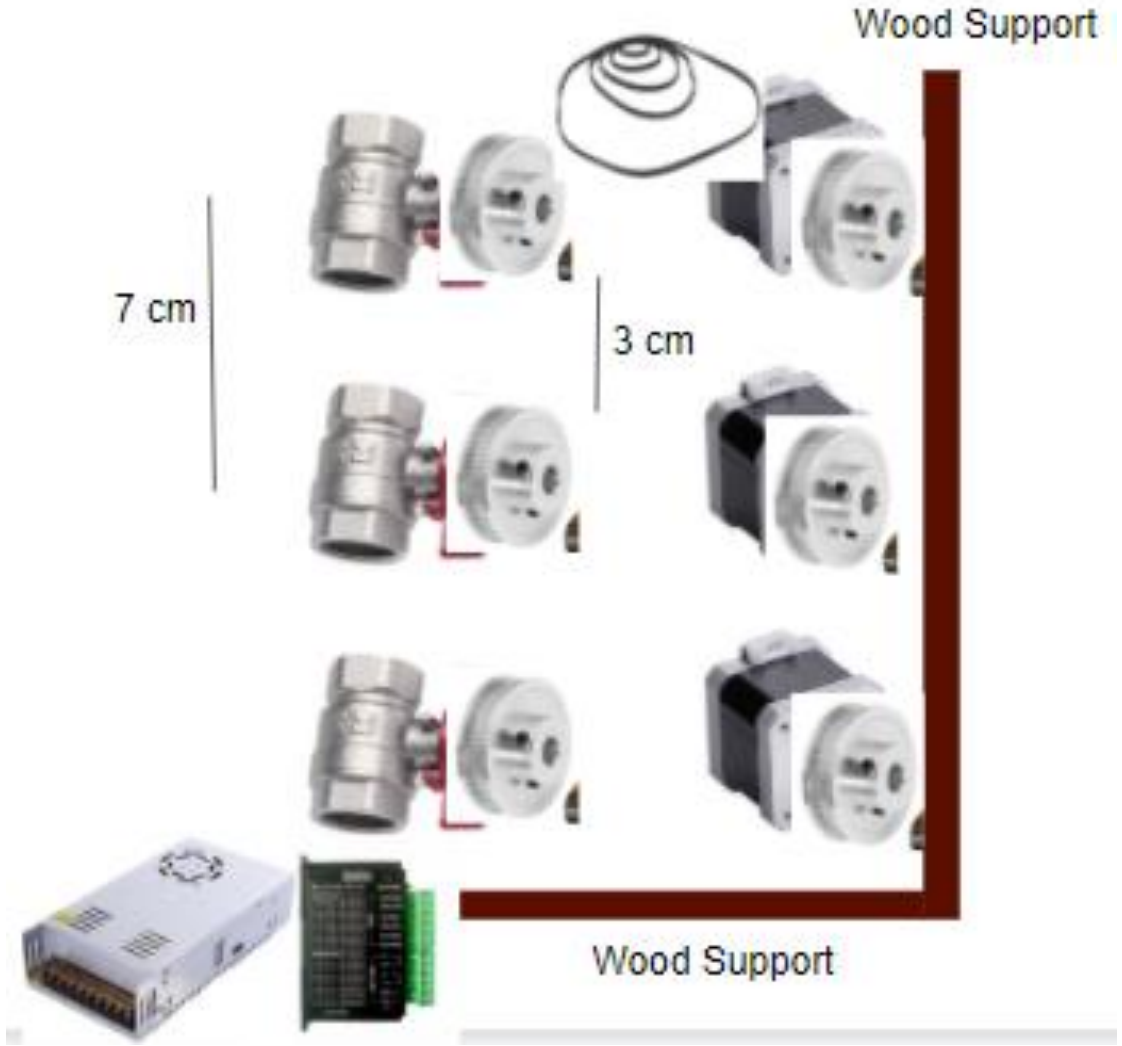
SPECIFICATION

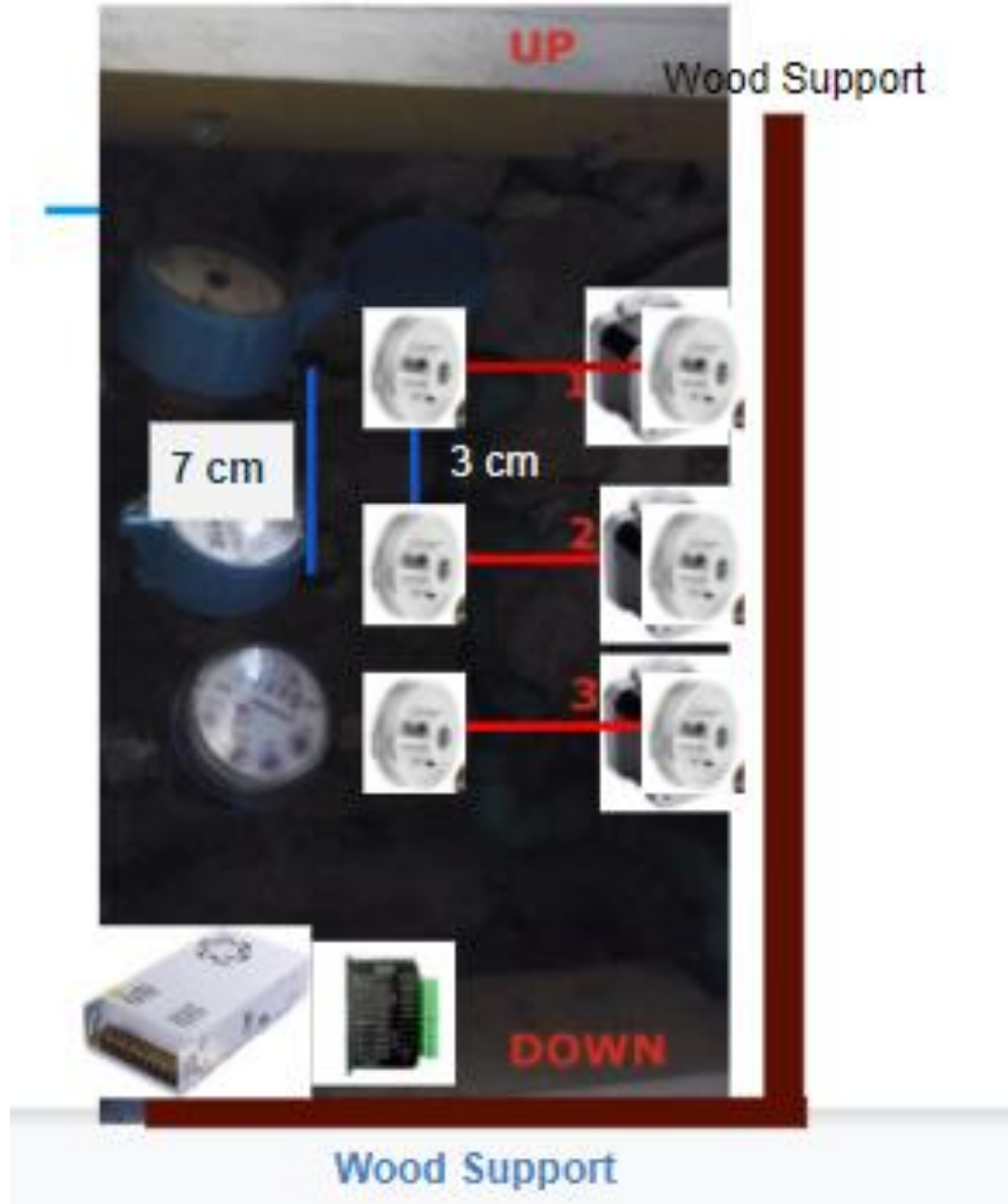
- Input Current: 0~5A
- Output Current: 0.5-4.0A
- Control Signal: 3.3~24V
- Power (MAX): 160W
- Micro Step: 1, 2/A, 2/B, 4, 8, 16, 32
- Temperature: -10～45℃
- Humidity: No Condensation
- Dimension: 96*56*33 mm/ 3.78*2.2*1.3 inches
- Weight: 0.2 kg
- Drive IC: TB67S109AFTG



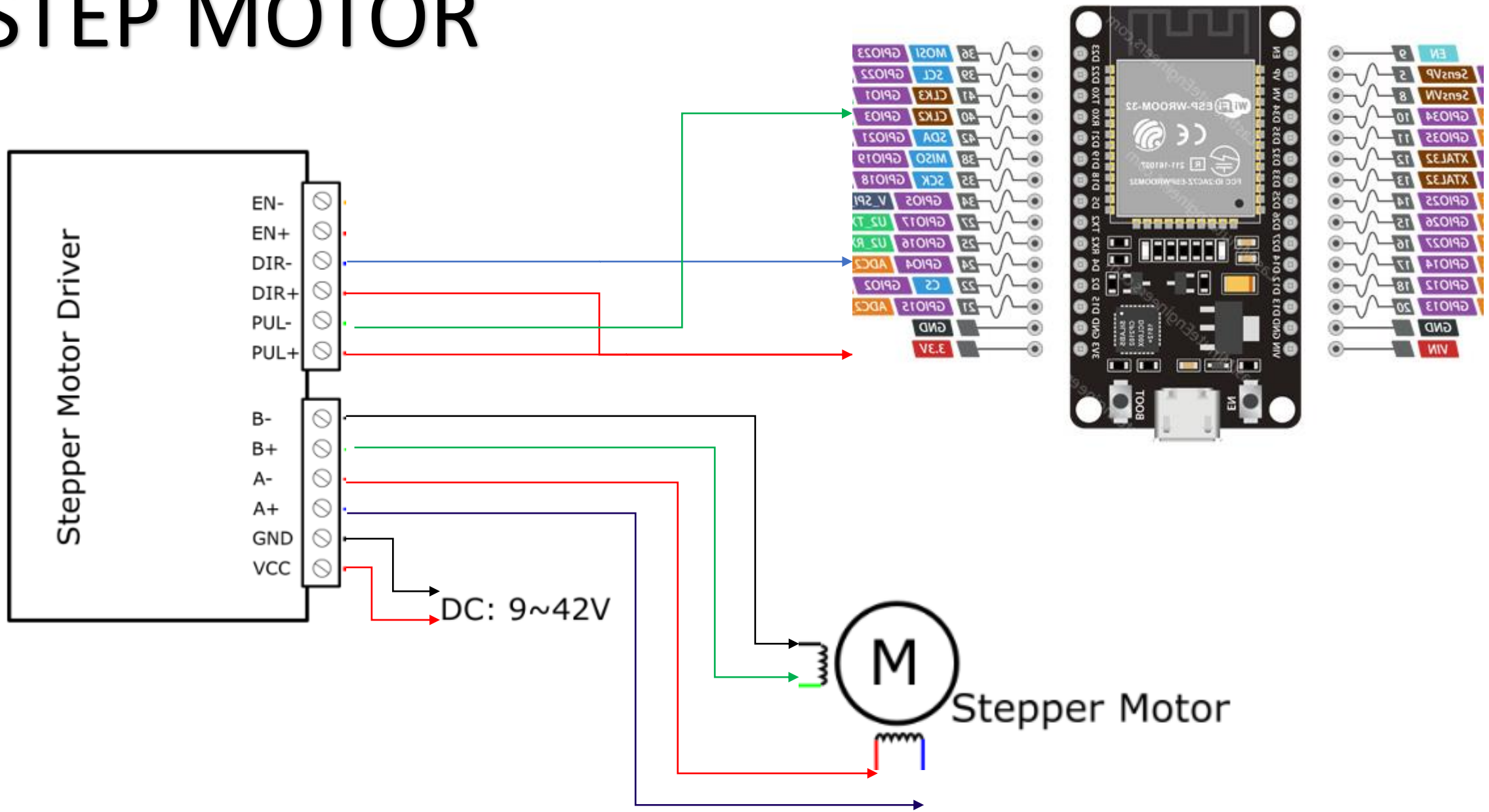
The driver must be connected from 9 to 42V and the ESP-32 Card must be connected with 3.3 V.


UP
1
2
3
DOWN


Wood Support
7 cm
3 cm
Wood Support


UP
Wood Support
7 cm
3 cm
1
2
3
DOWN
Wood Support

STEP MOTOR


Stepper Motor Driver
EN-
EN+
DIR-
DIR+
PUL-
PUL+
B-
B+
A-
A+
GND
VCC
DC: 9~42V
M
Stepper Motor

Current (A)	Peak current	S4	S5	S6
0.5	0.7	ON	ON	ON
1.0	1.2	ON	OFF	ON
1.5	1.7	ON	ON	OFF
2.0	2.2	ON	OFF	OFF
2.5	2.7	OFF	ON	ON
2.8	2.9	OFF	OFF	ON
3.0	3.2	OFF	ON	OFF
3.5	4.0	OFF	OFF	OFF

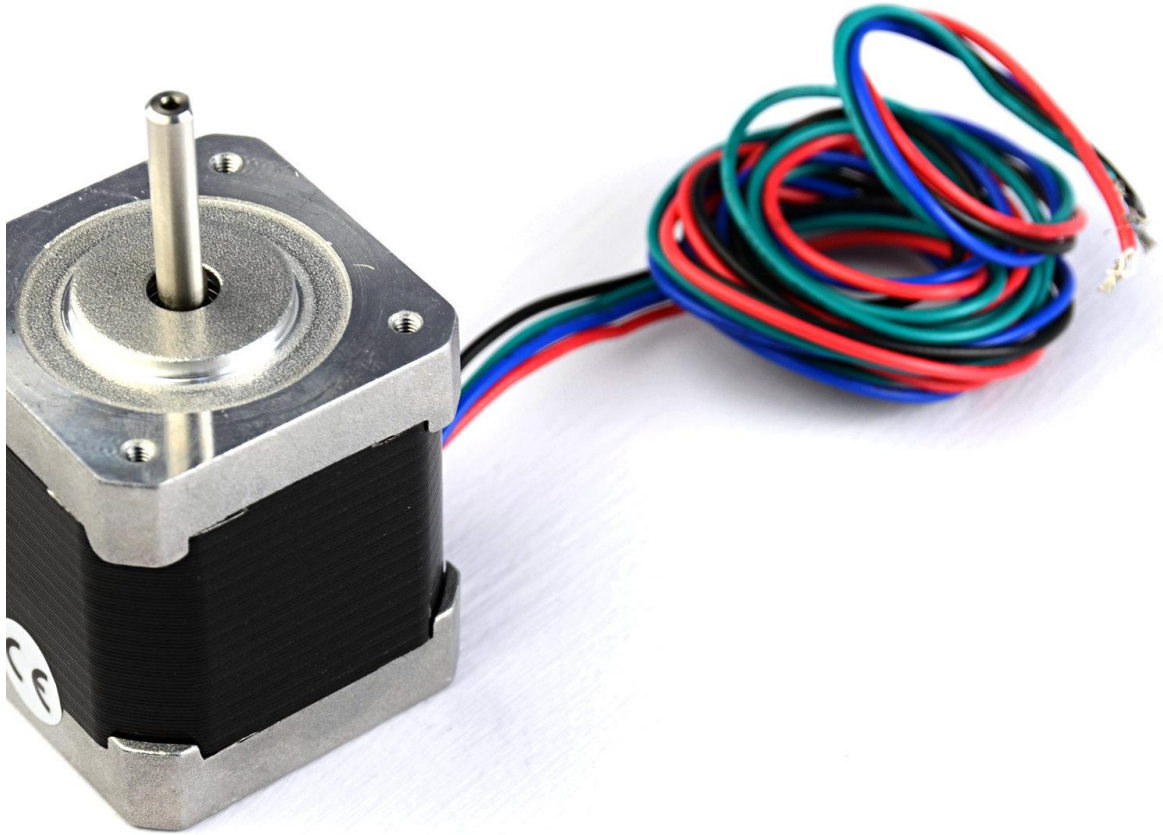
S1	S2	S3	Microstep resolution
ON	ON	ON	NC
ON	ON	OFF	Full step
ON	OFF	ON	1/2 step
OFF	ON	ON	1/2 step
ON	OFF	OFF	1/4 step
OFF	ON	OFF	1/8 step
OFF	OFF	ON	1/16 step
OFF	OFF	OFF	1/32 step

TB 6600 Driver

- The configuration of the switches so that the driver can command the NEMA 17 stepper motor is shown in the images shown

STEP MOTORS

- Each motor cable is connected according to the color in the connection diagram



COM8

89

Ser

```
Start...
Valve: 0
I received: 23

This is the position function
The valve is openning
The valve is openned
You change the position of the valveLevel saved in memory, this is the actual position:
23I received: 89

This is the position function
The valve is openning
The valve is openned
You change the position of the valveLevel saved in memory, this is the actual position:
89
```

Autoscroll

Both NL & CR

115200 baud

Clear outpu

COM8

10

Send

```
configsip: 0, SPIWP:0xee
clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
mode:DIO, clock div:1
load:0x3fff0018,len:4
load:0x3fff001c,len:1216
ho 0 tail 12 room 4
load:0x40078000,len:10864
load:0x40080400,len:6432
entry 0x400806b8
Start...
Valve: 89
I received: 10

This is the position function
The valve is closing
The valve is closed
You change the position of the valveLevel saved in memory, this is the actual position:
10
```

Autoscroll

Both NL & CR

115200 baud

Clear output