

myFocuserPro DRV8825-HW203 Solderless

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This document provides a solderless solution to building a myFocuserPro DRV8825focus controller.

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COPYRIGHT RESTRICTIONS

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PARTS REQUIRED

ARDUINO NANO MOUNTING BOARD AND ARDUINO NANO CH340G CHIP

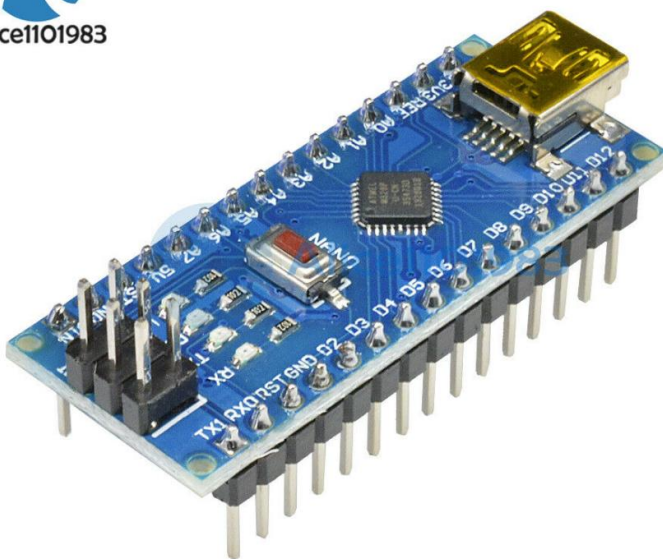
<https://www.ebay.com.au/itm/Nano-Terminal-Adapter-for-the-Arduino-Nano-V3-0-AVR-ATMEGA328P-AU-Module-Board/282567042276>



<https://www.ebay.com/itm/Mini-USB-Nano-V3-0-CH340G-ATmega328P-5V-16M-Micro-Controller-Board-for-Arduino/401459736276>



Alice1101983

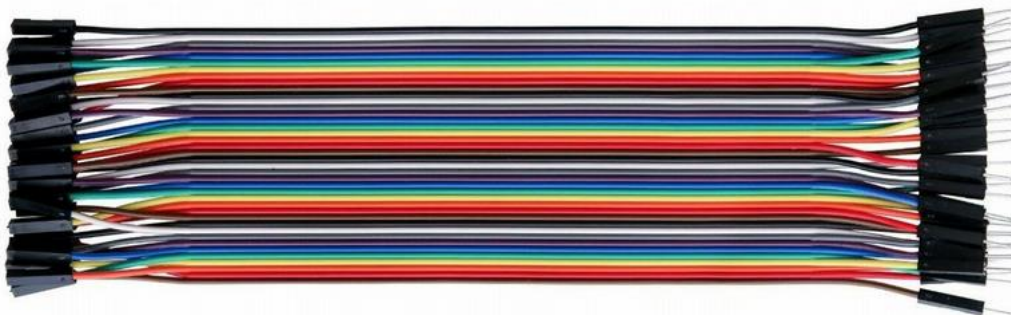


TEMPERATURE PROBE MOUNTING BOARD AND TEMPERATURE PROBE DS18B20

<https://www.ebay.com/itm/DS18B20-Temperature-Sensor-Probe-WaterProof-Plugable-Terminal-Adapter-Module/401665092329>



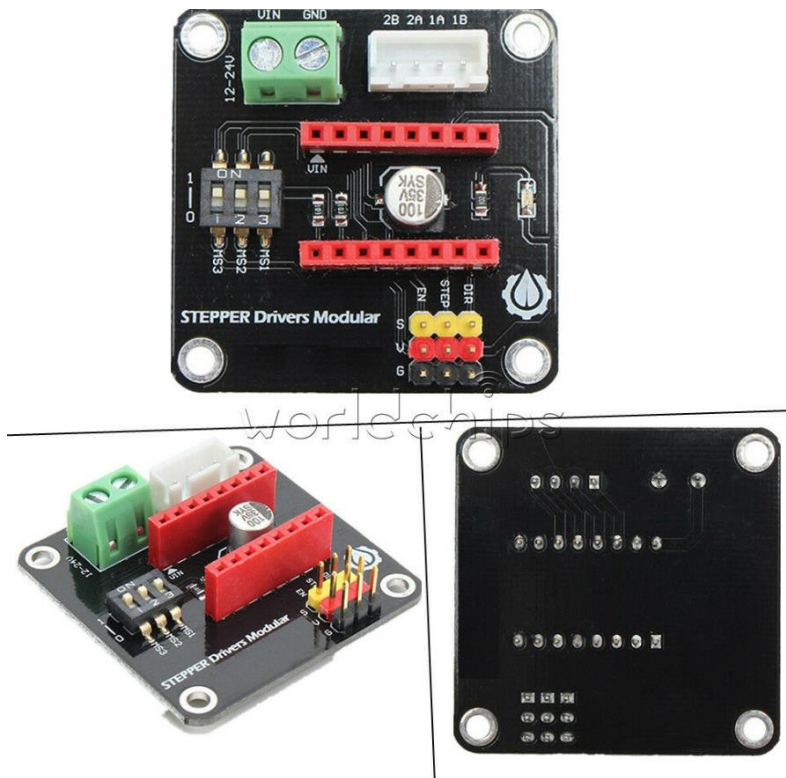
The DS18B20 probe wires screw into the respective terminals (Black is ground, Red is VCC and Yellow is DAT). Use Arduino connector wires Male (screws into Nano board) to Female (pushes onto the DAT, VCC and GND pins) to connect the temperature probe mounting board to the Nano board.



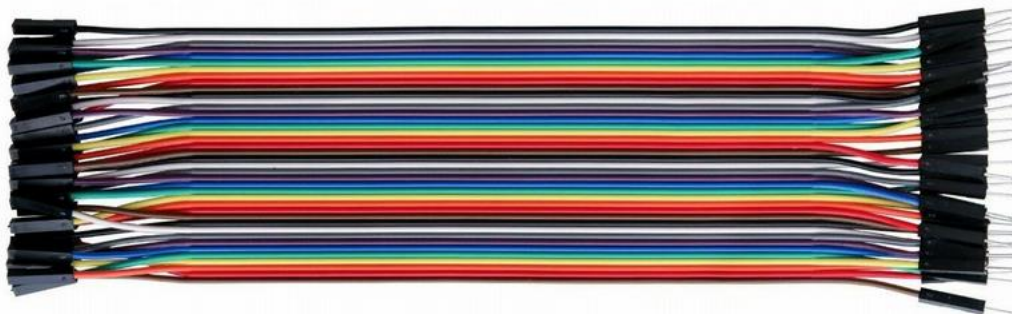
<https://www.ebay.com/itm/40PCS-20cm-Male-Female-Connector-DIY-Cable-Dupont-Wire-Jumper-Cables-For-Arduino/312493670122>

DRV8825 MOUNTING BOARD

<https://www.ebay.com/itm/DRV8825-A4988-42-CH-Stepper-Motor-Driver-Expansion-Board-For-UNO-R3-3D-Printer/332441054084>



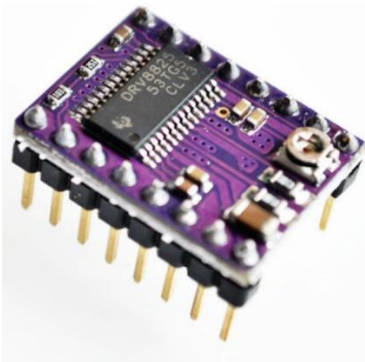
Use Arduino connector wires Male (screws into Nano board) to Female (pushes onto Dir, Step and Enable pins) to connect the DRV8825 mounting board to the Nano board.



<https://www.ebay.com/itm/40PCS-20cm-Male-Female-Connector-DIY-Cable-Dupont-Wire-Jumper-Cables-For-Arduino/312493670122>

DRV8825 CHIP

<https://www.ebay.com/itm/1Pc-DRV8825-Stepper-Motor-Driver-Module-For-3D-Printer-RepRap-StepStick-Arduino/382329826128>



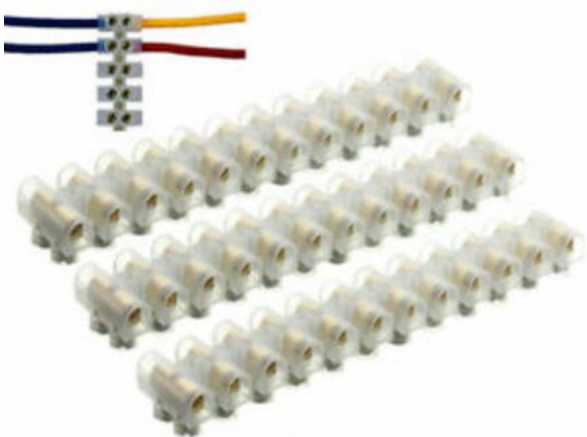
This chip plugs into the DRV8825 mounting board.

You will need to adjust the current using the small pot. For details on this procedure, please refer to the main PDF document for the myFocuserPro2 project.

<https://sourceforge.net/projects/arduinoascomfocuserpro2diy/files/Documentation/myFocuserPro2.pdf/download>

12 Way Barrier Screw Terminal Block Wire Connection Connector Strip 3A

<https://www.ebay.com/itm/12-Way-Barrier-Screw-Terminal-Block-Wire-Connection-Connector-Strip-3A/283627090566>



You can cut this because you only need 4. It will be used to connect the stepper motor to the DRV8825 board.

Screw the stepper wires into the terminal board, one stepper wire for each connector.

JST XH2.54 4P Plug Terminal Female Connector Cable 20cm

<https://www.ebay.com/itm/JST-XH2-54-2P-3P-4P-5P-6P-Plug-Terminal-Wire-Male-Female-Connector-Cable/123805491575>



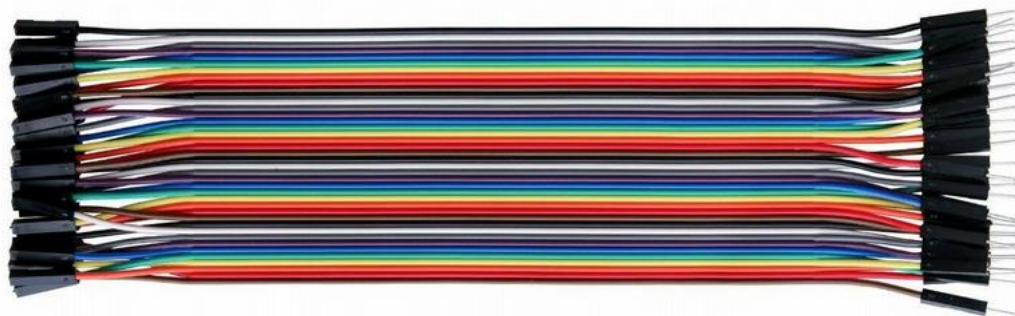
The header cable plugs into the 4P connector on the DRV8825 adapter module board and the 4 wires connect into the screw terminal block, then the other side of the terminal block goes to the stepper motor.

I2C 0.96" OLED DISPLAY

<https://www.ebay.com/itm/0-96-I2C-IIC-Serial-128X64-OLED-LCD-LED-Display-Module-SSD1306-GND-for-Arduino/112545638866>



Use Arduino connector wires Male (screws into Nano board) to Female (pushes onto 4 pins at back of OLED) to connect the OLED to the Nano board.



WHERE TO GET A STEPPER MOTOR

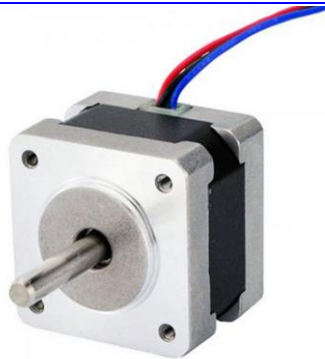
<https://www.omc-stepperonline.com/>

Make sure the coil current is rated at 0.4A

Do NOT purchase a stepper motor which has a higher current than 0.4A

NEMA14 0.9 400 STEP

<https://www.omc-stepperonline.com/nema-14-stepper-motor/nema-14-bipolare-0-9deg-11ncm-15-58oz-in-0-4a-10v-35x35x28mm-4-fili.html>



NEMA17-PG27

<https://www.omc-stepperonline.com/nema-17-stepper-motor-bipolar-l33mm-w-gear-raio-271-planetary-gearbox-17hs13-0404s-pg27.html>



POWER SUPPLY 12V 2A FOR STEPPER MOTOR

<https://www.ebay.com/itm/12V-2A-110-240V-AC-DC-Power-Supply-Adapter-Charger-For-5050-3528-LED-Strip-Hot/131865770048>

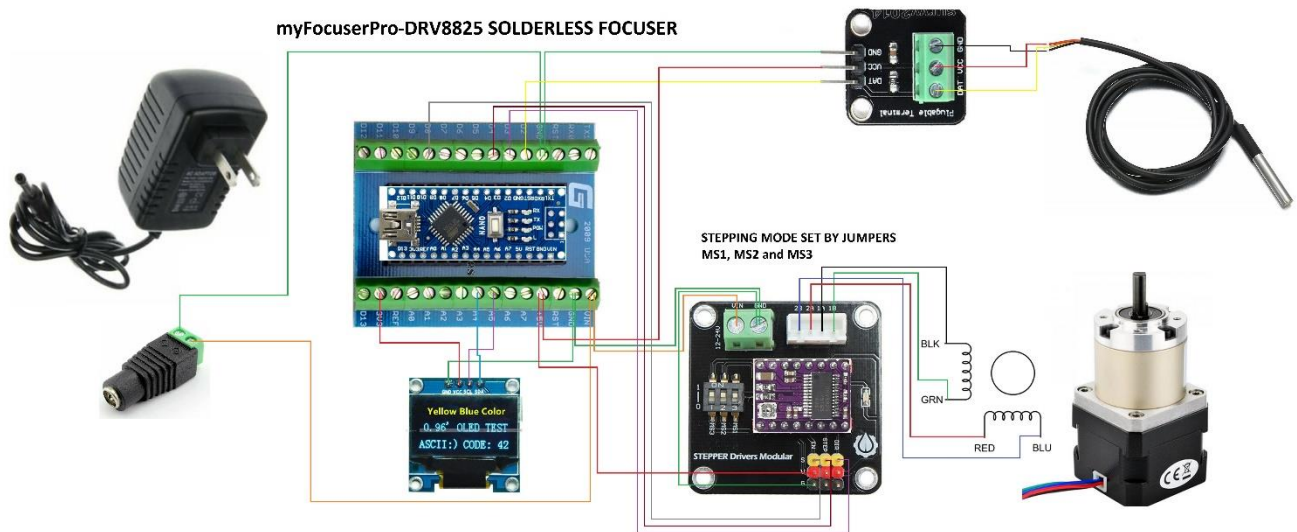


Use Arduino connector wires female (screws into Nano board) to female (pushes onto -ve and +ve pins) to connect the power supply to the Nano board (Vin and Ground).



<https://www.ebay.com/itm/40PCS-20cm-Male-Female-Connector-DIY-Cable-Dupont-Wire-Jumper-Cables-For-Arduino/312493670122>

CONNECTION DIAGRAM



STEPPING MODE

Stepping mode cannot be set in software. It is set by using the jumpers MS1, MS2 and MS3 on the DRV8825 driver module board.

STEPMODE	MS1	MS2	MS3
FULL	0	0	0
1/2	1	0	0
1/4	0	1	0
1/8	1	1	0
1/16	0	0	1
1/32	1	0	1

FIRMWARE TO USE

<https://sourceforge.net/projects/arduinofocuscontrollerpro/files/ARDUINO%20FIRMWARE/>

FocuserV1xx_DRV8825_HW203_OLED.ino

```
// to enable temperature probe
#define TEMPERATUREPROBE 1
```

```
// to enable oled display
#define OLEDDISPLAY 1
```

ASCOT DRIVER

<https://sourceforge.net/projects/arduinofocuscontrollerpro/files/CODE%20ASCOT/>

WINDOWS APPLICATION

<https://sourceforge.net/projects/arduinofocuscontrollerpro/files/CODE%20WINDOWS/>

MANUAL

<https://sourceforge.net/projects/arduinofocuscontrollerpro/files/Documentation/myFocuserPro.pdf/download>