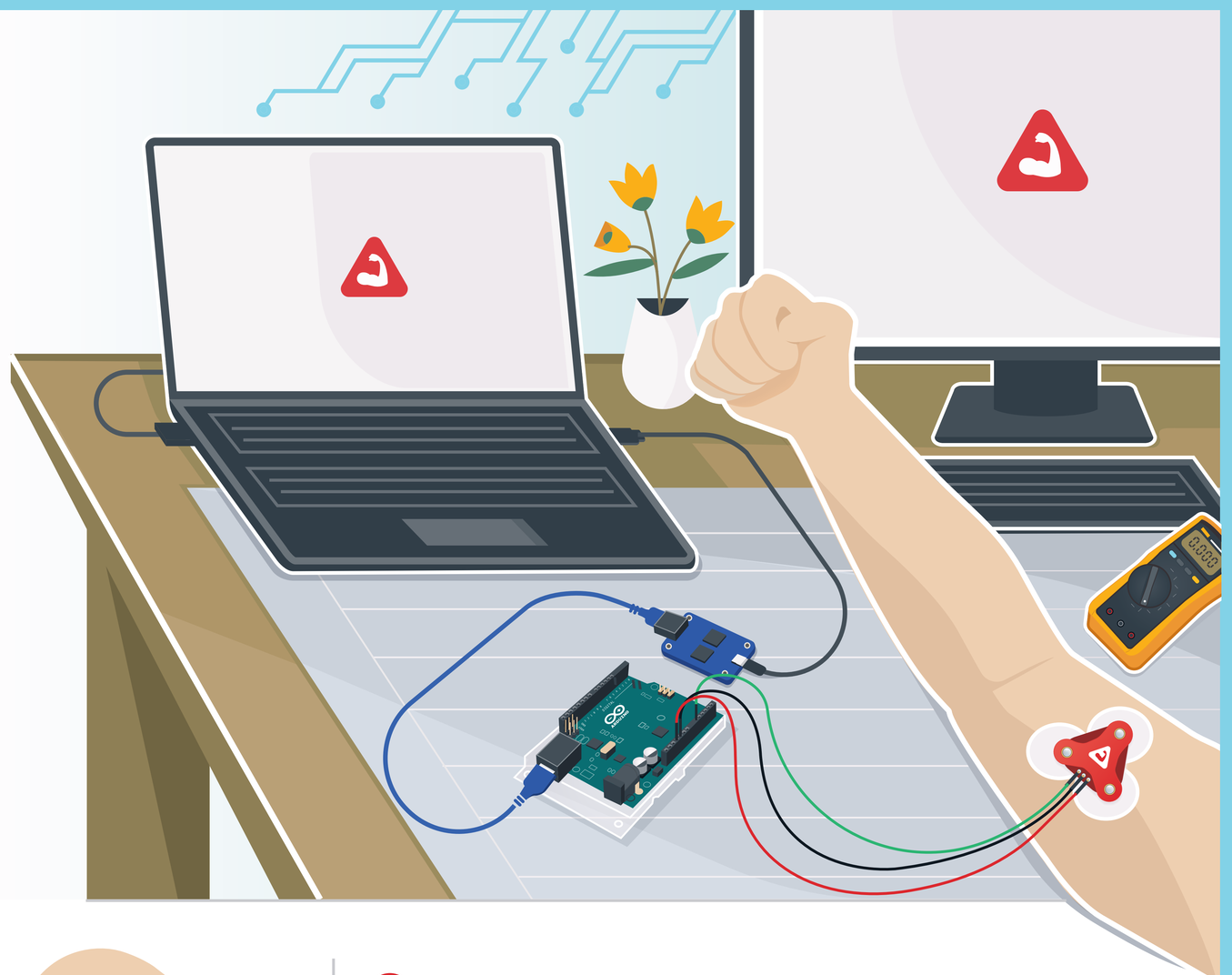
MYOWARE® 2.0

Quick Start Guide

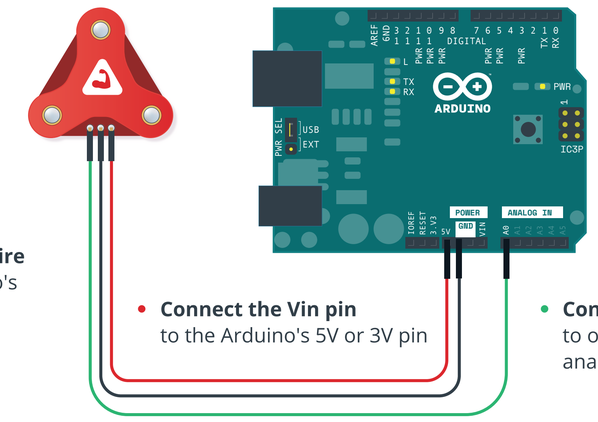


1 Connecting the sensor to an Arduino

Solder wiring of your choice *(or connectors such as header pins)* to the **Vin**, **GND**, and **ENV** pins on the sensor.

QUICK TIP

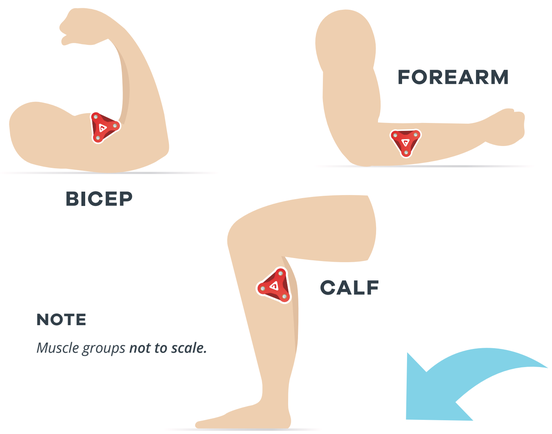
Using a multimeter, verify that your solder joints are making a good connection.



- **Connect the GND wire** to one of the Arduino's GND pins
- **Connect the Vin pin** to the Arduino's 5V or 3V pin
- **Connect the ENV wire** to one of the Arduino's analog input pins *(e.g. A0)*

2 Placing the sensor

Determine which muscle group you want to target:



NOTE

*Muscle groups **not to scale**.*

QUICK TIP

Start with the bicep until you get the sensor working properly.

Thoroughly clean the intended area with rubbing alcohol to remove dirt and oil and allow to dry.

NOTE

Soap can leave residue and should be avoided.

Body hair can cause a poor connection. Use areas with sparse hair or remove hair from the area.

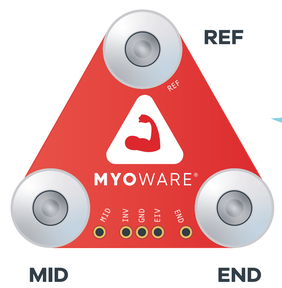
QUICK TIP

Never reuse single-use electrodes *(e.g. the ones we sell)*

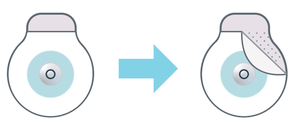
Snap electrodes to the sensor's three snap connectors marked **MID**, **END**, and **REF**.

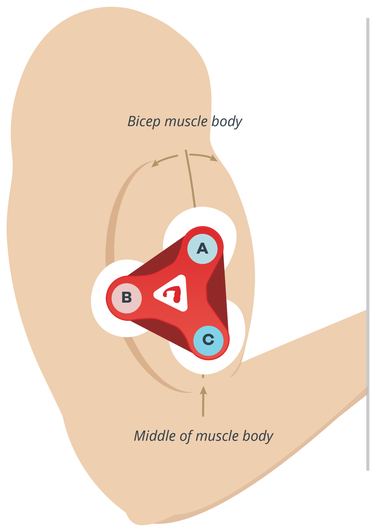
NOTE

***We do not recommend** snapping the MyoWare to the electrodes after they've been placed on the skin, doing so can cause bruising!*



Peel off the backs of the electrodes to expose the adhesive and attach the MyoWare sensor to the muscle:





- **A** Place the **MID** electrode in the middle of the muscle body
- **B** Place the **REF** electrode adjacent to the muscle body
- **C** Place the **END** electrode lined up in the direction of the muscle length

NOTE

The depiction above is not to scale.

QUICK TIP

Placement is extremely important. If this isn't clear, please reference the *Advanced Guide* for more information.

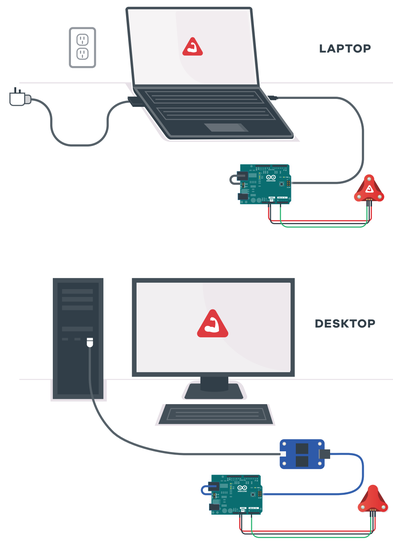
3 Connecting the sensor

Connect the Arduino to a computer using a USB cable. If using a laptop, the laptop's power cord must be disconnected from the wall unless a USB isolator is used.

If using a desktop, **a USB isolator is ALWAYS required**.

ELECTRICAL SHOCK WARNING

*A USB isolator ensures separation between the body and the power grid to **safeguard against any chance of electrical shock.** The USB isolator also reduces noise in the output signal caused by some countries' power grid.*



Troubleshooting Tips

- The Vin LED should remain on constantly as long as the sensor is powered.
- The ENV LED might immediately turn on when power is turned on but it should turn off after a second or two; afterwards, it should only turn on when the sensor detects muscle flexion.
- The ENV LED might sporadically turn on and off or simply remain on if the sensor (or external cables) is not connected to electrodes on the skin. This is normal behavior.
- The ENV LED lighting up seemingly at random while connected to electrodes on the skin usually indicates poor contact between the electrodes and the skin. Try cleaning the area and applying new electrodes.
- The ENV LED not lighting up during flexion could be caused by various issues with the sensor setup. Double check the steps and tips of this guide to ensure proper setup.
- Most of the time the sensor gain does not need to be adjusted at all.
- Recommended that you do not adjust the sensor's gain until you get a consistent, quality signal from the sensor

© 2022 Advancer Technologies LLC

US Pat . 1,0010,259
www.myoware.com/patents