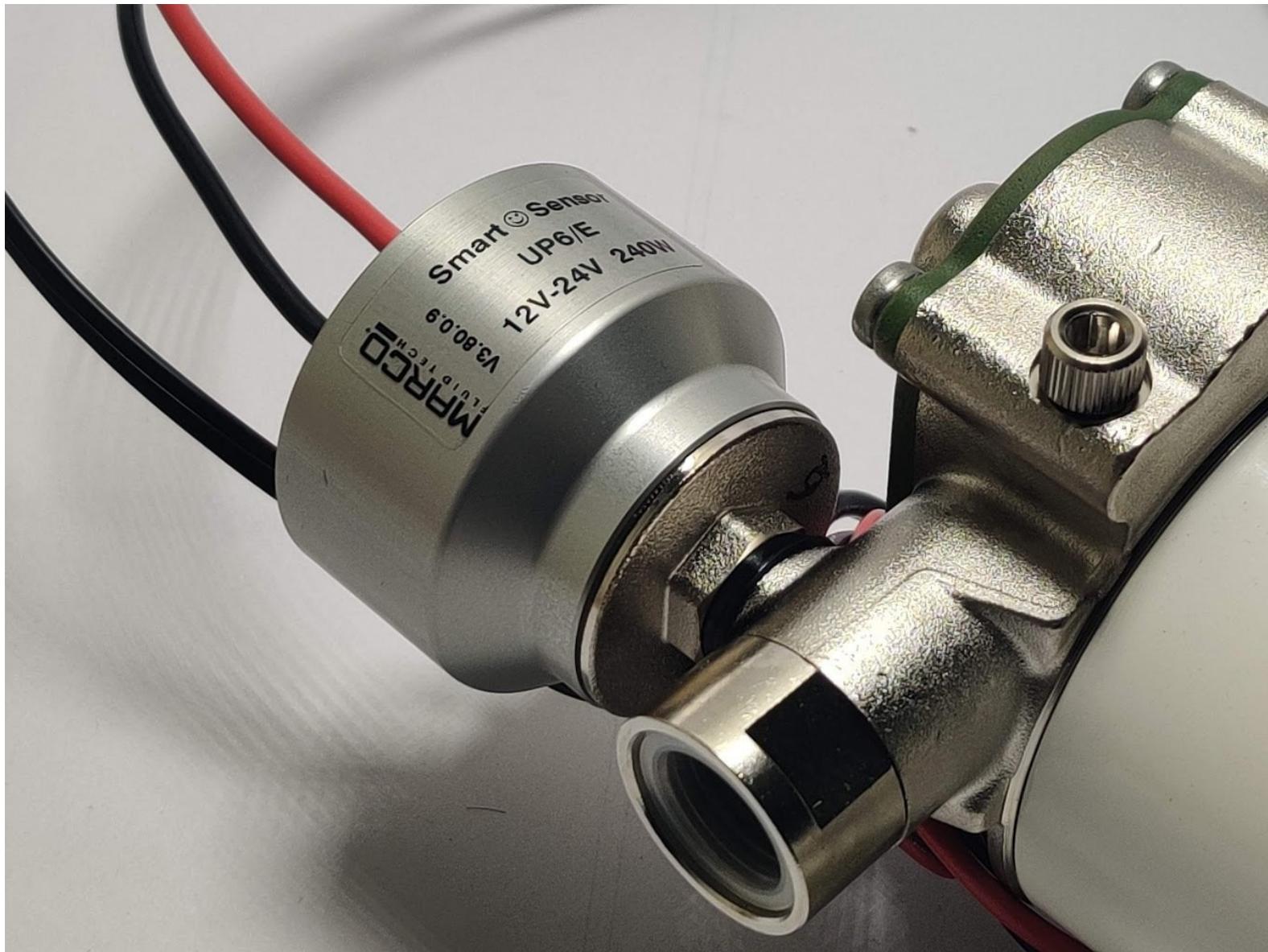




Marco UP Series Electric Pump Electronic Sensor Replacement

In case you need to replace an electronic sensor with a new one with the replacement kit.

Written By: Marco Spa



 **TOOLS:**

- Groove Joint Pliers (1)
- Cutting Plier (1)
- Slip Joint Pliers (1)
- Stripping Pliers (1)

Not compulsory, but makes the job easier.

- 17 mm Wrench (1)
- Heat Gun (1)

 **PARTS:**

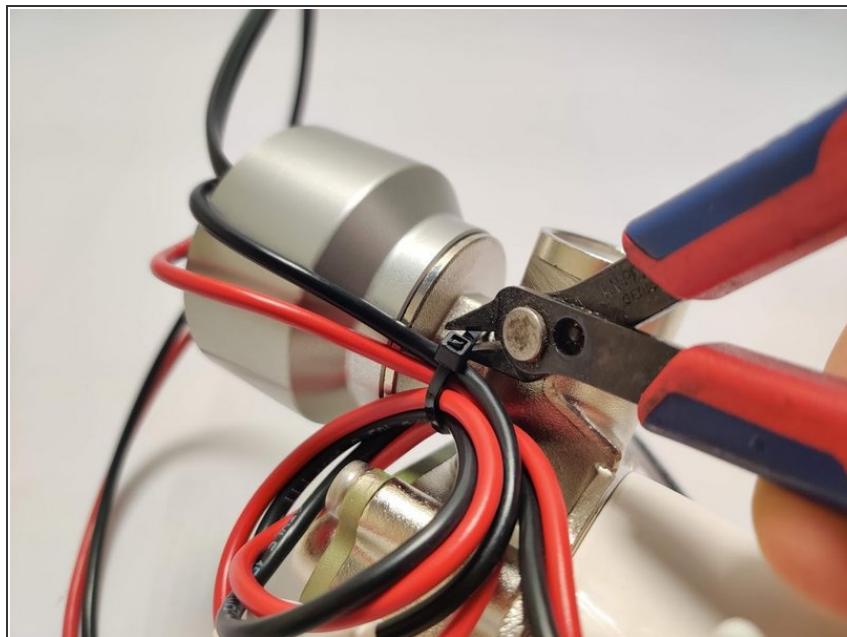
- Replacement Sensor (1)

Step 1 — Prepare the tools



- The additional sensor with the joint and the heat shrink tubing is available as a replacement kit on www.marco.it .
- Kits are only available as a registered user, and can be seen for each pump in their dedicated tab on the page.

Step 2 — Cut the plastic tie

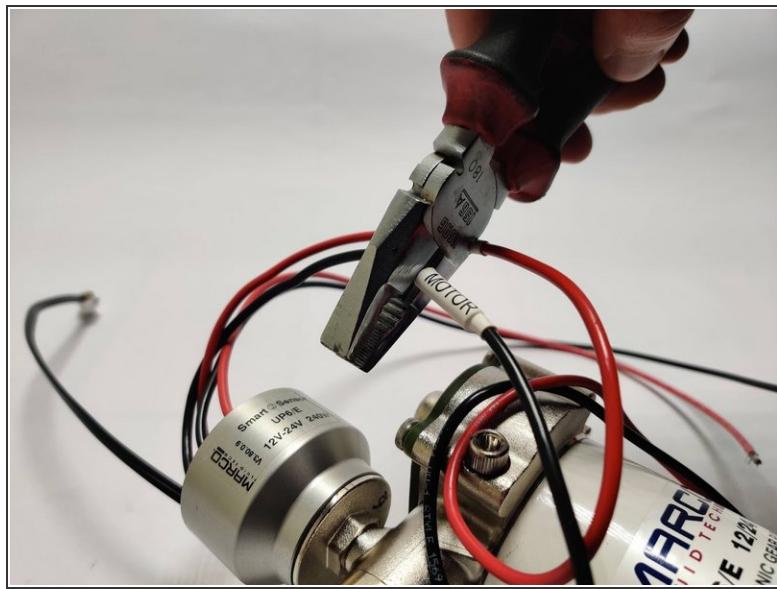


- Free the cables by cutting the plastic tie.

⚠ Don't cut the cables that connect the sensor to the pump.

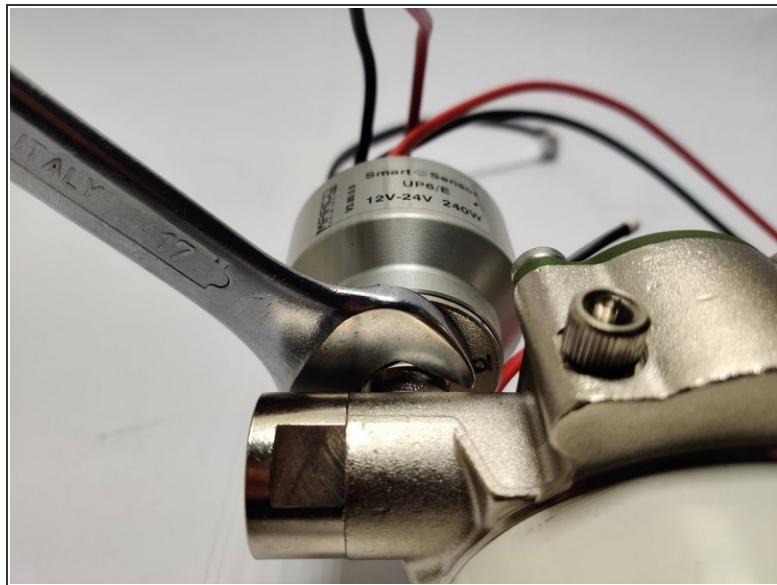
⚠ Don't damage the cables' insulation while cutting the plastic tie.

Step 3 — Cut the joint between the sensor and the motor



- Use the pliers to cut the red and black cables before and after the joint.

Step 4 — Remove the old sensor



- Use the 17mm wrench to unscrew the sensor.

Step 5 — Screw in the new sensor



- Screw the new sensor by hand for the initial part.

Step 6 — Tighten the sensor

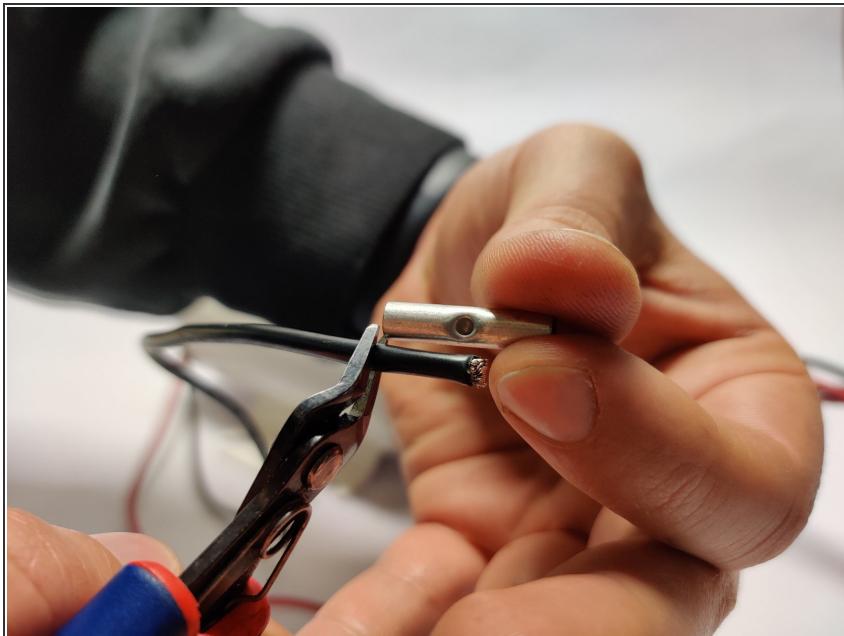


- Use the wrench to tighten it in place.

⚠ Don't over-tighten the screw!

⚠ Don't add PTFE tape on the screw: there's already an o-ring to seal the connection and it may cause problems to the non-return valve (check valve) underneath.

Step 7 — Check how long you want to strip off the cable



- Use the joint as a reference on how much you need to remove.

⚠ Keep in mind that you want to have as much wire inside as possible, but you want to avoid that the peeled wire exits the joint.

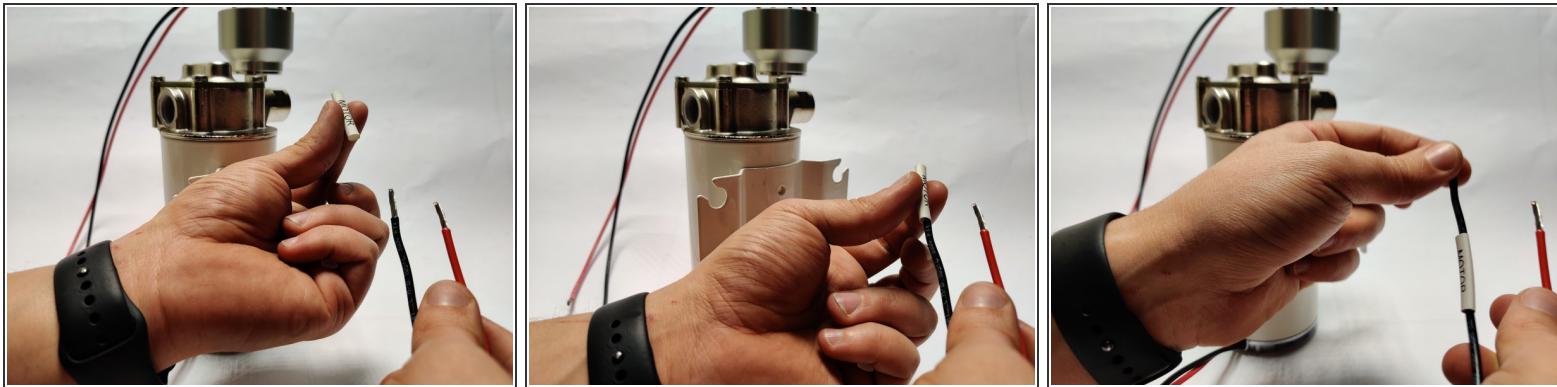
Step 8 — Strip off the cables' sheath



- Use the cutting plier or (if you have it) the stripping plier to remove the sheath.

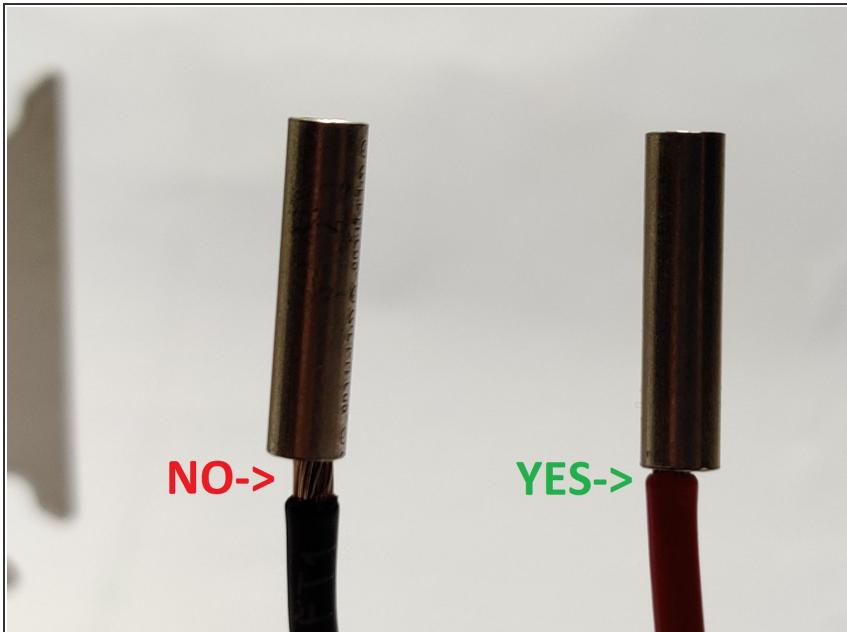
⚠ Try to be careful: you don't want to cut the wires inside, especially on the larger pumps.

Step 9 — Insert the heat shrink tubing



- Insert the heat shrink tubing on both motor's cables.

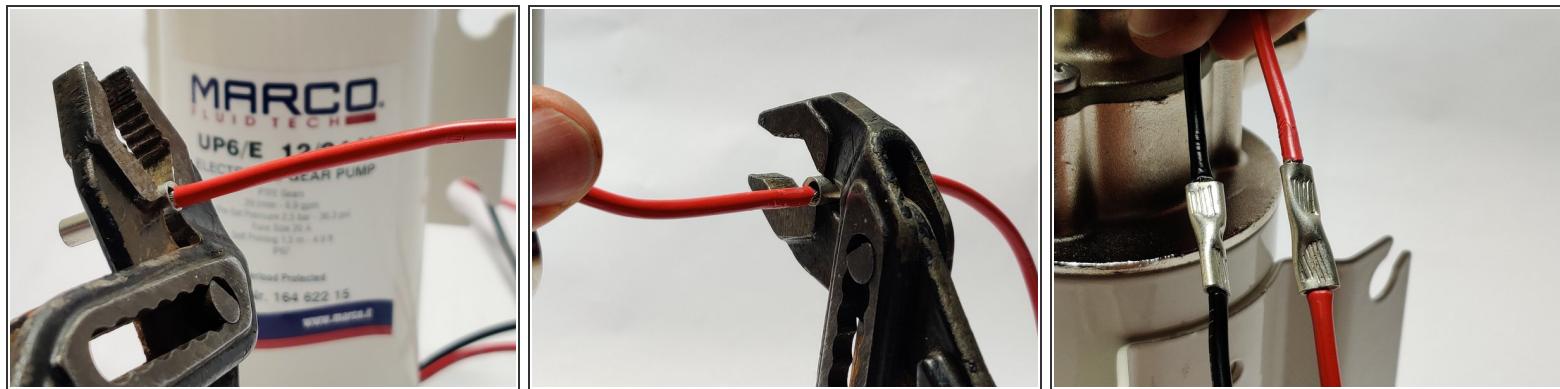
Step 10 — Insert the metal joints



⚠ The cable has to be totally inside the metal joint: if you have a longer peeled cable, cut it a little to have it aligned as in picture.

⚠ Don't insert the plastic sheath inside the metal joint: it worsens the connection and may cause overheating in the large pumps!

Step 11 — Press the metal joint

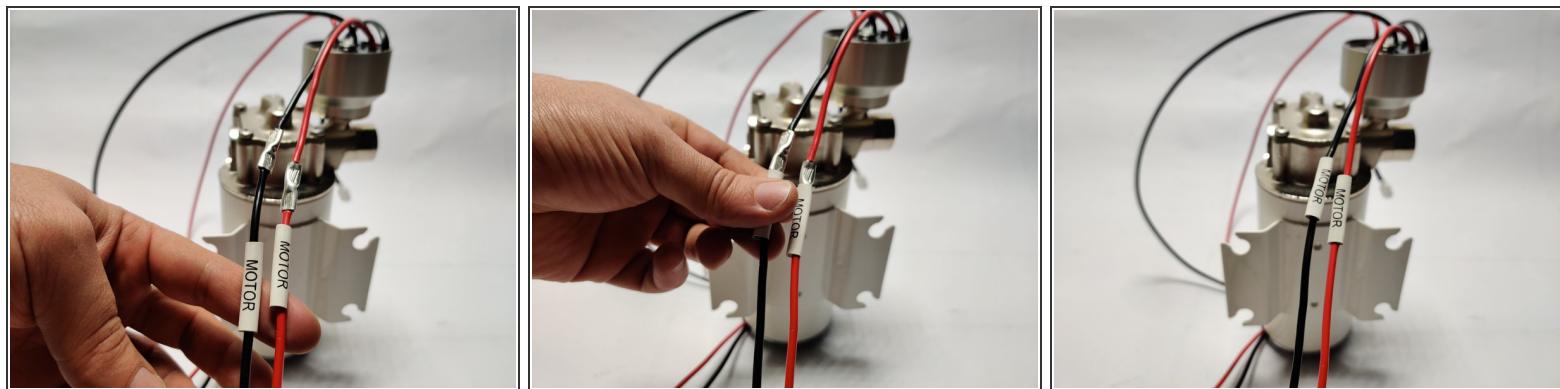


- Start on the motor side, and press the metal joint on the cable.

⚠ To have a stronger force in closing the joint use the internal part of the plier, as showed in the picture.

- Proceed with by inserting the other end, **the short cable** coming from the sensor.
- Repeat the process also for the other cable.

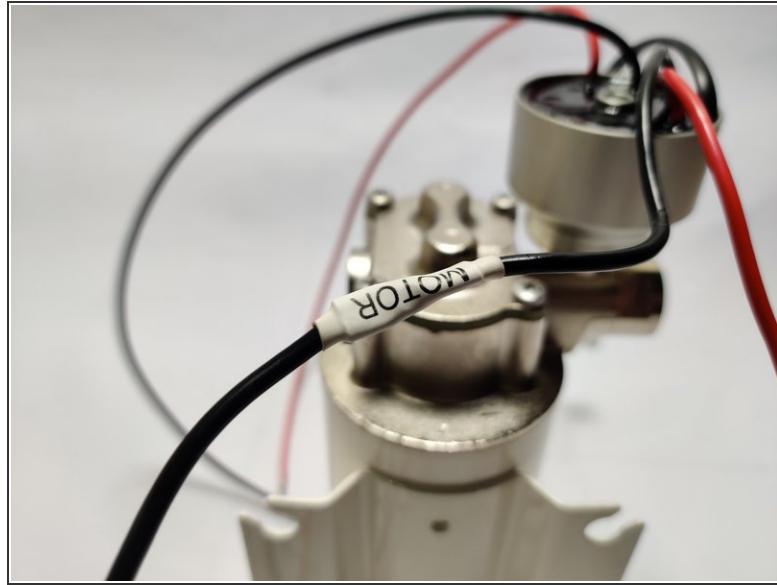
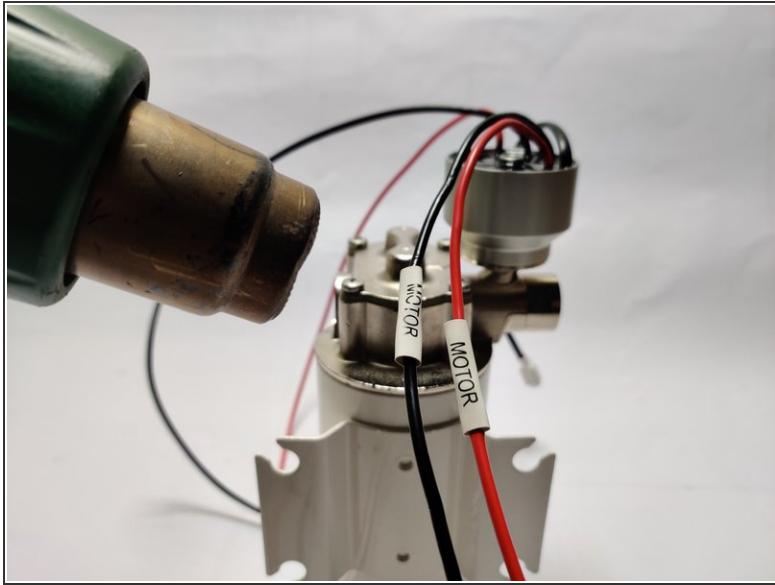
Step 12 — Cover the metal joints with the heat shrink tubing



- Insert the heat shrink tubing.

⚠ Make sure that it covers perfectly the joint (it must be centered!) on both ends .

Step 13 — Heat the tubes

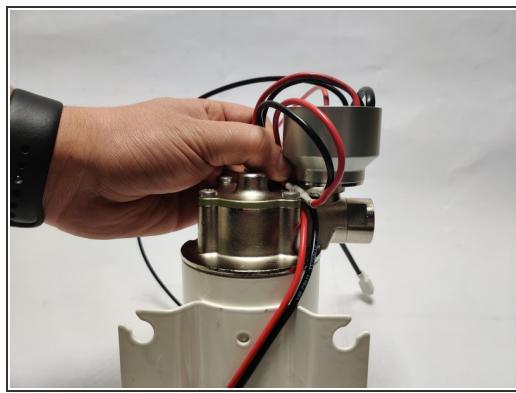
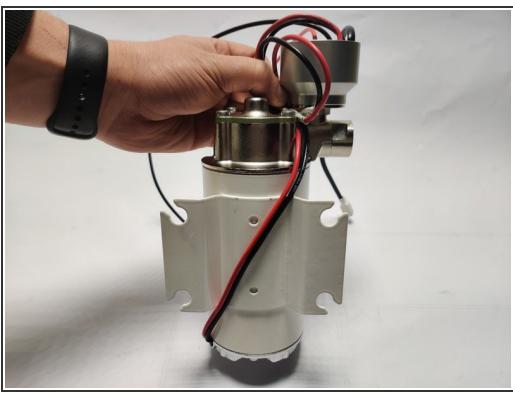
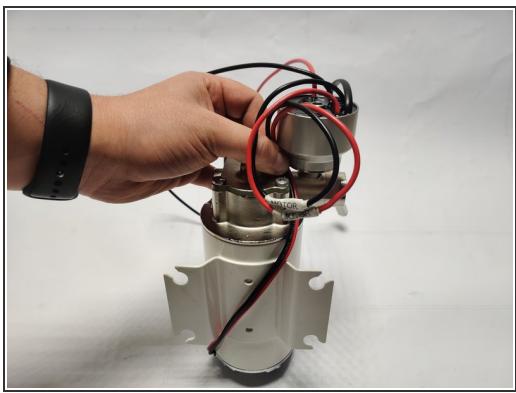


- Heat the tubes until they shrink on the joint evenly.

! Don't heat too much: you may melt the cables.

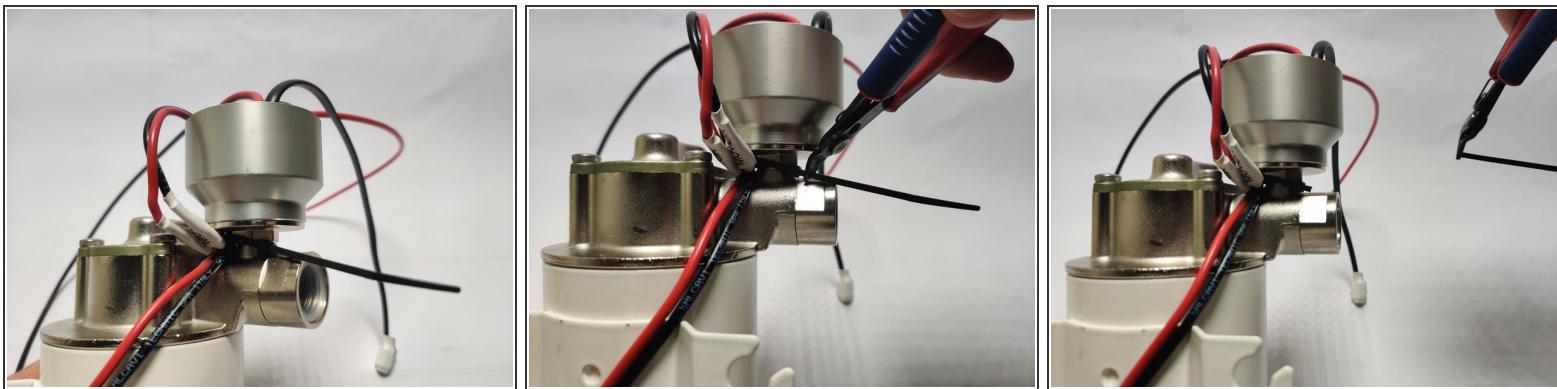
i If you don't have a heat gun, you may also use a lighter, but don't touch the plastic with the flame: keep some distance.

Step 14 — Loop the wires



- Loop the wires as shown in the pictures.

Step 15 — Add the plastic strap



- Fix the cables using the plastic strap.
- Cut the excess of the plastic strap using the cutting pliers.

Step 16 — You're done!



- You can now enjoy your updated sensor!