IMPORTANT:

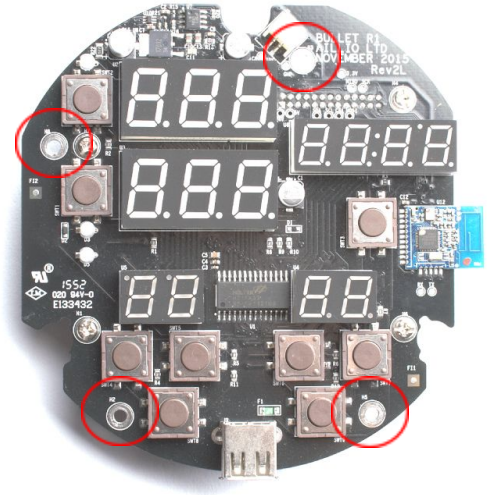
After you have installed the IBTS, you will need to update your firmware before you can begin roasting. Please read our IBTS Introduction and QuickGuide, which also includes important information about preheat settings.

(https://medium.com/@aillio/infrared-bean-temperature-sensor-introduction-and-quick-guide-1ce07c60f3e3)

The IBTS Fan is pretty delicate. Please don't apply any force on the blade, and only grab it by the outer frame.

To install the IBTS, you will need to remove the front plate completely. As always, it's a good idea to take photos along the way for later reference when putting it back together.

Start by removing the Control PCB. You will need to unscrew the three screws on the Face plate (H2), then remove it together with the buttons. Unscrew the four highlighted black phillips screws. Carefully pull out the Control PCB Module and remove all the wires from the connectors.

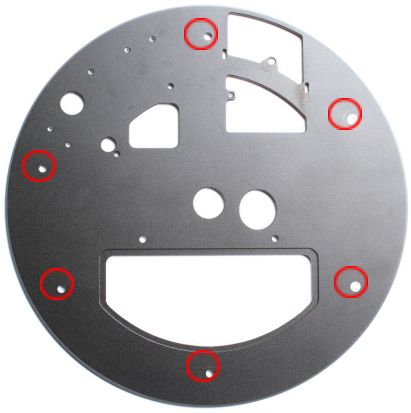


If you're performing this upgrade, you should already know which control PCB you have. There are three varieties -- two of which are "Plug and Roast", and another which requires you to solder a connector onto the Control PCB. If you do not know what we

are talking about, please take the time to read Before You Upgrade or contact us directly at support@aillio.com for further assistance.

Now, back to the IBTS installation.

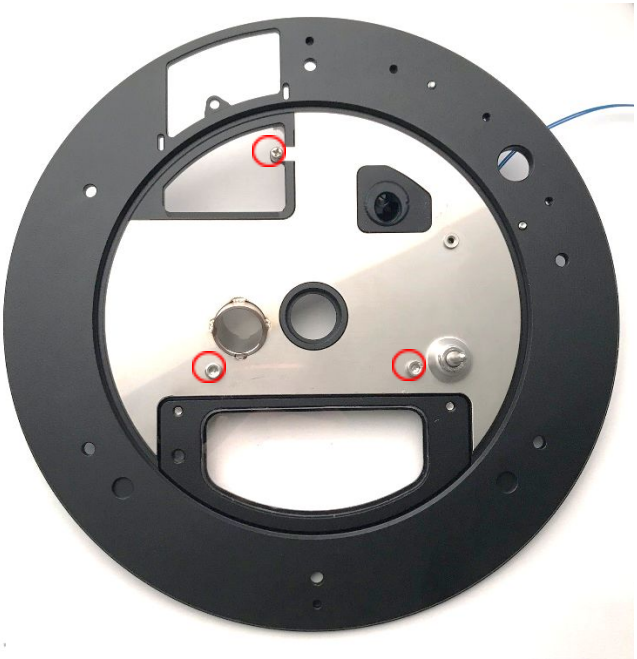
Unscrew the six hex screws surrounding the Front Plate (H3), then remove the plastic housing by unscrewing the 4 hex screws (H2,5). This will be a good time to remove the Bean Chute for cleaning as well.



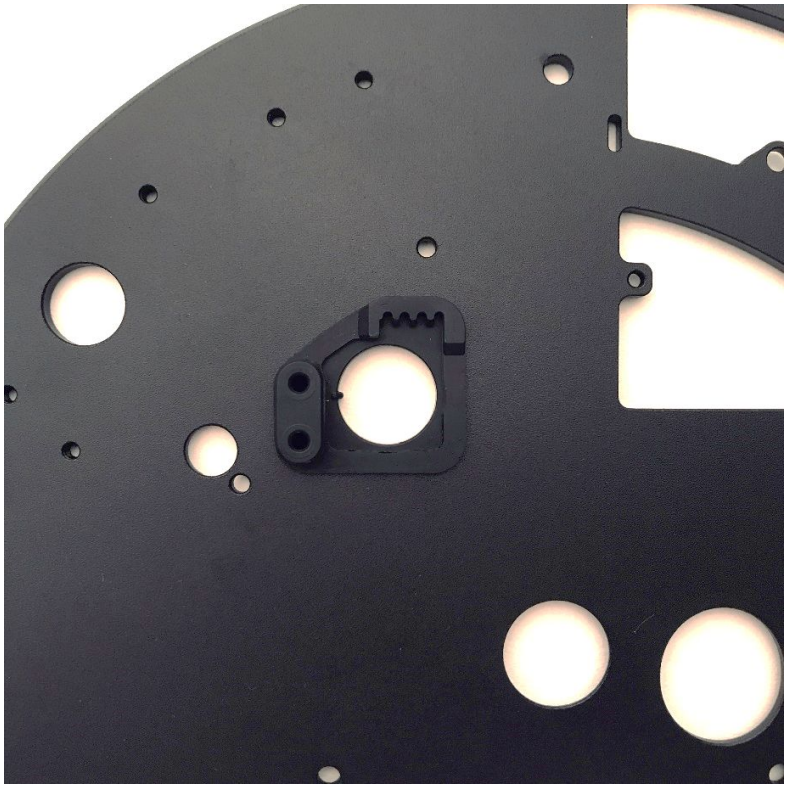
The metal insert can be removed by unscrewing the door hinge screws and the small screw on the top. Also, unscrew the nut on the bean probe.

Remove the rubber holder of the old IR Sensor Module, and say goodbye to it. You don't need to clean the germanium glass anymore.

This is a good time to give the plate a nice clean-up.

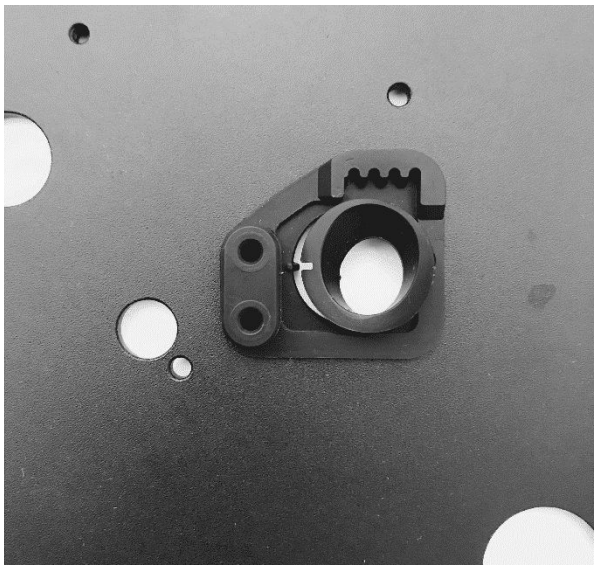


Now it’s time to put the rubber base of the IBTS on to the front plate.

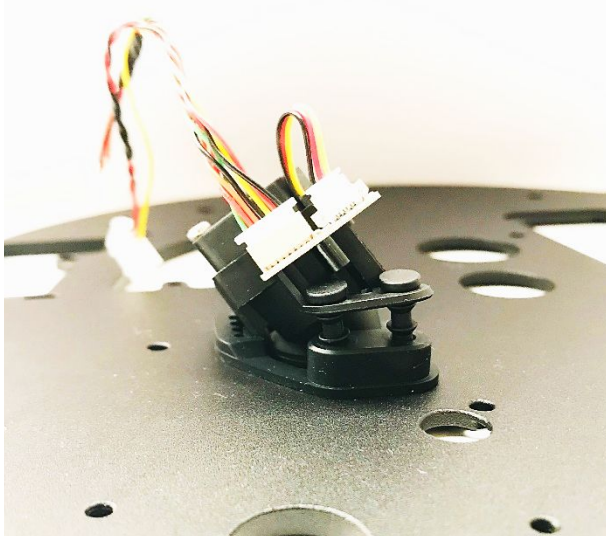


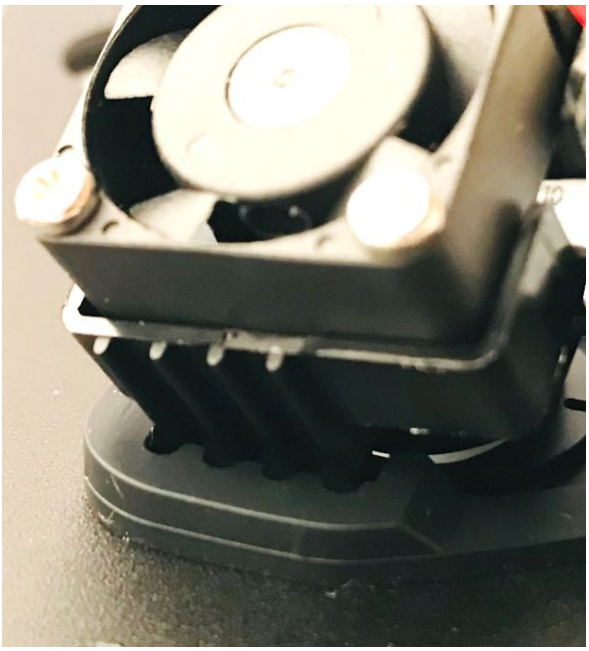
Please make sure the rubber base is embedded onto the front plate properly. Both sides should look flat.

Follow the guide to insert the sensor lens hood as shown below.

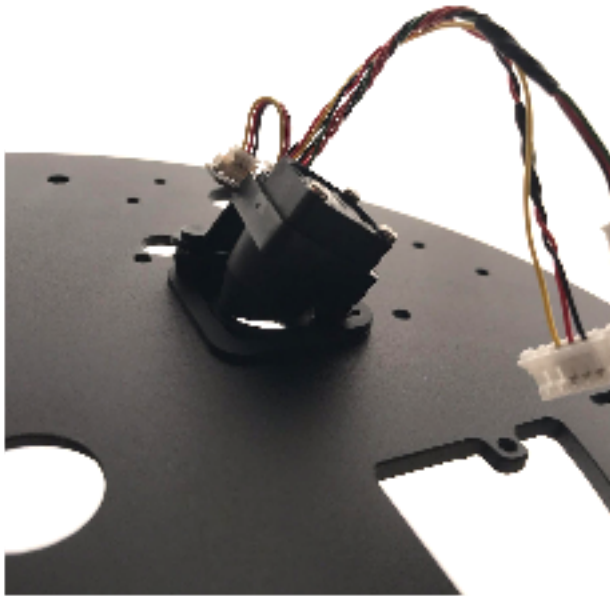


Push the black plastic pins into the pin holes (you may need to use pliers to seat them properly), then mount the sensor system on to the rubber base. Make sure the sensor housing is latched into the top of the rubber base.

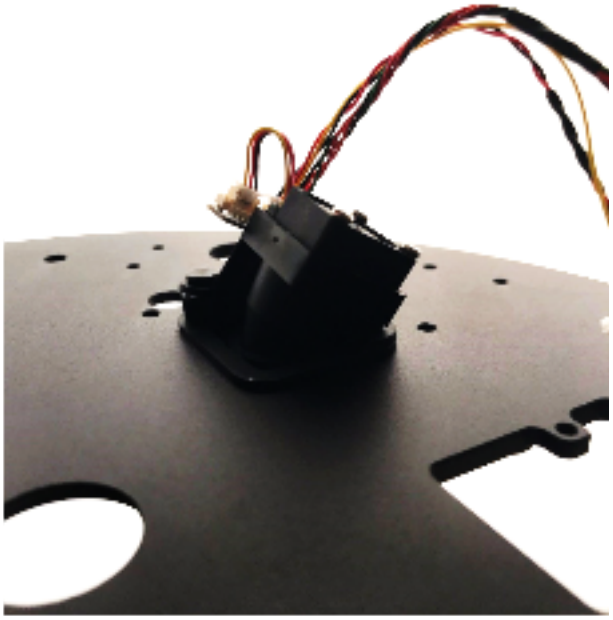




There should not be any gap between the sensor housing and the lens hood. **A gap will cause the sensor to get dirty during roasts**. The picture on the left is an incorrect installation. Under the light it should instead look like the picture on the *right*.

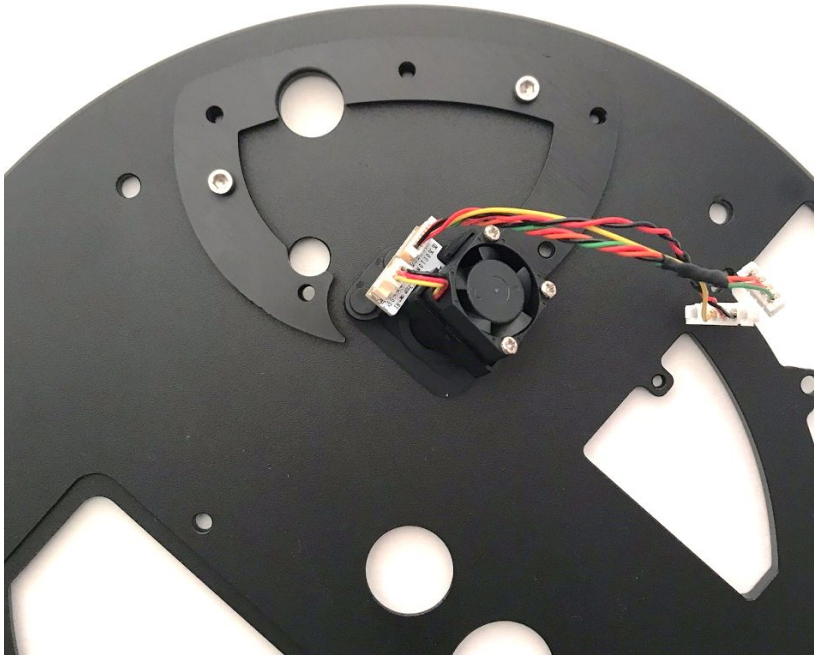


(Incorrect)

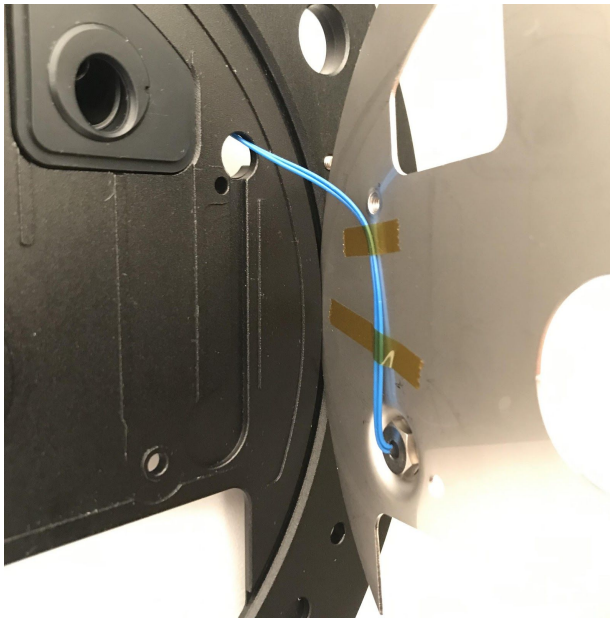


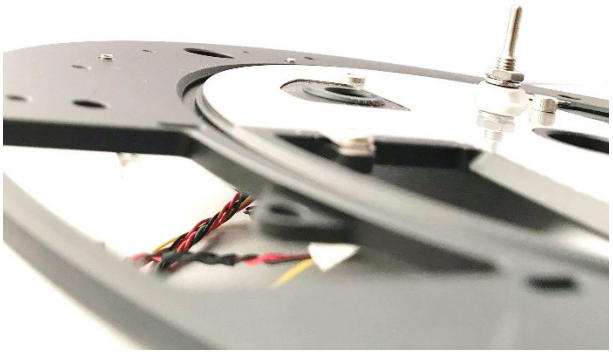
(Correct)

Attach the aluminum bracket with 2 M3 screws to the front plate.



Place the insert back to the front plate. Please make sure the blue wires (bean probe) sits in the groove. There shouldn’t be any gap between the metal insert and the back of the front plate.





The wiring for the IBTS will depend on which control panel PCB you have.

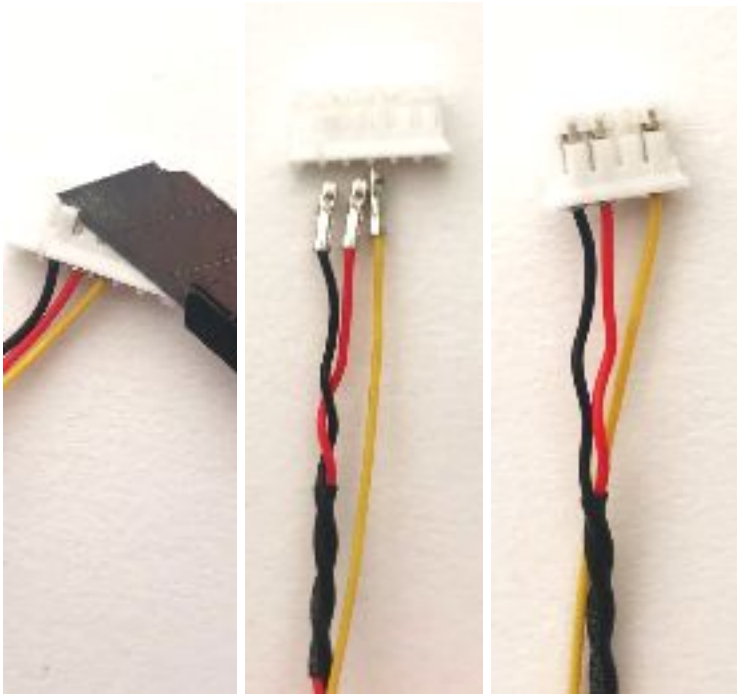
IMPORTANT

While putting the Control PCB back to its position, please make sure the USB connector goes into the socket correctly, before screwing the screws.

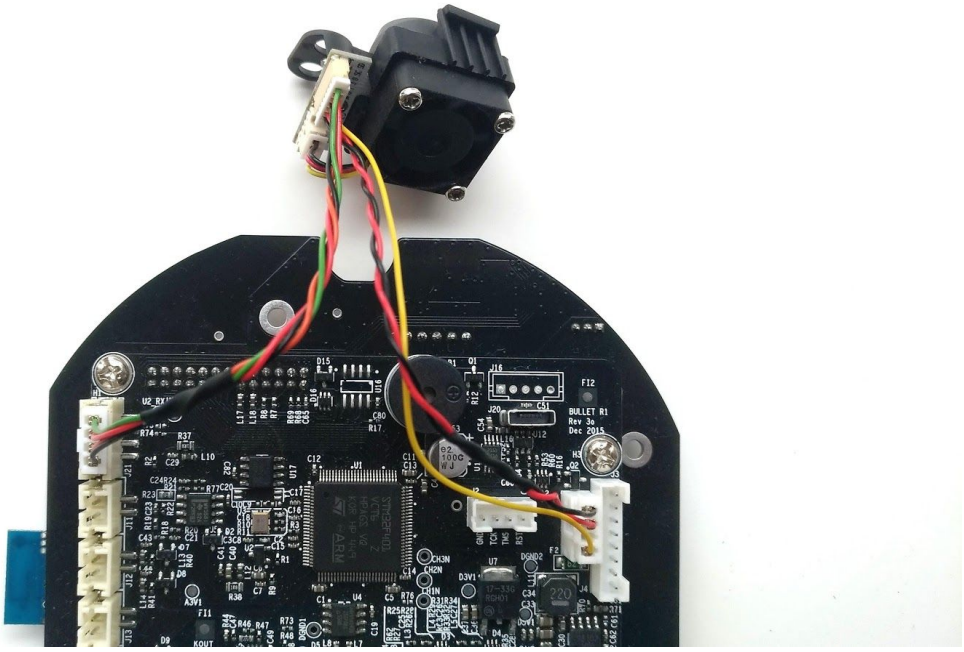
Original Version Control PCB (2015)

For the early version Control PCB (2015) the 4 wire connector should be used for the IBTS. Therefore, we need to change from the 6 to 4 wire Connector. The connector is provided in the IBTS kit.

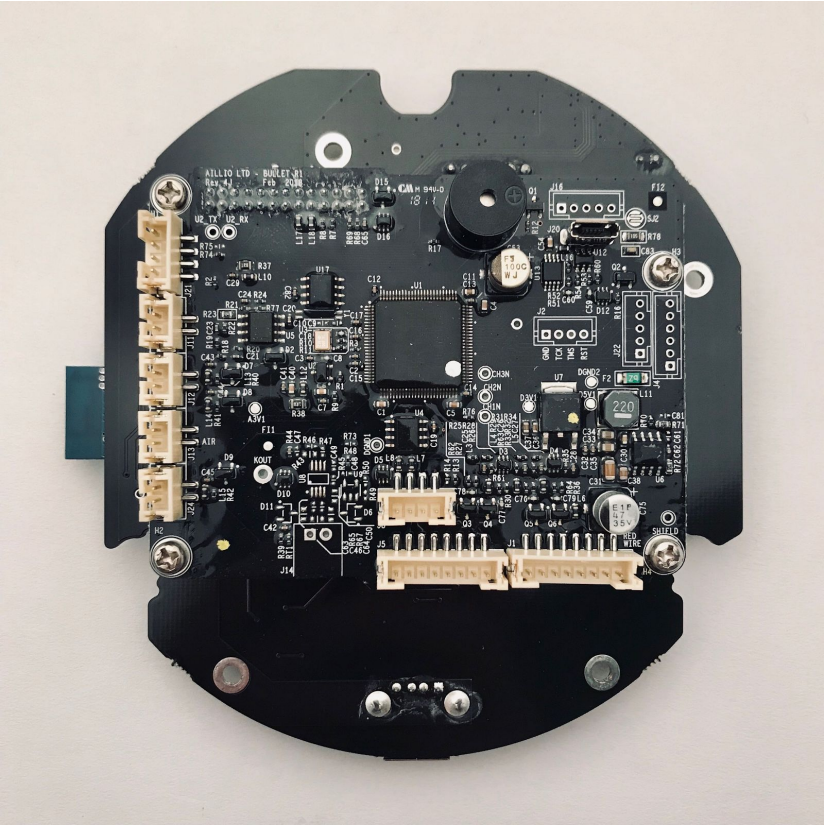
Take out the wires by flipping up the ‘hook.’ with a tiny screwdriver, or similar flat tool. Follow the right-most picture to put the wires into the 4-hole connector. They should snap in.



After swapping out the connector you can wire the Bullet as show below. The connectors with the 4 wires goes on the left, the 3 wires on the right.



Second Version Control PCB (2018)

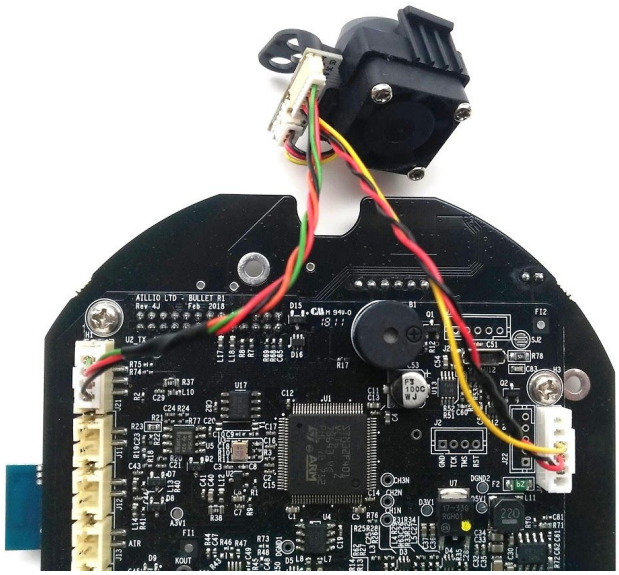


This version has no male connector on the top right side of the Control PCB. Nonetheless, if you are confident in your soldering skill or in the soldering skill of someone you know, it is pretty straightforward.

Take off the 4 screws on either side of the PCB, and separate them by pulling them apart.

Be aware of the orientation of the connector. It's possible that the holes on the board have residual solder and/or silicone coating. Make sure they are clean. Put the connector through the holes and apply solder from the other side. Make sure the solder points stay clean and that they do not touch each other.

After you have soldered the connector, you can connect the IBTS as shown below.



More Recent Version Control PCB (2018)

This version already has the necessary connector installed. You can simply Plug and Roast as shown above. Please make sure the wire colors match the picture.

V2 Control PCB (2019)

The most straightforward version. Only V2 IBTS cable is required.

Now you can begin putting it all back together the same way you took it apart.

IMPORTANT:

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(https://medium.com/@aillio/infrared-bean-temperature-sensor-introduction-and-quick-guide-1ce07c60f3e3)

If you have any questions, please don't hesitate to contact us: support@aillio.com

Keep drinking great coffee, everyone.