SeeMeCNC®
Customer Support

The Temperatures On the LCD Display DEF

Problem

The LCD is reporting "DEF" for the temperatures, this means that there is an issue with the thermistor that needs to be resolved. The machine has gone into a "safe" mode until the issue is corrected. This will help to prevent damage being done to the machine by over-heating the components in the hot end or heated bed.

Potential Cause #1

One thing that we see sometimes is that the environment is too cool for the printer. If the ambient temperature is below 18C it will cause the printer to be DEF. If your machine is reading below 18C that is the issue. The environment that your printer is in is too cool which will making printing more difficult.

Solution #1

If need be you can modify the firmware to lower that min temperature cuttoff. It is near line 159 (for Rostock Max v2) It looks like this:
#define MIN_DEFECT_TEMPERATURE 18 // this is the min temp that will allow the hotend to start heating. Below this it will show as defective to help identify bad thermistors

Potential Cause #2

If you have the HE280, is the pluggabe 8 position connector on the top of the hot end fully seated? There is a possibility that it has partially released and not reporting the thermistor values to the RAMBo.

Solution #2

Unplug that connector and re-seat it. You will then need to power cycle the machine to see if that corrects the issue. Consider printing this: Whip Clip for HE280 Hotend

Potential Cause #3

There is a fault with one of the thermistors. When you turn the machine on, before the temperatures switches to display "DEF", one of the temps will report either a very low / negative number or it will show a 3**C positive value. The temp that reports as either of these is the thermistor that has the issue (hot end or heated bed).

A very low temperature or a negative value means that the thermistor wiring has an open circuit which could be caused by a damaged thermistor or the solder points between the thermistor and lead needed to be re-worked. If the value is 3**C, this means that you have a short circuit and should isolate the thermistor / leads so they can not short against each other.

Solution #3

Looking over the thermistor wiring connections to find the culprit. You can use a multimeter to check the resistance of the thermistor (at the solder points on the accelerometer board & and at the leads that attach to the RAMBo board at T0) to determine if it is still operating correctly. The resistance of the thermistors used by SeeMeCNC is 100k at room temperature. In some cases you will find that the thermistor has been damaged during installation. If this is the case for you thermistor, you will need to install a replacement. You can find the OEM part here: Thermistor