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BREWHA DS18B20 Electronic Temperature Controller Instructions

BREWHA
Instructions

Contents

DS18B20 Electronic Temperature Controller

Inspecting the BREWHA sensor cable and wire connections

When the temperature controller (the ETC or touch screen) shows the message 'ERR', '85', or '185' it normally means it is not receiving a signal. The most common cause of this message is a broken connection caused by rough handling of the sensor or twisting of the cable. A connection may be broken in either the sensor or the connecting cable. First, inspect the full length of the cable to ensure it does not show signs of crimping that may indicate a pinched or damaged cable that would need to be replaced. If the cable is fine, to inspect for a broken connection, follow these steps.

Sensor Cable

1. Loosen the cord grip/strain relief clamp with a small Phillips screwdriver. (Do not completely remove the screws, just loosen them so the clamp does not grip the cable.

2. With your index finger pushing down on the white (blue on older models) portion of the connector, and two fingers of one hand gripping the collar (to hold the top portion secure), with the other hand unscrew the collar (lower portion) from the connector.


3. Move the collar down the cable and inspect the soldered cable joints. They should be intact. A broken connection will be easy to spot as an unconnected wire. If the wires are detached and need to be resoldered, the correct pin assignment can be confirmed by looking at the other end of the cable and matching the color of each wire to the number of the pin. The factory default is pin 1 is for the yellow ground wire, pin 2 is for the black positive wire, and pin 3 is for the red signal wire.

4. Reattach the collar with the above steps in the reverse order. Ensure that the cable and cord end is not twisted when reinstalling as this can put tension on the solders; only the collar should turn. And when retightening the cord grip on the collar, ensure that the cable is snug and cannot move under the cord grip. Over time the cable jacket might age and shrink so a small amount of heat shrink or electrical tape may be needed under the cord grip so that it snugly grips the cable.

5. When attaching the cable to the sensor or controller, turn the cable by gripping the collar and cord grip and turn the collar in a clockwise direction until the slot/pins line up. Turning in a CCW direction could put a strain on the solder points as it will unscrew the inner portion (Locktite could also be applied to those threads but of course would then be harder to open if you needed to repair). Do not pull on or twist the cord and keep the cord in a flat/uncoiled manner when connected (a coiled cable could turn the collar in a CCW direction putting strain on the soldiers, as well as posing a tripping hazard). Being a small, portable, cost-effective electronics cable, it is more fragile than the larger, bulkier power cables, and more prone to breakdown than a non-portable, non-removable, permanently wired, and permanently fixed cable, but with care, should last many years.
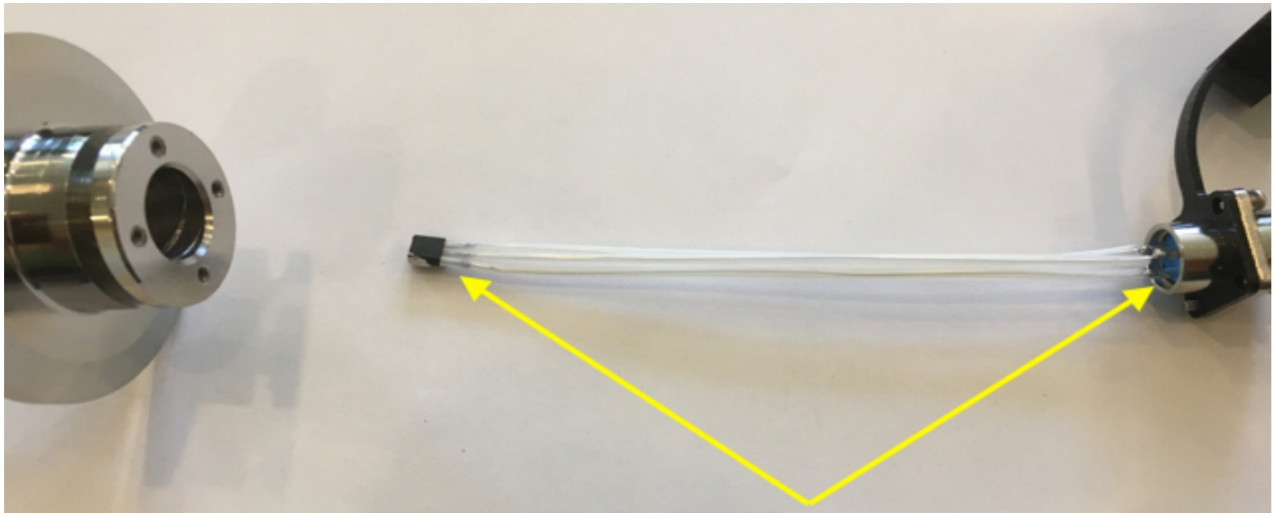
Sensor

1. Inspect the three pins to ensure they are not bent or broken.
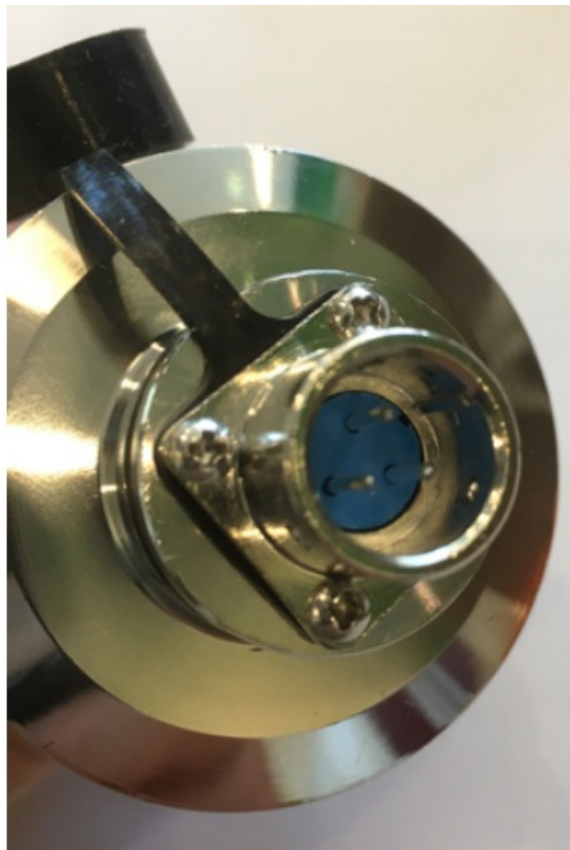
2. Loosen the four screws with a small Phillips screwdriver.
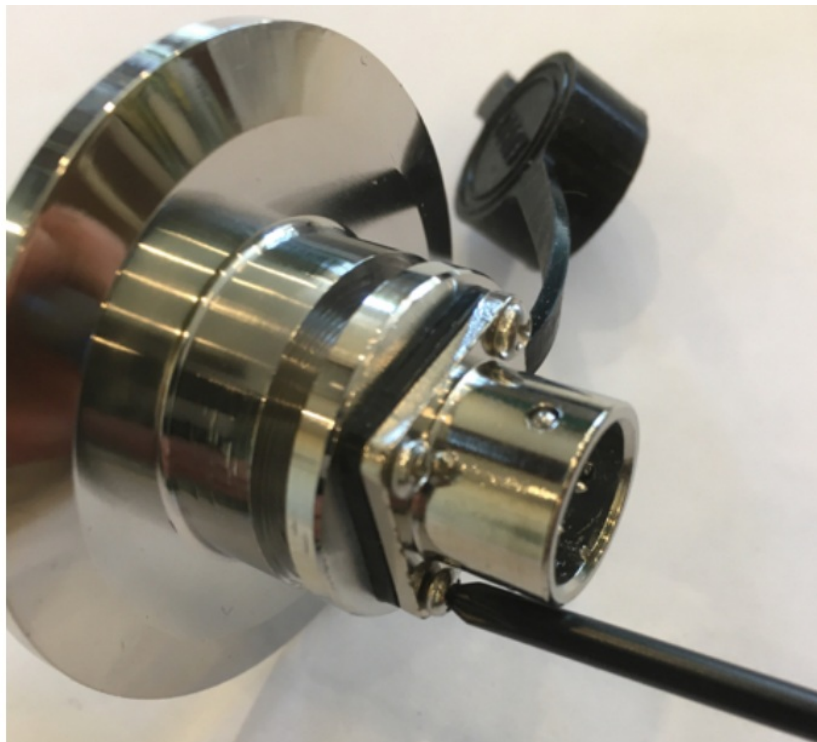
3. Gently slide the sensor out and inspect the wire joints at the connector end and at the sensor end. An unconnected wire will cause the sensor to malfunction. The compound on the sensor is a heat transfer compound and should not be removed as it facilitates faster temperature reading.

4. The sensor is a small computer chip and should be treated carefully as one would a computer (ie. don't be rough with it and don't place it near a magnet).

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Documents / Resources

BREWHA DS18B20 Electronic Temperature Controller [pdf] Instructions
DS18B20, Electronic Temperature Controller, DS18B20 Electronic Temperature Controller

References

- 🌐 **Complete Beer Brewing System - Small Footprint - Easiest to clean**