



Buffering temperatures.

Buffering causes temperature changes to be delayed. If an electronic temperature sensor is placed in the air it will sense temperature changes very quickly, many times a second. However, the electronic temperature sensor can be buffered (made less active) so that it changes less rapidly. This means that you are not seeing the actual temperature but an average of some (or a lot) of actual temperatures.

Buffering is done in one of two ways.

1. The sensor can be placed in a vial of liquid. Because the liquid has more 'thermal mass' than the air its temperature will change less rapidly than air. We call this slowing down buffering.
2. The sensor can be electronically buffered with programming. This is done by averaging the temperatures over some period of time and displaying the average instead of the actual temperature on a display.

The TV2 products are set to electronically buffer the temperature reading. The TV2 measures a temperature several times a second and all of the readings are averaged every 20 seconds and displayed on the QuickCheck display. So the temperature you see on the QuickCheck display is an average of all temperatures seen by the sensor over the last 20 seconds. This averaging can be slowed down or speeded up by changing the averaging on the Sensor Setup menu. To increase the amount of buffering change the averaging to Slow. To remove the buffering change the averaging to fast.

This is documented in the TV2 users guide in the section on setting up sensors (reproduced below).

Select the type of averaging with 'UP', or 'Down' and touch 'Enter'. There are three possible selections.

- Fast – no averaging occurs. The exact measurement at the time of sampling will be stored and displayed. (Not normally used except during calibration)
- Medium- some averaging will take place so that minor temperature fluctuations will be filtered out. (This is the default value).
- Slow – additional averaging will occur. (Not normally used).