20180110 Python Notes

Yesterday when Emmet was in we seemed to be having trouble with the connectivity and IP addresses. Cal 3 came back with 192.168.1.135, but it should be .202. When I pinged 202 from this computer, it came back with .200. Maybe can’t ping self?

In any case, we turned everything else off and rebooted the optical switch. He suspected that maybe the program stopped when the computer went to sleep, so he fed it a super upper and started a short program with 0 wait time (oven has been on), two short interval points and then 1hr intervals. It took the two short interval points OK, then we let it run.

This morning when I came I the screen saver was up, but the Python program was off. The shortcut didn’t work, so I opened it and used the run tab. The screens came up showing everything connected but only the two initial points displayed. In a couple of minutes, it posted a point at about 14hrs. Then it began posting points every hour for the next 3 points. After the one a about 17 hrs, the “wait wheel” ground on for about 10 minutes without posting the point, although I saw the switch working. When I tried to go back to the settings screen the display dimmed and everything looked frozen. Still so 30 minutes later.

I tried to restart the program several times, but it was not responding. Finally closed everything and when it came up I disconnected everything. When I started plugging in a new file name, everything connected but the optical switch. I rebooted it and was able to connect.

I “cleaned up” the IEEE cable situation and moved the USB/IEEE adapter to a USB 2 port, thinking it was maybe not compatible with the USB 3. Now the program wont connect to the oven and controller. I tried to close the program and it wouldn’t respond, so I used Task Manager. When I brought it back up it connected to everything, but the parameters I had put in were gone.

I cooled the oven for a while to about 66C. when I turned it on it did not start heating on its own. I set the program for 201C

Hold switch at 0 each time

Keep switch occupied between long intervals

Need delta T. Only need target T recorded once.

Don’t need WL plotted. Only need WL recorded once at room temp and once when long intervals are started. Calculate ave sensitivity between these two temps for each one.

Takes 10-15 sec to post a result.

If switching time has not been extended to 2 sec, need to try that or put in a dwell?

20180111: Still getting the run-around symbol from yesterday. No more points taken. When I restarted, I had to reboot the switch and no more data was taken.

Started another run dated today. Put in Delay = 0, Initial Interval = 20sec, Initial Period = 10 min (30 readings?) and Long interval = 10 minutes. This is to keep the program from losing touch or going to sleep (current hypothesis). It recorded 26 points in 0.4hrs=24minutes, not 30 points in 10 minutes, so times do not jibe.

Last night the oven Set Point actually did move to 201C, but not until the program had been in wait mode for some time. Today it did not update to the 206C I put in.

If we knew for certain the time necessary to take a sensor point, multiplied by the number of sensors, we could post the correct Initial Period and not insert a speculative value. As it is, the Initial Period is not over before the first Long Interval comes up: prospectively at 20 minutes, but the Initial Period is not over before the first Long interval comes up, so what is happening?

I mistakenly set the Primary Interval for 10hrs, so I started another run with Set Point = 206; Initial Delay = 0, Initial Time Interval = 15S; Initial Interval Duration = 60 minutes; Primary time Interval = 0.2hrs, file name 20180111TestC.

I timed some initial intervals. There was a couple of seconds uncertainty, but it looked like about 24S to cycle through the 5 switch readings (I assume the first fiber reading was the hesitation before position 4 was read) and 42 seconds from the start of one cycle to the start of another. It seems to take about 10 seconds to post the point on the graphs after the last switch cycle. Probably the uncertainty in each timing was +/-2S or better. 23 points posted before 0.3hrs.

Watching closely, I see that the initial interval readings do not stop even at 1.2hrs, the point at which the primary interval readings should have started.

Once I created the Excel file, it did not update, so I guess it is a post-run creation only?

My desired timeline goes like this:

Phil decides to start another run late in the day Friday before going home to the wife and kids----------🡪Oven is at room temperature and it is known that it takes 90 minutes to reach the setpoint of 250C and stabilize. He wants to make sure the switch is switching, the birds are chirping and whatever else, so he puts in 5 initial interval readings at 30 sec each----------------🡪When the initial interval readings are finished, the initial program delay starts and Phil goes home--------------------🡪At one hr of so, the oven temp crosses 250C and by 90 minutes it is stabilized----------------🡪The program starts taking Primary interval data and runs for 100-1000hrs or whatever. It is manually stopped and the Excel file is populated. Phil spends his leisure time making Excel plots.

Maybe what we need to do is have 3 programs, Test, Bake, Cal? Then we don’t have to worry about the pileup among the initial intervals, program delay and primary intervals. Or we could simply require that the oven be manually stabilized and the program manually started on the Primary Interval schedule. That would be a little limiting, but not impossible.