



Entry actions:

HEAT: if  $T < SP \rightarrow \text{red.pulse}()$ ; elif  $T \geq SP \rightarrow \text{red.on}()$ ;  $\text{blue.off}()$

COOL: if  $T > SP \rightarrow \text{blue.pulse}()$ ; elif  $T \leq SP \rightarrow \text{blue.on}()$ ;  $\text{red.off}()$

OFF:  $\text{red.off}()$ ;  $\text{blue.off}()$

Buttons:

mode (GPIO24): OFF→HEAT→COOL→OFF

up (GPIO25):  $SP += 1^\circ\text{F}$  down (GPIO12):  $SP -= 1^\circ\text{F}$

Display:

Line1: date/time Line2: alternates current T and state+SP

UART (30s): state,current\_F,setpoint\_F