



Vulkan AG
Elektrothermische
Apparate
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Vulkan Temperature Display Operation

Button functions.

SW1 > On/Off (Toggles On <> Off)

SW2 > Mode [Cycles thru display mode: Temp > SP1 > SP2 > SP3 > SP4 > Temp]

SW3 > Change

When the battery is connected, the display will start in "deg C" and whole degrees (no tenths).

SW2 changes the mode of the display. After a period of time, the display will automatically return to temperature display. Pressing SW2 resets the "Mode Cancel" time.

Normal Mode: Temperature Display

To change the measured units (deg C <> deg F), press SW3

SP1 Mode: Toggle Tenths (0.1)

Press SW2 until "**SP1**" & " --" is displayed. Then press SW3 to toggle decimal point
" --" <> " -.-"

SP2 Mode: Change "Auto-Off Delay" (in minutes)

Press SW2 until "**SP2**" & " ##" & "m" is displayed.

Then press SW3 to cycle number of minutes. 5 > **10** > 15 > 20 > 25 > 30 > 5

Default time is 10 minutes. Changes are stored if turned off but lost if battery dies or is disconnected.

Changing the "Auto-Off Delay" will restart the timer with the new value.

SP3 Mode: Change "Mode Cancel" time (in seconds)

Press SW2 until "**SP3**" & " ##" & "s" is displayed.

Then press SW3 to cycle number of seconds. 5 > 10 > 15 > 20 > 25 > 30 > 5

Default time is 5 seconds. Changes are stored if turned off but lost if battery dies or is disconnected.

SP4 Mode: Display battery voltage (in volts).

Press SW2 until "**SP4**" & " #.#" & "BAT" is displayed.

SW3 does not have any affect.

If there is a problem with the temperature of the PCB, the display will show "**Pcb#**"

Pcb1 > PCB temperature sensor too low (below -10 deg C)

Pcb2 > PCB temperature sensor too high (above 50 deg C)

If there is a problem with the temperature of the TC, the display will show "**tc#**"

tcL > calculated temperature too low (below -40 deg C)

tcH > calculated temperature too high (above 1000 deg C)



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Specifications:

Operational current: Approx 1.3mA (measured, could be reduced by 0.2mA?? by LPM0)

Standby current: 7.6uA (measured 4.4uA w/o bat sense (3.2uA calc) on PCB 241473)

Battery life calculations:

- 9V Alkaline (580mAh for Energizer battery, to 4.8V)
 - 440 hours+ continuous
 - 10+ weeks @ 1.3mA * 8hrs/day * 5days/wk + 7.6uA * 16hrs/day * 5 days + 7.6uA * 24hrs * 2 days
 - 1+ year standby (24hrs/day) (Theoretically at 8+ years)

Low battery indicator: Turns on below 4.8V, turns off above 5.0V (for 9V operation)

Board Operational Temperature:

- Current SW limits PCB (print) at -10 to +50 deg C. (+14 to +122 deg F)
- TC Limits are -40 to +1000 deg C (calculated) due to TC look-up table.
- Display limits are -999.9 to +999.9 deg C. (NOTE: If deg F & in tenths mode then display changes to whole deg if over 999.9. Change will occur at 537.7 > 538.8 deg C)

