Ramping Driver for IOS

# Requirements

**From OFF mode:**

* 1 fast click - to the Lowest level of 5mA
* 2 fast clicks - to the Highest level of direct drive
* Keep pressing the button will instantly bring Lowest mode on and continue to ramp up brightness.

**From ON modes (after 1 fast click or after 2 fast clicks have initiated output already):**

* Enter Ramping mode by keep pressing the button.
* Keep pressing and after 1.5 second it will ramp up brightness, stop pressing the button to set the desired output level.
* Hold it again it will go backwards, hold it again and it will go the opposite direction and so on, every time goes the opposite direction.
* However some rules apply, if the light turned on by 1 fast click, the brightness will go up when the button is pressed. And if the light was turned on by 2 fast clicks then then brightness will go down when the button is pressed.
* 1 fast click will turn Off the light while it is any output mode.
* 2 fast clicks while the light is ON will simply go to the Highest level of direct drive, just like it does from OFF mode.
* **4 clicks** - **Tactical Mode**, there is no output unless the switch is pressed constantly, as soon as the switch is not pressed anymore the output goes off. Direct drive output. This becomes a permanent function even if the flashlight is turned off.
* **6 clicks** - **Lock/Unlocks** the switch. (meaning you have to do 6 clicks again to make everything work otherwise nothing happens when you click the switch)
* **8 clicks** - **beacon** mode, a quick 1/2 sec light flash at 30%, then 2 seconds pause, then repeat. To lose this mode just click to turn OFF the light.
* Thermal regulation - can be removed (or added) by 10 fast clicks and hold 1sec on the 11th click.
* Switch to 5mA output only at 3.0Vin
* Completely cut power at 2.8Vin

# Notes

* 4, 6, 8, 10 are all quick clicks
* Need to delay implementing the 4, 6, 8, and 10 clicks so as not to implement the quick click actions leading up to the action that you want
* Same thermal regulation as in NarsilTriple, enabled by default
* 16.7% reduction in the ramping level for temperature regulation every 45 seconds results in:
* 255 to 141, 45% drop, **55%** of max (level from 150 to 125)
* 141 to 76, 46% drop, **30%** of max (level = 105)
* 76 to 36, 53% drop, **14%** of max (level = 88)
* 36 to 12, 67% drop, **4.7%** of max, (level = 74)