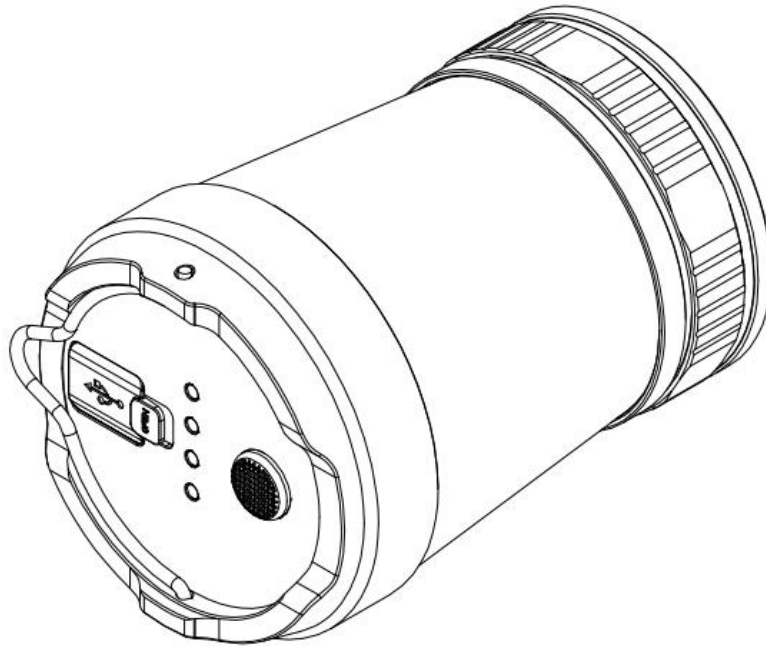


Sofirn LT1S Pro Manual



Thank you for purchasing Sofirn products.

if you need assistance.

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The Sofirn LT1S Pro is the latest and upgraded version of the popular LT1S. The LT1S Pro features several significant upgrades. One of the most notable upgrades of the LT1S Pro is the use of Nichia LEDs, which provide a more natural and true-to-life lighting experience, making it ideal for outdoor activities like camping and hiking. Another significant upgrade of the LT1S Pro is the integration of the Anduril user interface. With its Nichia LEDs and Anduril UI, the LT1S Pro is sure to provide a superior lighting experience that will enhance any outdoor adventure.

ANSI/NEMA FL1 Chart

Cool White Light Mode					
Mode	Eco	Low	Medium	High	Turbo
Luminous Flux	3lm	35lm	95lm	190lm	330lm
Runtime	5days	9h 45min	7h 30min	3h 50min	2h 20min
Beam Distance	-	5m	8m	11m	15m
Peak Intensity	-	6.5cd	15cd	29cd	53cd

Warm White Light Mode					
Mode	Eco	Low	Medium	High	Turbo
Luminous Flux	2lm	27lm	75lm	145lm	260lm
Runtime	6 days	9h 20 min	8h 20min	4h 15min	2h 15min
Beam Distance	-	4m	7m	9m	13m
Peak Intensity	-	4cd	13cd	21cd	40cd

Red Light Mode					
Mode	Eco	Low	Medium	High	Turbo
Luminous Flux	10lm	28lm	60lm	100 lm	160 lm
Runtime	39h	8h 3min	6h 5min	3h 30min	2h 10min
Beam Distance	-	3m	6m	8m	10m
Peak Intensity	-	3cd	10cd	17cd	20cd
Impact resistance	1 m				
Note	The above mentioned parameters are based on tests according to international light testing standards (ANSI/NEMA FL1) using one 21700 Li-ion battery in our laboratory. Results may vary with different battery or under different environmental conditions.				

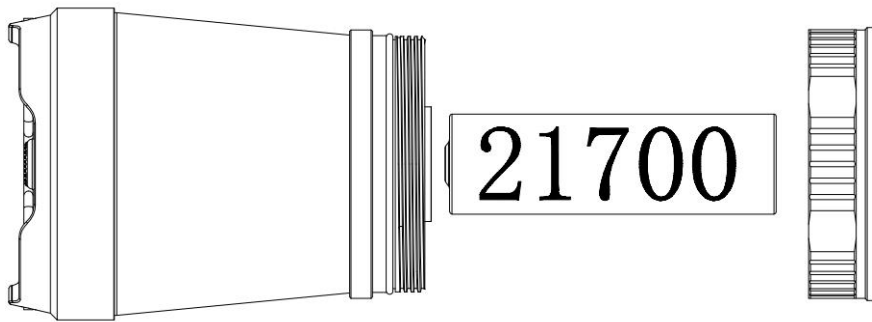
Specifications

- ❖ Emitter: 2700K warm white LED * 4, 5000K white LED * 4, Red LED * 4
- ❖ Operating voltage: 3.0-4.2V
- ❖ Battery options: 1 * 21700 battery
- ❖ Charging Specification: 5V/3A
- ❖ Size: 97mm × 68mm
- ❖ Weight: 257 grams(without battery)
- ❖ Material: Aluminum alloy
- ❖ Mode Memory: memorizes the last brightness level used in the general modes (Eco/Low/Med/High)

Battery Specifications

Battery Type	Dimension & Quantity
Rechargeable li-ion battery	21700 x 1

Battery Installation



Unscrew the tail cap to insert one 21700 battery with the anode side (+) towards the head, then screw the tailcap back on.

NOTE: If you have purchased LT1S Pro with an included battery, kindly ensure that you remove the insulating paper and charge the battery fully before using it for the first time.

Power Indicator

The four blue LED indicators display the battery power status. The orange switch LED indicator remains on while the light is turned on. The switch LED indicator changes to High when the light output is increased and changes to Low when the light output is decreased. When the light is turned off, seven clicks on the switch cycle the switch LED indicator through Low, High, Blinking, and Off modes.

Battery power indicators:

- A. Four LED indicators always on: battery power $\geq 75\%$.
- B. Three LED indicators always on: $50\% \leq$ battery power $< 75\%$.
- C. Two LED indicators always on: $25\% \leq$ battery power $< 50\%$.

- D. One LED indicator always on: $3\% \leq$ battery power $<25\%$.
- E. One LED indicator flashing: $0\% <$ battery power $<3\%$.

Charging indicators (LT1S Pro accepts 5V and 3A max charging current, use your phone charger and the provided USB-A to USB-C cable):

- A. Four LED indicators always on: battery power = 100% (fully charged).
- B. Three LED indicators always on, one LED indicator flashing: $75\% \leq$ battery power.
- C. Two LED indicators always on, one LED indicator flashing: $50\% \leq$ battery power $<75\%$.
- D. One LED indicator always on, one LED indicator flashing: $25\% \leq$ battery power $<50\%$.
- E. One LED indicator flashing: battery power $<25\%$.

Reverse charging: The four LED indicators gradually turn off one by one as the battery power is depleted. The device can be used as a portable charger for charging your phone. A separate C-C cable or C-lightning cable is required for charging, and neither of these cables is included in the package.

Operation Instructions

By default, the light uses a simple UI. This is useful if you lend the light to someone else. Simple UI has all the basic functions needed to work as a light, but the minimum and maximum brightness are limited to make it safer, and any complex or advanced functions are blocked.

ON/OFF: Single-click the switch to turn on/off the light.

TURBO: When the light is on/off, double-click the switch to enter Turbo.

CHANGE CHANNEL MODES: triple-click the switch to change channel modes. warm/cool white blend-auto 2ch white blend (warm \rightarrow cool by ramp level)-auto 3ch blend (red \rightarrow warm \rightarrow cool by ramp level)-red only-red + white blend

CHANGE BRIGHTNESS: When the light is off, press and hold the switch and it will start from Eco, and automatically cycle through Eco, Low, Medium, High, and Turbo, or increase its brightness steplessly.

CHANGE BRIGHTNESS: When the light is on, press and hold the switch and it will start from the present brightness level, and automatically cycle through Eco, Low, Medium, High, and Turbo, or change brightness steplessly. The direction of the increases/decreases may be changed by repeating the aforementioned process within 1.5 seconds. Wait longer than 1.5 seconds (on the second press) to continue in the direction of change (rather than reverse it).

LOCK MODE: When the light is off, quickly click the switch 4 times, and the lantern flashes once to signal the lantern is locked. In the lock mode, press and hold the switch to activate the momentary low, and release the switch to turn off the light. click the switch 4 times again to

disable lock mode.

VOLTAGE CHECKING: When the light is off, quickly click the switch 3 times to check the battery voltage; Click the switch once to exit the voltage checking mode.

STROBE: When the light is off, quickly click the switch 3 times and hold the last click to enter Strobe mode. To change to the next blink use a double-click.

TOGGLE BETWEEN SMOOTH RAMPING AND STEPPED RAMPING: When the light is on, 6 clicks on the switch to toggle between smooth ramping and stepped ramping.

CHANGE THE BRIGHTNESS OF THE SWITCH LED INDICATOR: When the flashlight is off, 7 clicks on the switch to change the brightness of the button led indicator. (low-high-blinking-off)

ADVANCED UI: quickly click the switch 10 times and hold the last click to switch to Advanced UI.

Advanced UI

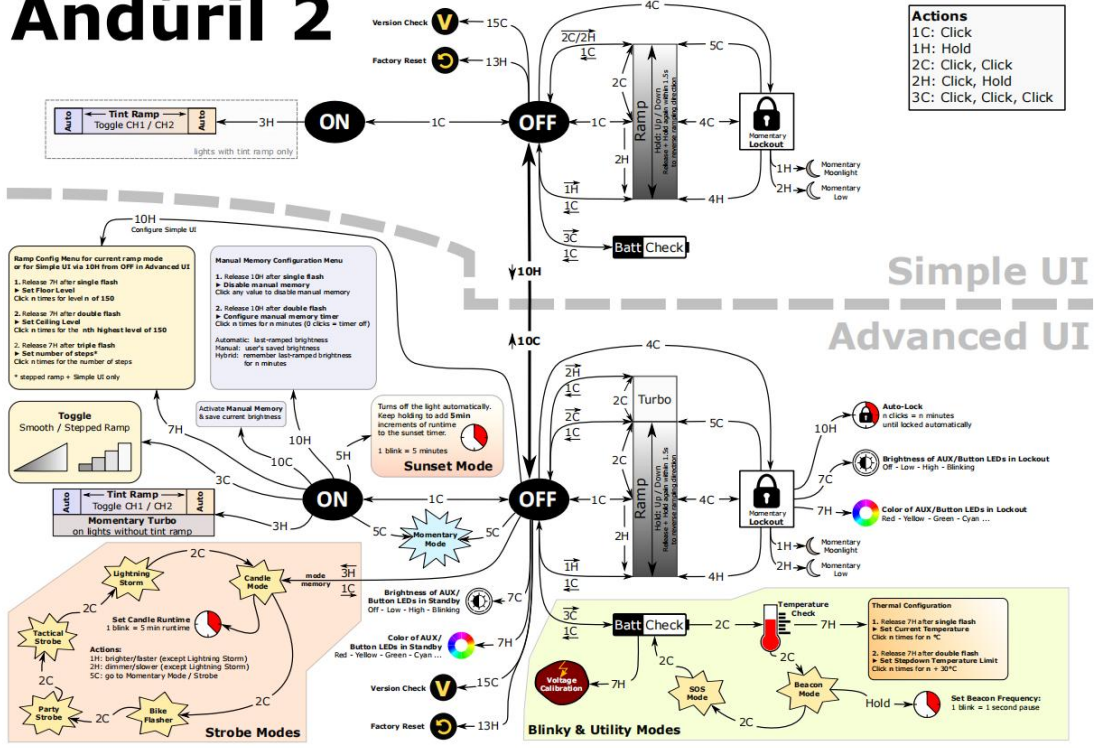
Button presses

Button presses are abbreviated using a simple notation:

- 1C: One click. Press and then quickly release the button.
- 1H: Hold. Press the button, but keep holding it.
- 2C: Two clicks. Press and release quickly, twice.
- 2H: Click, hold. Click two times, but hold the second press.
- 3C: Three clicks. Press and release quickly, three times.
- 3H: Click, click, hold. Click three times, but hold the final press.

The same pattern is used with higher numbers too. For example, 10C means ten clicks... and 10H means ten clicks but hold the final press.

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Default UI: Smooth ramping

This UI provides smooth dimming of the light output between FLOOR (lowest level) and CEILING (highest level), with an easily accessible 100% TURBO mode.

SWITCH TO STEPPED RAMP: click 6 times while the light is on

TURN THE LIGHT ON: single-click the button, the LT1S Pro turns ON using the previously used light output level (MEM)

CHANGE CHANNEL MODES: When the light is on, triple-click the switch to change channel modes. warm/cool white blend-auto 2ch white blend (warm → cool by ramp level)-auto 3ch blend (red → warm → cool by ramp level)-red only-red + white blend. (If you use 3 clicks from OFF you engage battery check)

CHANGE LIGHT COLOR: When the light is on, quickly click the switch 4 times to switch between white light mode and red light mode.

CHANGE BRIGHTNESS: When the light is off, press and hold the switch and it will start from Eco, and automatically cycle through Eco, Low, Medium, High, and Turbo, or increase its brightness steplessly.

RAMP UP&DOWN: When the light is on, hold the button to make it brighter, release button briefly and hold again to make it dimmer.

TURBO no matter the light is on or off, double click activate Turbo for max brightness.

ECO: press & hold the switch, it turns on at the ECO (FLOOR level), it makes a subtle “blink” to provide a timing hint if you want to stay there. If you keep holding, it ramps up.

BATTERY CHECK: while light is OFF, triple-click it shows the voltage of battery (3 blinks, a short pause, then 8 blinks would indicate 3.8 V)

TACTICAL MODE: 6 clicks the switch to enter tactical mode

Press and hold the button to turn on momentary-on.

2H the switch to activate momentary red light mode.

3H the switch to activate momentary flashing red light mode.

TURN OFF: single-click

LOCK MODE: When the light is off, quickly click the switch 4 times, and the lantern flashes once to signal the lantern is locked. In the lock mode, press and hold the switch to activate the momentary low, and release the switch to turn off the light. click the switch 4 times again to disable lock mode.

VOLTAGE CHECKING: When the light is off, quickly click the switch 3 times to check the battery voltage; Click the switch once to exit the voltage checking mode.

UI: Stepped ramping

Using this UI the output does not ramp, it steps from one mode to the next using hold. The firmware tries to optimize these steps as equally-spaced on a cube-root curve (considered an ideal mode-spacing by many).

All operations are the same as in smooth ramping

Switch to SMOOTH RAMP: when the light is ON, 6 clicks switch it.

UI: Momentary mode

5 clicks from OFF to enter Momentary mode

To exit this mode, physically disconnect power (unscrew the light). This mode locks the light into a single-mode interface where the LEDs are only on when the button is held down. It is intended for Morse code and other signaling tasks. Brightness is the last-ramped level, so adjust that before entering momentary mode.

UI: Electronic Lockout

4 clicks from OFF to disable the light, same to re-enable the light.

Lockout makes the light safe to carry in a pocket or a bag or anywhere else it might be pressed by accident. Lockout doubles also as a momentary eco mode, so the user can do quick tasks without having to unlock the light. It uses the FLOOR of the current ramp.

Blinkies & Strobes

Two groups worth of blinkies are included. To reach Blinkies, do “click click click” from OFF. To reach Strobes, do “click click hold” from OFF. To change to the next blink use a double-click. These include:

Blinky:

(starts always at battery check) from OFF: “click click click” to **Battery Check**: Shows the remaining charge in volts and tenths. E.g. 4 blinks, then pause, 1 blink are 4.1 Volt. A "zero" is represented by a very quick blink.

Sunset: Starts at a low level, then slowly dims down to moon for an hour, then shuts off. It is intended for use when going to bed.

Beacon: Beacon mode uses the last ramped level for its brightness. You must adjust the brightness before you turn beacon on. It blinks at a slow speed: Once every N seconds at the last-ramped level. N is configurable in beacon config mode: Click 4 times to enter beacon config mode, wait for the light to stutter, then click to enter the number of seconds per blink. For example, to do a 10-second alpine beacon, click 10 times. (Hint: If you want faster blinks per second use party strobe mode and set it to three blinks per second or more)

TempCheck: Blinks out the current temperature in degrees C. and optionally configure settings for thermal regulation. E.g. 3 blinks, then pause, 4 blink are 34 degrees Celsius. A "zero" is represented by a very quick blink. This number should be pretty close to what a real thermometer says. If not, it would be a good idea to click 4 times to enter thermal config mode, and calibrate the sensor.

Strobes:

(remembers the last-used mode) from OFF: “click click hold” which means click three times, but hold the third click for a moment. To change to the next strobe use a double-click.

To set adjustments you can use:

- Hold: Increase brightness, or strobe faster. (except lightning)
- Click, hold: Reduces brightness, or strobe slower. (except lightning)

Candle mode:

Simulates a flickering candle or fireplace, until you switch it OFF. Or you add timer for 30min: Each triple click adds 30 min including a burn down simulation at the end. Candle mode timer can go for up to 4.5 hour.

Bike flasher:

Steady output with a “stutter” once per second. Designed to be more visible than a normal ramping mode, but otherwise works mostly the same. Adjustable brightness.

Party strobe:

Motion-freezing strobe. Can be used to freeze spinning fans and falling water. Adjustable speed.

Tactical strobe:

Bright, disorienting strobe light. Can be used to irritate people. Adjustable speed, and the duty cycle is always 33%.

Lightning storm mode:

Flashes at random brightness and random speed to simulate lightning strikes during a busy lightning storm. Do not look directly at the light when this mode is running, because it may suddenly go to full power without warning.

Safety Instructions

- ❖ LT1S Pro is a powerful lantern. Never point it directly at a person, animal or moving vehicles. Doing so could cause retinal damage. Please do not allow children to play with it. Strobe mode may cause seizure in persons with photosensitive epilepsy.
- ❖ Operating LT1S Pro for a long time in high-powered modes will quickly heat up the light. This is normal.
- ❖ Pay close attention to the proper installation of the battery. Always check that the positive end of the battery faces its head before screwing the tail cap back on.
- ❖ Please unscrew the tail cap half a turn to avoid unwanted activation during transport. It also prevents the battery from draining while the light is in standby.
- ❖ Avoid hitting or dropping the light.

Troubleshooting and Maintenance

- ❖ Disassembling the sealed head can damage the light and voids the warranty.
- ❖ Sofirn, Ltd. recommends using high-quality brand batteries. Damage by battery leakage voids the warranty.
- ❖ Remove the battery if the light will not be used for an extended period of time.
- ❖ To prevent self-discharge or accidental activation during storage or transportation, unscrew the tailcap by half a turn or remove the battery.
- ❖ Every 6 months threads should be wiped with a clean cloth followed by a thin layer of silicone grease.
- ❖ To maintain a proper level of waterproofness, replace worn-out o-rings with an approved spare.
- ❖ Troubleshooting: Clean battery contacts regularly as dirty contacts may impair the performance of the light. If you experience problems (flicker, shine intermittently or failure turn on) the following root causes and solutions should be tried:

Reason A: The battery needs a replacement (battery voltage is below 2.8V).

Solution: Replace the battery with an approved type of a fully charged battery.

Reason B: Threads, PCB board contact or other contacts are dirty.

Solutions: Please clean the contact points with a cotton swab soaked in rubbing alcohol.

Reason C: The light will not turn on upon first use.

Solution: Please do not forget to remove the insulation sticker from the battery on first use.

If the above methods do not work please refer to the warranty policy before contacting your authorized distributor.

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Please contact us if you have any questions.

If your product is defective please contact us for replacement within warranty period.

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