



Thank you for supporting this BLF community project. The GT70 was designed by BLF, for BLF, and brought to life by top-tier manufacturer Lumintop. We trust it will serve you well in whatever your endeavors might be!
- the BLF GT project team

The GT70 is equipped with a Cree XHP 70.2 and uses a NarsilM v1.3 Firmware

USER MANUAL

Safety precautions

- Use only reputable 18650 cells of known origin. Protected type cells, based on Samsung, Panasonic/Sanyo, Sony or LG cells, are recommended.
- Use a reliable battery charger. Never over-charge or over-discharge cells.
- Cells are used in series, not parallel. It is therefore important that all cells are identical: Same make, model, capacity, age, used cycles, and furthermore charged to the same level.
- Remove and recharge cells when the low voltage indication is given by the GT70 (repeated step-downs in light level and eventual shutdown of the light).
- The extraordinary energy density that 18650 cells offers also means that hazardous conditions are created when a cell is short-circuited or damaged. Always treat cells with respect and properly dispose of damaged cells.
- The GT70 is a very high-intensity flashlight. Do not point the lamp directly at a person, animal, moving vehicles or flammable materials.
- When running at higher output levels the head of the GT70 will slowly heat. This is normal. In warmer ambient conditions this temperature may exceed 60°C, so please take the necessary precautions when handling the GT70.

Quick start

- Load the cell cradles with four 18650 cells each. Note that the cradles require button-top type cells. The GT70 is designed to work with either one or both cell cradles populated. Take care to observe the correct polarity for each cell.
- Unscrew the tail-cap and insert both cradles. Again take care with the polarity: Arrows on the cradle rods must point towards the head of the GT70. If populating only one cradle we recommend placing it towards the rear, so that the GT70 balances better in the hand.
- Screw the tail-cap back. The GT70 will flash twice when electrical contact is made. Continue to tighten the tail-cap to a gentle stop. Do not over-tighten.
- All functions are performed using the single side button. Note that pressing this button continuously for more than 16 s enters the UI configuration settings (indicated by the light blinking). If this is done inadvertently, exit the configuration settings by simply releasing the button briefly then pressing it again continuously for about 4 s until all the resulting blinks stops.
- The GT70 comes factory-set to use the **RAMPING** UI: From **OFF**, press&hold the side button. The light output will ramp up from a very low level to full power. Release the button when the required light level is reached. (The full ramp takes about 3 s. To signal 'End of Ramp' it does a subtle blink) Use a single-click at any time to turn the GT70 **OFF**. Please see below for further details.
- There is a very small drain on the battery while **OFF**. This should not be of any concern, but we recommend removing the cells (or partially loosening the tail-cap) if the GT70 will not be used for several months.
- By default the button back-light is illuminated while the GT70 is **OFF**. This is normal and is done to easily locate the button in a dark environment. Turning the GT70 **ON**, then **OFF**, in rapid succession, disables the back-light until the next use. This is also normal.
- **If you transport this light in a bag use at least the electronic lock-out! It will burn things on higher levels!**
- For the complete user manual and any questions you might have about your GT70, please visit the GT support thread on BLF. The link is on the last page of this manual.

Default UI: Smooth ramping

This feature-rich UI provides for smooth ramping of the light output between 0 and 50%, with an easily-accessible 100% **TURBO** mode.

- Turn the GT70 ON:** single-click the button, GT70 turns **ON** using the previously used light output level
- Ramp light level:** press&hold button
- Reverse ramp:** while ramping in one direction, release button briefly and press&hold again
- Instant TURBO:** double-click
- Turn the Lamp OFF:** single-click
- MOON mode:** from **OFF**: press the button and release as soon as the GT70 turns on
- Strobes:** double-click for **TURBO**, and then double-click again

The strobes are deactivated by default.

To enable strobes you must click 3 times in setting #4 (ramping) or setting #8 (modes).

(Use single-clicks to cycle forward through the different types of strobes, but you have to be quick: If resting on a strobe longer than 1.2 s it locks in and the next single-click is **OFF**. Press&hold at any time to cycle backwards through the strobes.)

- Battery status:** triple-click (4 blinks, a short pause, then 1 blink would indicate 4.1 V average per cell, for example)
- Electronic lock-out:** four clicks to disable the GT70, same to re-enable the Lamp
- MOMENTARY mode:** five clicks (loosen and re-tighten the tail-cap to return to normal operation)
- Factory reset:** triple-click (battery status mode), then double-click (driver temperature mode), double-click again (firmware version mode), then press&hold for about 2 s. Four blinks confirm a successful reset.

Alternative UI: Mode-sets

The GT70 is factory-set to operate using the contemporary **RAMPING** user interface, as described in the previous section. However, the GT70 can also be operated using a more conventional **MODE-SET** style user interface. (See next section for detail on how to set UI options).

Using the **MODE-SET** UI the output does not ramp, it steps from one mode to the next using single-clicks.

- Turn the GT70 ON:** single-click
- Next mode:** single-click before the current mode 'locks in' (1.2 s)
- Previous mode:** press&hold
- Last mode [100%]:** from **OFF**: press&hold
- Turn the Lamp OFF:** single-click button, after resting on a mode more than 1.2 s (mode locked in)
- Strobes:** press&hold

The strobes are deactivated by default.

To enable strobes you must click 3 times in setting #4 (ramping) or setting #8 (modes).

(Use single-clicks to cycle forward through the different types of strobes, but you have to be quick: If resting on a strobe longer than 1.2 s it locks in and the next single-click is **OFF**. Press&hold at any time to cycle backwards through the strobes.)

- Battery status:** from **OFF**: single-click followed by press&hold (4 blinks, a short pause, then 1 blink would indicate 4.1 V average per cell, for example)
- Electronic lock-out:** from **OFF**: double-click followed by press&hold, same to re-enable the GT70
- Factory reset:** from **OFF**, single-click followed by a press&hold (battery status mode), then double-click (driver temperature mode), double-click again (firmware version mode), then press&hold for about 2 s. Four blinks confirm a successful reset.

Advanced operation

By default the GT70 is set to suit most users and applications, but several settings are user-configurable. To enter the configuration settings, press&hold the button for about 16 s (3 s if in the MODE-SET UI), do not release until a double flash followed by a single blink is seen. The single blink is the prompt for the first setting. Click the button as many times as required for that setting, or leave the setting alone and simply wait for the next double flash, this time followed by two blinks, indicating that we are now at setting #2, etc.

The GT70 confirms each click with a blink. A press&hold skips to the next setting. A continuous press exits the setup menu completely. Four blinks indicate that the setup is completed.

The available settings differ, depending if the GT70 is currently set to the RAMPING UI or the MODE-SET UI. Note that changing setting 1 flips to the other UI and immediately kicks you into the table for that UI:

RAMPING user interface settings		
Setting	Function	Clicks
1	User interface	1: MODE-SET 2: RAMPING [default]
2	MOON level	1-7 [default 3]
3	Auto step-down	1: Disable 2: Temperature [default]** 3: Timed, requires another 1-6 clicks for 60s, 90s, 2m, 3m, 5m, 7m respectively
4	Strobes	1: Disable [default] 2: Strobe 1 only 3: All strobes

MODE-SET user interface settings		
Setting	Function	Clicks
1	User interface	1: MODE-SET 2: RAMPING [default]
2	Mode-set	1-12 [default 4]
3	Moon mode	1: Disable 2: Enable [default]
4	Mode order	1: Low to high [default] 2: High to low
5	Mode memory	1: Disable [default] 2: Enable
6	MOON level	1-7 [default 3]
7	Auto step-down	1: Disable 2: Temperature [default]** 3: Timed, requires another 1-6 clicks for 60s, 90s, 2m, 3m, 5m, 7m respectively
8	Strobes	1: Disable [default] 2: Strobe 1 only 3: All strobes

** If [temperature] is selected for auto step-down, the GT70 goes to 100% output. Leave the lamp to heat to the desired limit, and then click to set that temperature as the trip point (the GT70 is huge, so this can take 20 minutes or longer, use fresh cells for this). Or click within 5 s to keep previous setting.

The mode-sets have been selected to suit a high-power thrower like the GT70:

Mode-set no.	Modes [% of light]							
	1	2	3	4	5	6	7	8
1	100							
2	5	100						
3	5	30	100					
4	0.5	5	40	100	[default]			
5	0.7	5	20	40	100			
6	0.5	5	15	25	50	100		
7	0.3	1.3	4	10	20	60	100	
8	0.3	1	2.6	5	11	25	70	100
9	0.5	2.2	9	22				
10	0.5	2.2	9	22	54			
11	0.5	2.2	9	22	54	100		
12	5	10	18	30	45	55	71	89

Note that **MOON** mode is enabled by default, adding one extra mode (mode 0) to the above.

Pre-programmed strobes (disabled by default):

Strobe	Type
1	16 Hz
2	Police strobe (dual frequency)
3	Biking (low light with hi-vis stutter)
4	2 s beacon
5	10 s beacon

Additional UI settings are available to control the button back-light. While in the battery check mode, press&hold the button. A double flash followed by a single blink is again the prompt for the first setting:

Advanced UI settings		
Setting	Function	Clicks
1	Button LED on while GT70 OFF	1: Disable 2: Enable [default]
2	Battery level blinks on button LED only	1: Disable [default] 2: Enable
3	Button LED	1: Disable 2: Enable [default]

Specifications

- Emitter:** 12 V Cree XHP70.2 High Intensity, neutral white or in cool white, mounted on copper DTP MCPCB
- Flux:** >7500 lm
- Intensity:** >500 kcd (ANSI throw >1400 m)
- Firmware:** Tom E's open-source NarsilM v1.3 adapted by Texas_Ace
- User interface:** [1] By default the GT70 is set to use the very intuitive Narsil smooth **RAMPING** UI. Instant access to a 2.5 A **TURBO** mode is also provided.
[2] A more conventional discrete level **MODE-SET** UI is available as an alternative. Any one of 12 pre-defined mode-sets can be selected.
[3] **MOMENTARY** mode is useful for signaling purposes or rapidly/briefly lighting up targets.
- Battery:** Four or eight button-top 18650 cells (4S1P or 4S2P). Protected cells are recommended. Cells are not included.
- Driver:** 12V, Texas Avenger V2
- Reflector:** 118 mm inner diameter, aluminum, smooth finish
- Lens:** Glass with anti-reflective coating
- Body:** Aluminum with Type III hard-coat anodizing
- Tripod socket:** Standard 1/4 inch threaded (1/4-20 UNC)
- Button:** Tactile with back-lit rubber boot
- Ingress rating:** Equivalent to IP65, do not immerse in liquids
- Weight:** Approximately 1.8 kg without cells
- Dimensions:** 135 mm Ø head x 315 mm length

Links



tiny.cc/o9t8oy

[GT support thread on BLF]



tiny.cc/epe9oy

[lumintop.com]

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