

Battery maintenance

- Maintain charge over summer months with regular charge/discharge cycles. Go for an evening ride.
- Do not store battery away flat, recharge after every use, even after just a half hour use.
- NiMH batteries self discharge over a short period and will need to be boosted after several days of inactivity.
- Li-ion batteries have a very low self-discharge.

Approximate battery run times

Note: Full power = 1000ma.

Increase run time by 20% if full power is set at 700ma within the admin mode.

Li-ion 14.8V 4.4Ah 505gms

- 12W LED full power 5.5 hours
- LED lowest power 90 hours

Li-ion 14.8V 2.2Ah 295gms

- 12W LED full power 3 hours
- LED lowest power 35 hours

NiMH 13.2V 4 Ah 675gms

- 12W LED full power 4 hours
- Lowest power 50 hours

SLA 12V 2.2 Ah 990gms

- 12W LED full power 1.5 hour
- Lowest power 25 hours

Approximate fuel gauge thresholds for Li-ion

- 1st indicator 14.7 V
- 2nd indicator 14.3 V
- 3rd indicator 13.7 V
- Forced low level indicator 13.2V
- Light cutoff 12.7V

Approximate fuel gauge thresholds for NiMH & SLA

- 1st indicator 13 V
- 2nd indicator 12.5 V
- 3rd indicator 12 V
- Forced low level indicator 11.5V
- Light cutoff 10.5V (9.1V SLA)

These voltages are based around the discharge curves of the respective battery types and operate as the voltage from these cells start to collapse. To increase your run time, turn the light down, especially by the second indicator. Other battery types can be used, though the fuel gauge may be inaccurate. Learn the trigger times for best use.

Absolute Maximum Voltage input is 22V

Care and maintenance

The light is designed for use in rugged conditions, but is not a diving light. As it uses a solid-state light source it will withstand strong knocks, and the front plate is replaceable if badly scratched. Keep the cooling fins clean of mud to enable efficient cooling. We recommend the battery/light connectors are kept protected from moisture and rain etc.

Check connectors and overall light condition before setting out at night. Seek advice from Nightlightning if you detect any light malfunction. Never use the light if there is a risk of a short circuit. A fire may result. If the light will not power up check the battery or the pins within the connector or damage to the cable.

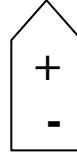
Battery connector

Pin #1 = +

Pin #2 = -

Brown/red cable = +

Blue/green/black cable = -



Parts

Nightlightning carries all parts as spares. Just call for advice.

Warranty

Return to Nightlightning. Return freight charged at cost.

1 year on the Mini-Blaast light and electronics. Water damage will not be covered.

6 months on batteries from faulty workmanship, but rough use, impact damage, & water damage not covered.

Charger 6 months.

Before returning any battery pack, please consult us first.

For further details and information on Nightlightning products please call, email, or visit our web site.
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Specifications and prices of Nightlightning products are subject to change without any prior notice.

All care is taken in producing these instructions, but Nightlightning takes no responsibility in the use of our lighting products, or any accident or personal injury arising from the use of our products. It's a dangerous sport riding in the dark. Be careful!

12-09



Mini-Blaast

Administration mode operation

The admin mode allows you to edit the different settings, to make the Mini-Blaast a most versatile multisport light.

The light comes already set up, so you can connect the battery and start using the Mini-Blaast with a brief switch press to scroll through the light levels.

The switch for Mini-Blaast control is the Kiwi, located on the rear control housing.

To enter the admin mode, connect the battery, and then within 3 seconds, hold in the switch for about one-two seconds. The LEDs will flash 3 times to indicate you are in admin mode and go straight into the first adjustable setting.

To make a change in each option, press the switch briefly (Short press), and to both enter an option change and to move between the admin modes, press the switch for a second (long press). The LEDs will flash twice and then display the next option.

These are the modes that can be edited.

- 2 or 3 stage dimming- low/high or low/medium/high
- LED low level output set
- LED medium level output set
- LED high level output select
- Battery type select
- Temp alarm select



Admin mode operation

2 or 3 stage dimming

The Mini-Blaast system allows either low/high output or low/medium/high output. A double or triple flash indicates this. A brief press will change between the 2 or 3-stage options.

Double flash = 2 stage dim.

Triple flash = 3 stage dim.

Hold button in to enter change. (Long press)

LED low level set

A short press will scroll through the low-level output options and return back to the lowest output. Select the level you require and then do a long press to enter change. The lowest output level enables the longest run time.

LED medium level set

If you have selected 2 stage dimming in the first admin mode, there will be no option available for medium output setting, otherwise, select the desired output level with short presses. You can scroll through the levels. Enter choice with a long press.

LED high level set

The high level output can be fixed at 700ma, 1000ma or 1200ma. The third option of 1200ma is reserved for future LED and should not be selected with this model. Enter choice with a long press. 700ma (Least bright setting) offers the most efficient high level output and the longest run times. 1000ma has a slightly higher light level but run time suffers and extra heat is generated.

Battery type selection

The Mini-Blaast will operate with any battery type from 12V to 18V. However every battery type has a different discharge curve, so we provide an admin mode to allow greater accuracy with the fuel gauge and battery deep discharge protection. Select the battery type here.

1 flash = SLA 12V

2 flashes = NiMH 13.2V

3 flashes = Li-ion 14.8V

No fuel gauge setting exists for battery packs greater than 14.8V. Use Li-ion.

Temp alarm select

This option will always default to 1 flash each time you go into the admin mode. Select 3-5 flashes for Mini-Blaast operation. (70-90deg). Light will reduce output if temp is exceeded in actual use..

Escape administration mode

After the last selection, hold button in for two seconds. The light will flash 10 times to indicate you have exited. You can go straight to run mode by pressing the switch briefly.

Temperature alarm

If the light head becomes too hot, the output will reduce until a safe operating temperature is once again achieved. This temperature is selected in the admin mode above.

Sleep mode

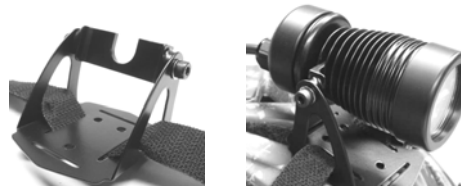
The Mini-Blaast will switch to a 'sleep' mode when turned off. The current consumption will decrease to around **1ma** when the battery is connected and the light is off. **Disconnect** the battery when not in use to avoid complete discharging of the battery.

Battery type

You may use batteries from cordless drills etc up to and including 18V (**Max 20V**) packs. All 12V Sealed Lead Acid batteries can be used, as well as alkaline, NiMH and Li-ion.

Tilting helmet/bar mount

Fasten mount down with Velcro strap. Use adhesive foam strips if required. Pull on Velcro to ensure the mount is firmly in place. Mount can be reversed for extended tilt. Use an Allen Key to tighten once the correct angle has been selected. Do not over tighten which could strip the thread.



Cooling

Solid-state lighting requires cooling to enable long LED life. Heat is detrimental to LED life.

We have designed the Mini-Blaast light to be a compromise between high output and lightweight heat sinking. Therefore movement (Air flow) is required when on the full power setting. If you are stationary for some time, turn the light down.

As an indication, full power going uphill in the sunshine is enough to keep it within specifications.

Do not use it indoors on full power where there is no air movement and **never** place the light system in a bag or other enclosed area with the battery connected! **Never!**

LEDs

The Mini-Blaast uses three of the Cree XP-G R5 LEDs, currently the brightest of their type in the world. Each LED has an output of around 400 Lumens when driven on full power by the Mini-Blaast switch mode electronics.

For Normal Operation

Attach the battery and then push the switch briefly for normal run mode, scrolling through the output levels. To turn off, hold in the switch.

If 2 stage dimming is selected in the admin mode, the output levels will be LED low/high.

If 3 stage dimming is selected in the admin mode, the output levels will be low/medium/high.

Upgrading LEDs

For future LED upgrades, email or check the web site for details. As they become available we can send them to you or you can return your light.

You must be proficient in electronic assembly practices to attempt this replacement yourself. If in doubt, return the light to Nightlightning.

Flasher/commuter mode

From the off position, press the switch in for one second to go to the flasher mode. You can scroll through the options including SOS. Hold switch in to turn off. The first two flashes are set to the low power level, and the rest are at full power for daytime safety.

Battery protection use

The Mini-Blaast fuel gauge is primarily designed for SLA 12V, NiMH 13.2V, and 14.8V Li-ion batteries.

The battery protection gives three warnings (momentary 'blips') indicating the remaining power available from the battery.

There are 3, 6, & 12 blips.

Several factors will determine when this indication operates.

Temperature, battery age, charge level etc. Learn the times the indications operate at. The fourth indication will force the lights into a low output state; at this stage you are very near the battery cutoff. There will be a constant 'blip' to remind you that the fifth stage will cut the light off.

Reserve power mode & battery protect disable mode

There is around half an hour reserve on low power from a Li-ion battery pack, but you must disable the fuel gauge battery protection first.

You can disable it by applying power with the switch held in.

A longer flash will be noticed to indicate this. Reapply power to enable battery protection again.

The cutoff point is at the minimum battery voltage and any use beyond this point can lead to irreversible battery cell destruction. This can be detected and will not be covered by warranty. Nightlightning supplied Li-ion batteries also have their own internal electronic protection. If this protection cuts in, then you must use a charger before the battery will operate again.