

Why SUPERNOVA lighting systems are special:

Every detail of the SUPERNOVA lighting systems is aimed at optimal functionality. Many features of our lights cannot be found anywhere else in the whole world. See for yourself:

Illuminant

- **Extremely high light gain**
By using a special boost electronics, the light gain of our high intensity discharge lamps is increased considerably in comparison to the standard specifications without shortening the lifetime of the bulb by overvolting it.
- **Constant brightness**
We have integrated a special power booster into our battery pack which keeps the output voltage stable at all times. This means that the brightness of the lamp will stay the same until the very last minute – unless, of course, you switch to our special energy saving mode, which even our HID and LED lights have. The booster also enables you to start the lamp at extremely low temperatures (which is normally a problem for H.I.D. systems) because it always delivers the necessary voltage.
- **Long Lifespan**
Supernova H.I.D. lights have an average lifespan of more than 1000 ignitions (up to 5000 hours of use), thanks to our special boost electronics which ensures that the H.I.D. lights are always started with the perfect voltage. Because of the optimal cooling provided by their aluminum housings, our LED lights will even last for up to 50.000 hours if used on a bicycle. The lifespan of halogen lights largely depends on the power setting chosen.
- **Optimal illumination**
Our dual beam lamps offer optimal illumination and flexibility. Any combination from maximum burn time to maximum brightness is possible. Our single-beam lights are available with different reflectors for every kind of use.
- **Future-proof**
All our Halogen lamps can be fitted with stronger or more economical bulbs. If there is any new development in LED lighting (which is to be expected), we can retrofit your old light with the newest technology and LED emitters at cost price.

Batteries

- **Highest-quality cells**
We Are using special lithium-ion cells of the highest quality manufactured in Canada. Normally, these cells are being used for medical or military applications because of their longevity and reliability. In tests, their lifespan was 33% higher than that of Sanyo or Panasonic cells (which are generally known for their high quality).
- **Exact Burn time indicator.**
An integrated „counter“ which recalibrates itself after each complete discharge/charge cycle makes it possible to predict the remaining burn time exact to the minute. By communicating with the luminescent control unit, the burn time can be indicated continuously by colored LED lights in 25% steps and – when called up by pressing one button for 2 seconds – by flashing lights signaling the remaining hours and quarter-hours. The burn time is recalculated every time you change the light setting so it remains correct, no matter how much energy you use.

- Impervious to low temperatures as low as - 4° Fahrenheit**
 Our lithium ion cells are designed to work at extremely low temperatures as low as minus 4° F [- 20°C] without any serious loss of capacity. In our insulated battery bottle, you can even use it at temperatures of up to - 40° F [- 40° C].
- Temperature-controlled charging**
 The integrated charger has temperature sensors making sure that the charging process happens as quickly as possible without damaging the battery cells. Lithium ion cells must never be charged at temperatures below - 4°F [0° C] or above 104° F [40° C]. This would irrevocably damage them. Our charger recognizes these harmful thermal conditions and starts the charging process automatically when the battery has an acceptable temperature. If, for example, the battery was used on a cold winter night, you can still plug it in and go away without worrying about the right battery temperature.
- Durability**
 We all know about the limited lifetime of lithium-ion batteries in mobile phones. These batteries are always charged to their maximum capacity, Most of our competitors follow the same policy, because it is a cheap way of boosting the maximal battery capacity. This, however, considerably lowers the overall life expectancy of the battery. We only charge our cells up to a certain voltage specially calculated to dramatically improve the life-expectancy of our cells while sacrificing only a few minutes of burn time. This method is commonly used in systems that need to function reliably for years, like in satellites or some medical appliances. If used under optimal conditions, our batteries will still have 50% of their capacity after 1000 charging cycles. The lower the wattage of the light, the higher is the life expectancy of the battery because of the lower discharge current.
- We only sell you „fresh“ batteries**
 Lithium ion cells begin to age very slightly from the moment they have been produced (ca. 2% loss of capacity per year if stored under optimal conditions). Therefore we only have comparatively few batteries in stock in cold storage and prefer to order fresh batteries in small quantities whenever needed to make sure that you always get the best quality possible.
- Battery cells can be exchanged**
 If, after many years of heavy use, you should ever get the impression that your battery doesn't have enough capacity any more, we offer to exchange the cells. This way, you will get a virtually new battery at half-price

Hardware

- Thermally optimized housing**
 All Supernova illuminants are fitted precisely into their CNC-machined housings made of anodized high-performance aluminum with special cooling fins. This not only looks great but also ensures that the heat is dissipated very efficiently, which protects the ballast and the LED emitters from overheating and ensures a very high life expectancy (50.000 hours for our LED emitters). The ballast also works more efficiently with adequate cooling. Of course, aluminum is also much lighter than other metals.

- **protected boost and charging electronics**
 The boost electronics is designed to resist thermal shocks (e.g. moving the light from a -40° F environment to a 70° F warm room). The electronics is completely protected against water and absolutely impervious to vibrations. Through the solid mass of special heat conducting glue, the heat produced in the charger is also transferred directly to the aluminum housing, which makes it work at top efficiency.
- **Efficient transistors**
 Our highly efficient MOSFET transistors unite a high switching performance with the best possible thermal properties.
- **Electrostatic protection**
 Our ESD protection diodes with an extremely high efficiency and reliably protect our electronics from electrostatic discharges.
- **Battery protection**
 All our batteries are protected against deep-discharging, overcharging and short-circuiting. Overheating is also prevented.
- **Extremely easy to use mounting hardware**
 The lamp, battery and control unit of all lights except the messenger and the police light can be mounted on your handlebar in 15 seconds without using any tools. In spite of being securely fixed to the bike, you can remove the complete system in only 5 seconds. The Police and Messenger lights are designed to stay on the bike, but even they can be attached with a simple Allen key.
- **Swiveling handlebar mount**
 The handlebar mount can be easily swiveled to each side by an angle of up to 20° to illuminate different areas in your path or to avoid blinding oncoming people. The light of all lighting systems can of course be adjusted vertically to your liking. With some skill, you can even take the light off the mount while riding to illuminate your surroundings more precisely.
- **High-quality plugs and cables.**
 The five-pole gold-plated connectors meet the high industrial standard IP67 and are therefore watertight and highly corrosion resistant. The inner cables are traction relieved and protected by an outer hull of extremely rugged Santoprene®, which will never break and which will stay highly flexible even at a temperature of - 40° F.
- **Optimized controls**
 The PMX control unit is made of extremely rugged Makrolon® and has an embossed surface to make pushing the buttons easier. The luminescent burn time indicator also illuminates the buttons, so that you cannot miss them in the dark. We don't use flip switches because they can be switched on involuntarily, which can be extremely dangerous if the lamp is stored near flammable materials. To switch on a Supernova, you therefore normally have to push two buttons in quick succession. Only the lighting systems designed to stay on the bike (Messenger and Police light) can be switched on by pressing a single button.
- **Rugged battery bottles.**
 The watertight battery bottles are very durable because of their robust PE mantle and their exactly fitting aluminum cap. They never rattle in your bottle holder and efficiently protect the electronics inside.

- **Completely lead-free electronics**
All our electronics are manufactured completely lead-free.
- **Quick service**
The complete lights are assembled in Freiburg, Germany, so we have all the spare parts ready for shipment in case you require anything.

Software

- **Intelligent communication**
Two advanced RISC processors (one in the control unit, one in the charger) communicate via our five-pole cable. Only this makes an exact burn time prediction possible.
- **Software safety**
A software safety locking the control buttons makes it impossible to switch the light on or off accidentally. To switch the lamp on, you have to push two buttons in quick succession. To switch the lamp off, you have to push one button for more than two seconds. You'll never be in the dark and you'll never set your backpack on fire accidentally, with a Supernova.
- **Stay up to date**
We can update the control software via a special interface in the PMX control unit without any problem, if the need should arise.
- **Exact analysis of the battery possible**
With our special software, we can analyze the complete energy turnover of a battery pack (basically that's like reading the battery's diary), if necessary.

Our philosophy

- **Ruggedness, longevity, reliability**
The three properties we value most. We do not sacrifice any of these for just a little bit more brightness, a few minutes of extra burn time or a few grams of weight.
- **Fairness to Customers**
Because we know that our customers will use our lighting systems for many years, we try to be as accommodating and helpful as possible in case a customer encounters a problem. Do not hesitate to contact us even after the official warranty has expired! We will repair your light at cost price only. There are very few repairs anyway.
- **One level of quality for all our lighting systems**
All our lighting systems are being manufactured according to the same high standards. Every lighting system has the same high-quality battery and the same high-quality control electronics. The different prices only reflect the different manufacturing costs.
- **Satisfied customers are the best advertisement**
We are all active night-bikers ourselves and we will not leave you alone in the dark.