

MagnumStar 7 Caving and Mining Lamp.

Thank you for purchasing the Fellows MagnumStar 7 caving and mining lamp.

This lamp is the most powerful cap lamp on sale in the world at time of writing and generates the light equal to 3 car headlamps. As such it should be treated with respect as should the eyes of your companions.

It is strongly recommended that you familiarise yourself with the operation of the lamp before using it underground. Please read these instructions carefully.

Description

This lamp utilises the latest Cree XM-L and XP-G technology to provide a lamp with a total light output of over 3800 lumens.

The lamp is fitted with 9 emitters, 6 Cree XM-L, and 3 Cree R5 XP-Gs.

The lamp has 2 separate switching systems which can be used in combination any way, these are in a waterproof and solidly potted control box set into the lamp cable

Lamp switch positions:

One switch actuates either one of the 2 arrays of 3 Cree XM-Ls, beams or floods. The power modes are changed by flicking on and off (Practice recommended) There is a standard, medium, and maximum setting. Maximum is about 2650 lumens. The lowest beam setting is Standard mode and is sufficient for a lot of underground exploration and outputs about 160 lumens. The electronics will memorise the last continuous setting for next time use. For large roomy slate mines it is perfectly permissible to walk around on the middle beam setting for as long as you wish, this is about 700 lumens, the lamp will certainly not overheat!

The second switch actuates either the 3 Cree XP-Gs at full power, about 1200 lumens, or the Emergency Light. This gives a low level which can be used in emergencies or for chatting in company

Max settings are achieved by combining the above XPGs with either of the main emitter arrays actuated by the first switch.

Max is best restricted to short durations of about 5 minutes.

Coloured LEDS are also set into the control box, green indicates power on, red indicates low battery. Hold your left hand at the side of your head to look out for the red LED, as soon as this starts to show when the lamp is on power settings, start restricting the use of these to prolong your fuel supply.

The lamp is intended to be kept disconnected from the power supply when not in actual use, the green light serves as a reminder to do this. This is because the lamp can very easily be switched on accident, such as in a car boot etc. This could cause overheating as well as the obvious drain on the battery.

It will be necessary to secure the cable to the side of the users helmet using the cable ties provided, otherwise the switch box will 'hang' loose. SEE PHOTOGRAPH FOR THIS AND DISCONNECTED CARRY CABLE

ABOVE IS ESPECIALLY IMPORTANT IF CARRYING IN A RUCKSACK, ALWAYS CARRY THE BATTERY CELL DISCONNECTED. IF THE LAMP COMES ON IT CAN BECOME DAMAGED DUE TO OVERHEATING. THIS CONSIDERATION APPLIES TO ALL HIGH POWER LED LAMPS.

ESTIMATED BURN TIMES: Walk Mode beams 78 hrs, Middle beams 13 hrs, full beams 4 hrs, full beams plus XPGs 2.5 hrs

Photography

It is possible to take fully automatic pictures with a digital camera using this lamp without a flash.

Please note that this lamp has 4 totally independent wiring systems from 4 separate switches for reliability, something that no other high performance LED caplamp has.

The 10 cell battery packs are Lithium Ion and deliver a nominal voltage of 11.2 volts, however off the charger they will deliver just over 12 volts.

They attach to the headset cable by means of a high quality XT60 connector that is securely attached to the cable and shrink wrapped. The connectors are corrosion proof gold plated.

The battery cell is filled with silicone and sealed to prevent ingress of water.

IT IS PERMISSIBLE TO REMOVE THE BATTERY LID FOR CLEANING ETC, ALLEN KEY SUPPLIED.

Heat Control and Expected Performance

On full power a great deal of heat is generated by the LEDs. This is handled by the lamps thermal system that rapidly conducts the heat to the external heat sinks.

If the lamp gets very hot, turning the lamp off and then on again may cause the lamp to only illuminate on the lowest setting, however the lamp will cool internally sufficient to bring everything back on line in less than a minute.

Expected Performance from Discharged Power Pack

The power packs are fitted with circuitry that prevents over discharge of the Lithium Ion cells and the subsequent damage. As the power packs become discharged, towards the end of the use cycle the lamp will be noticeably dimmer on the more powerful settings, if left on in that state it will eventually switch off. Waiting a few moments and then switching back on the lowest setting will give you extra emergency run time.

Recharging.

Connect the chrome 4 pole plug on the charger to the corresponding connector on battery. Connect the 12V power adaptor jack plug to the charger, plug in the 12V power adaptor and switch on.

On the charger, the red lamp indicates power on, the flashing green is "on charge" changing to constant green when fully charged. (this may not happen on some cell packs, you can remove from charge if the voltmeter indicates over 12 volts.)

If nothing happens when on charge its possible that the cell protection circuits may have disconnected the internal cells. Pressing the red reset button on the charger will bring everything back on line and start the charging.

The charger can be connected to a power pack as a voltage test at any time, fully charged the meter should read over 12 volts on all cells. Charger is not suitable for underground use.

The battery can also be recharged from a vehicle using a suitable plug in adaptor fitted with a 2.1mm connector jackplug.

Guarantee.

All lamps carry a 12 month guarantee, subject to reasonable use. All lamps are based on modified Oldham headsets. These were originally designed for mining use and not for extended periods of full immersion. However, the headset should be considered reasonably water resistant and splash proof. The Li Ion battery pack is suitable for extended full immersion as it is filled with silicone and should therefore be considered fully waterproof, explosion proof and reasonably shockproof.

Maintenance: 12volt power packs

These are based on recycled (new) Oldham MF battery cases and as such are half the height and one third the weight of the original.

The lid and terminals are similar to the original which was not intended for full immersion in water, however it is possible to do this provided the condition of the terminals is regularly checked for corrosion.

Using the Allen Key provided the lid securing clip is easily removed and the lid tilted slightly as shown in the picture, do not attempt to remove completely as this will strain the wiring. Carefully clean away any corrosion, (a wire brush or similar ids useful), in any extreme case carefully remove the terminal affected, clean, and fit a new brass nut. Do not touch the base securing nut and be careful not to rotate the post.

The use of WD40 is recommended, as is Vaseline to prevent corrosion from forming.

