

THE SOLLATEK

# GLOWSTAR

LOW COST LIGHTING BRILLIANCE -

A REVOLUTION IN SOLAR ENERGY



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**Glowstar**

A REVOLUTION IN LIGHTING

## THE SOLLATEK

# GLOWSTAR



**T**he Sollatek Glowstar Lantern provides simple, inexpensive solar-powered lighting. It is perfect for rural households and farms, schools and colleges, hospitals, health clinics and community centres.

It is also ideal for recreational use such as caravanning, camping, trekking and yachting. In fact, Glowstar is designed for virtually any environment where the local electricity supply is inconsistent, unreliable or unavailable.

In many parts of the world, huge numbers of people have traditionally relied upon candles or expensive fuels like kerosene for their lighting and energy needs. The demand for light in their homes often competes directly with the household and emergency essentials. All too often, their only option is darkness.

Because many countries benefit from abundant sunlight, there has been growing interest in photovoltaics (which convert the sun's energy into electricity) and other solar home systems. However, installation cost has often put even modest solar power beyond the reach of most rural families. Until now... because Sollatek's Glowstar Lantern takes advantage of the newest microprocessor

technology to act as a rugged, portable, low cost light source that's perfect for off-grid and remote locations.

### Charge Glowstar almost anywhere

Glowstar's bright, efficient fluorescent lamp is powered by a high quality battery. This will quickly recharge by connecting Glowstar to a small solar panel, a mains adaptor or a car socket.

### A truly bright light for hundreds of applications

Whether you choose a Glowstar standard model (GS5) or the Glowstar premium model (GS7), you can enjoy ample light for reading, sewing, cooking, study, and many types of cottage industry throughout the world.

#### Charge input

- DC input from 12V solar module, mains adaptor, or vehicle cigarette lighter socket
- Reverse polarity and over-current protected
- Reverse connection and 'charge available' LED indications
- Reverse discharge prevention

#### Charge control

- Microcontroller-based PWM MOSFET charger maintains battery in optimum condition and extends battery life

#### Over and under voltage protection

- Three-stage charging algorithm (boost, constant and float) provides fast, full charge while protecting the battery from misuse



DC input from 12V solar module, mains adaptor or vehicle cigarette-lighter socket



Four LED indicators displays status (battery full, battery good, battery low, lamp off)

# A TRULY BRIGHT LIGHT FOR HUNDREDS OF APPLICATIONS

## Glowstar is ideal - and often indispensable for:

Medical work  
Emergency operation and child delivery  
Outdoor relief work  
Site inspection  
Use by security staff  
A wide range of recreational activities, such as camping

## Power for appliances

Glowstar GS7 features an auxiliary DC power output. So it can be used to power a radio or other small appliance,

## Long-life lighting

A 10 watt fluorescent tube is equivalent of a 60 watt tungsten bulb. Thus Glowstar's compact fluorescent tubes six times more efficient than most incandescent lamps. They also have a working lifetime of up to eight times longer.

To provide light for as long as possible without a recharge, Glowstar uses an intelligent logic sinewave inverter with pre-heat for longer lamp life. of proven design, this inverter has been successfully used for solar power applications for many years.

## Reliable, rechargeable power

Glowstar's rechargeable battery is microprocessor-controlled, ensuring an extended, maintenance-free service. If the solar panel suffers a shortfall of sunlight, simply connect Glowstar to the mains supply and the battery will receive a full top-up. An LED readout will show you the battery's charge status.

## Perfect for emergencies

The unique 'auto' function of Glowstar GS7 turns the lantern into an emergency or security lamp. When used with the solar panel, the lantern automatically turns on at dusk. If connected to the mains, Glowstar GS7 will also detect power cuts and switch itself on accordingly. This makes Glowstar GS7 invaluable to doctors, hospitals and other vital services.



## Excellent battery performance

Glowstar's 12v valve-regulated sealed lead acid battery delivers fine performance in cyclic applications. Chosen for its long service life, the battery is spill - and leak-proof - so it can be used in any orientation.

## Tungsten light matched up to 60W

The lantern is available with 7W lamp/4Ahr battery (Glowstar GS5) or 9W lamp/7Ahr battery (Glowstar GS7). Brightness is equivalent to 40W or 60W tungsten lights respectively.

## Exceptional cost-efficiency

What if Glowstar is switched off with no available charge source? The battery will not slowly discharge overnight or when the lantern is stored for later use. When connected to a power supply, Glowstar's control circuits draw just 3mA to 5mA. Maximum power is preserved and operational efficiency is increased.

## Indicators

- Four LED indicators display Glowstar lantern status (battery full, battery good, battery low, lamp off)
- To warn you if charge is low, control circuit turns lamp off for 1 second and back on when battery voltage reduces to 11.9V, At 11.8V (10-30 mins later, depending on battery age and charging state) the lamp is switched off
- Battery protected from excess discharge
- 'Charge' LED shows Glowstar is being recharged by mains or solar panel
- "Auto" LED shows lantern set in emergency lighting or security mode (Glowstar GS7 only) where the light will automatically come on when the charge power is removed.

## Enclosure and dimensions

- Dimensions: 430mm high 135mm diameter
- Weight: 2.4Kg (Glowstar GS5) 3.3Kg (Glowstar GS7)
- Low centre of gravity provides excellent stability for rough surfaces and storm conditions
- Robust, high strength, glass-filled polypropylene moulded case
- Strong carrying handle
- Wide-angle, UV-stabilised lens
- Tamper-proof battery and control circuits
- Screwdriver accessed changing of tube if required.

# ONS

## Tough enough for almost any conditions

Glowstar is designed for harsh environments - particularly the rural regions of developing countries. Dust, insect and splash-proof, with all metal parts protected against corrosion. Glowstar will operate over a  $-10^{\circ}$  to  $+40^{\circ}\text{C}$  temperature range. However, Glowstar's attractive finish makes it equally desirable for use in homes and offices.



## Why Glowstar delivers the best in portable and emergency lighting:

- Excellent light at all times
- Safe, rugged and fully portable
- Zero running costs
- Long service life
- No waste, no pollution

## And an end to...

- Power failure blackouts
- Cooking by candlelight
- Reading by torchlight
- Disposing of batteries
- Expensive fuels
- Risk of fire
- No power, batteries or fuel

## GLOWSTAR TECHNICAL SPECIFICATIONS

	GlowStar GS5	GlowStar GS7
Lamp	5W*	7W*
Battery	4.4Ahr	7.2Ahr
Operating Temp	-10 °C to + 45 °C	-10 °C to + 45 °C
Running time from full charge	5.2 hours	6.2 hours
Charge Technology	PWM MOSFET	PWM MOSFET
Auxiliary output †	-	12V, 0.5A
Auto function <sup>∅</sup>	-	Yes
Dimension	Height : 420mm Diameter: 135mm	Height : 420mm Diameter: 135mm
Max charge current	1.2A (20W)	1.8A (30W)
Weight	2.4kg	3.3kg

### LAMP (AND EQUIVALENT OUTPUT)\*

	GlowStar GS5	GlowStar GS7
5W (25W GLS)	5.2 hours	8.5 hours
7W (40W GLS)	3.7 hours	6.2 hours
9W (60W GLS)	2.9 hours	4.8 hours
Lamp Life (any wattage)	10,000 hours	10,000 hours

\*Running times may vary according to conditions, state of charge and other factors.

### ACCESSORIES AVAILABLE

	with GlowStar GS5	with GlowStar GS7
5W solar module	Yes	Not recommended
10W solar module	Yes	Yes
20W solar module	Yes	Yes
Mains charger	Yes	Yes
Vehicle charge cable	Yes	Yes
DC output adaptor	No	Yes

### SOLAR MODULES

You can use your own solar module provided it meets the following specification:

Nominal voltage	12V	12V
Max. open circuit voltage	24V	24V
Max. short circuit current	1.3A	2A
Max. Peak Power	20Wp	30Wp
Optimum Voltage (Vspec)	14 to 17V	14 to 17V
Optimum current (I@ Vspec)	1.2A	1.8A

Type	Amorphous, poly or Mono-crystalline.	
Mechanical	Robust, strong and suitable for portability.	
Cable	J connector fitted with 2.1mm DC plug. Polarity in centre contact is positive.	

### MAINS CHARGER

The mains charger will connect to a normal wall socket and run from AC mains.

Input Voltage	85 to 300V AC (or 120V to 350V DC)	85 to 300V AC (or 120V to 350V DC)
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Charging time	About 4 hours	About 6 hours
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- Can be permanently connected as the GlowStar charge circuit will control the charge and protect the battery from over-charge.

### VEHICLE CHARGE CABLE

- This connects between the charge input socket on the GlowStar (GS7) and a 12V cigarette type power socket on a vehicle.
- If the engine is turned off, the lantern will charge slowly and will not reach full charge. However, if the vehicle is running, the GlowStar battery will receive a good charge.

### 12V OUTPUT CABLE: GS7 ONLY

\* This connects from the AUX output of the GS7 to a 12Vdc cigarette lighter socket.

\* For running auxiliary devices; small radios, lights, mobile phones chargers etc.

\* Current output limited to 500mA.

### NOTES

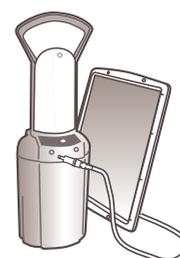
\* Both GlowStar models can use a 5, 7 or 9W compact florescent lamp, but the running time will vary accordingly. You can change the lamp in your GlowStar if required to give a different brightness and different length of running time. See the 'Lamp (and equivalent output)' table which gives a guide to the running times possible.

† 12V DC output for running radio, etc. Other voltages available.

∅ When used with a mains charger, detects mains power failure and acts as an emergency light. Or when used with a solar module, detects night fall and acts as a security light.

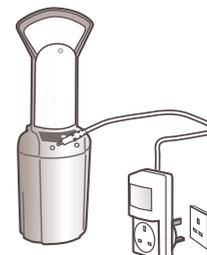
**Please note that the GlowStar GS5 & the GlowStar GS7 are sold without any means of charging the battery. Therefore at least one of the items opposite need to be ordered separately so that the Glowstar's battery can be charged.**

### CHARGING MODES



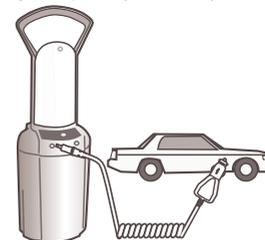
SOLAR PANEL  
(OPTIONAL)

#### CHARGE FROM SOLAR PANEL



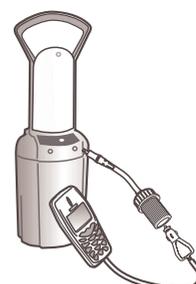
MAINS ADAPTER  
(OPTIONAL)

#### CHARGE FROM MAINS



VEHICLE ADAPTER  
(OPTIONAL)

#### CHARGE FROM VEHICLE



12V OUTPUT SOCKET  
(GS7 ONLY)

#### CHARGE YOUR MOBILE



## GLOWSTAR FEATURES

- Durable, tough, glass filled polypropylene high impact, plastic construction
- Rain proof (when vertical) , dust proof, insect proof
- Can stand in 160mm of water
- Maintenance free
- 10,000 hours lamp life
- True zero power consumption when turned off
- Operates in any orientation
- Temperature compensated charging method for full battery capacity and longer battery life
- Protection against deep discharge (inc. aux. output). Disconnects at 50% depth of discharge
- Polycarbonate, UV stabilised cover to protect lamp
- Sealed, high reliability switches
- Multiple LED indications
- No glass covers to break
- High reliability
- Attractive packaging
- Highly efficient inverter and control circuits
- Long life in storage and shipping
- Well protected electronics, electrically and mechanically
- All parts corrosion resistant
- HF light inverter technology
- Protection against reverse charge current
- 10 minute shutdown warning
- Long battery life. Battery capacity reduced to approx. 60% after 450 cycles, if fully used down to disconnection level every time. Longer life if not fully used every time
- Cigarette socket output available enabling mobile phone charging (Glowstar GS7 only)

Call Sollatek now – and discover Glowstar for yourself. You'll find Glowstar the perfect portable lighting solution for living and working in poor supply conditions.

For more details, please contact Sollatek.



GLOWSTAR IS EXCLUSIVELY MANUFACTURED BY SOLLATEK SOLAR SYSTEMS, A DIVISION OF SOLLATEK UK LTD, ONE OF THE WORLD'S LEADING MANUFACTURERS OF POWER PROTECTION PRODUCTS.

**Sollatek**<sup>™</sup>  
solar systems



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