



# McLanty

## Solar LED Lantern with unique cone reflector



McLanty is brought out with a view to catering to the needs of people in the remote areas where grid power is unknown. It uses highly efficient charge controller and led driver to save the precious power from the battery. The led driver is smps based which gives constant illumination throughout the range of battery voltage.

Charge controller inside has both battery low and high protections provided on board. The battery is never overcharged even if it is kept on charging for days without any use of lantern. Similarly, it has battery low disconnect circuitry to shut off the lamp when battery goes below the specified voltage.

It uses high efficiency SMD power leds with proper thermal management which are placed on the top. A cone reflector at the bottom reflects the light uniformly in all directions to be used as truly a omnidirectional lantern.

It uses 6V/4.5Ah SMF battery and 2W solar panel. The panel comes complete with cable and jack to be connected to the lanty's PV input socket.

Two led indicators, Green to indicate charging and Red to indicate battery low state are provided for instant information about the working of unit.

Full protections are provided to prevent reverse flow of current from battery to panel in the night.

The electronics employed uses mosfets to have negligible input and output drops resulting in the efficiency better than 85%.

### SALIENT FEATURES :

BATTERY: 6V/4.5Ah SMF  
PANEL: 6V/2W

CHARGE CONTROLLER: LOW LOSS, SHUNT TYPE  
NLC: No Load Current/Quiescent current <1mA  
OVD: Output Voltage Drop < 200mV  
IVD: Input Voltage Drop < 300mV at 1 A charge  
LVD: Low Voltage Disconnect, 5.4 V  
HVD: High Voltage Disconnect, 7.2 V  
LVR: Low Voltage Reconnect, 6.4 V  
HVR: High Voltage Reconnect, 7.1V

Light Source: 150 Lm, 120 deg, 1.5W

Cone Reflector: Unique arrangement to spread the light from a single source

PROTECTIONS: Short circuit and overload at load  
Reverse current flow from battery to panel  
Over charge and deep discharge

DAILY USE: 6 Hours  
CAPACITY: 12 Hours from a fully charged battery

**CHRG** : Green LED. 1. Green: When panel is connected properly and voltage is more than 6V. It thus indicates positive charging.

When battery is fully charged, it starts flickering indicating onset of PWM absorption mode. Such type of charging enhances the life of battery giving the excellent State of Charge.

**BTLO** : Red LED. When battery voltage is less than LVD level, it turns on and disconnects the supply to the load. Lamp will be on only when battery is charged above LVR level.

When battery is connected for the first time, its voltage must be more than LVR to have supply at output. If BTLO is on, battery must be charged first through panel. Once in loop, battery will work between LVD and HVD as specified.

SWITCH/SOCKET:

1 Socket to plug in the panel.

1 ON/OFF switch

*Charging will take place irrespective of switch position and lamp can be turned on even while it is being charged.*