

## 48 Volts 50 Amp Solar Management Unit - Technical Specifications

**iDB Power SMU4850** is a complete unit used for adding Solar charge capability to existing domestic UPS installation along with configurable energy saver mode. If Energy saver mode is ON in that case when battery is fully charged and surplus solar power is available, the SMU transfers the load from mains grid to solar energy. If solar energy supplied from the PV panels is not sufficient to support the complete load, the balance energy will be drawn from battery storage. If battery reaches a preset threshold due to higher discharge, the SMU will transfer the load back to grid. If Energy saver mode is OFF then SMU will not transfer load on solar. It kept the battery charged as well as Solar and Grid is available. Energy saver function can be selected as ON or OFF mode.

### Product Features

- High Efficiency PWM Type Solar charge controller.
- LCD Display for Battery Voltage, PV Current, Total Solar Energy supplied in kWh.
- Menu Selection of various parameters.
- Configurable Energy Saver Mode.
- Wide Range of Input battery voltage 24V ,36V or 48V.
- 3 Stage intelligent Charge Profile (Bulk, Absorption, Float) to enhance Battery Life.
- Adaptive charge control linked to battery Depth of Discharge to ensure good recharge.
- PV Reverse Polarity Electronic Protection with LED Indication.
- Battery Reverse Polarity Electronic Protection with LED Indication.
- Battery High and Low voltage Protection.
- PV Over-Current and Reverse-Current Protection.
- Lightning Surge Protected Solar Input.
- High rated Relay and MOSFETS for good long term reliability and efficiency.
- Auto fault bypass for user convenience

Model	iDB SMU-24/36/48V 50A(LCD)		
Technology	MCU based PWM controlled charging		
Type	Series regulator common positive		
<b>ELECTRICAL</b>			
System Voltage	24V/36V/48V(Default Setting 48V)		
Battery Selection(Manually)	24V	36V	48V
Charging current (Nominal)	50A Max		
PV OCV Max	90V Max		
Bulk Voltage (Adjustable)	27.8V-31.8V(28.4V Default)	41.7V-47.7V(42.6V Default)	55.6V-63.6V(56.8V Default)
Absorption period	Up to 1 Hour based on Battery DOD condition.		
Float Voltage	26.6V-28.2V(27.0V Default)	39.9V-42.3V(40.5V Default)	53.2V-56.4V(54.0V Default)
Low Battery	21.0V±0.2V	31.5V±0.2V	42.0V±0.2V
Grid Disconnect from Inverter	At Set Float Voltage On Charge Completion		
Grid Reconnect to Inverter	Adjustable 22.8-26.6V	Adjustable 34.2-39.9V	Adjustable 45.6-53.2V
<b>LED INDICATION</b>			
Yellow LED Steady	Solar Available and charging the battery		
Yellow LED Blinking	Solar Available and Battery is fully charged		
Red LED Steady	Battery Low		
Red LED Blinking	High Charging Current		
	Battery Voltage too High		
	Solar Input Short or Reverse Current		
	Load Short Circuit		
PANEL REVERSE	Solar Panel Reverse Connection		
BATT REVERSE	Battery Reverse Connection		
<b>LCD DISPLAY</b>			
START UP SCREEN			
PV POWER & AVAILABILITY			
SELECTED BATTERY BUS			
BATTERY VOLTAGE			
PV CURRENT			
BATTERY LOW FAULT			
BATTERY HIGH FAULT			
REVERSE CURRENT FAULT			
BATTERY FULL CHARGE STATUS			
<b>GENERAL</b>			
Operating Temperature	0°C to 50°C		
Dimensions (LxWxH) in mm	264x183x90		