

# DOUGLAS POWER

User Manual

Model: 1210

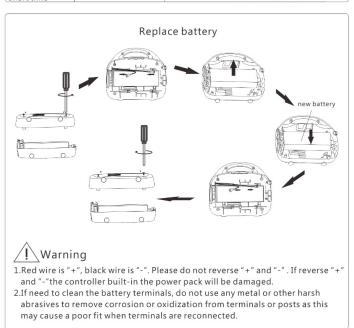
## UTICA

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**UTICA SINGAPORE** 

#### Trouble-shooting Guide

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Problem	Cause	Solutions		
No lights when turned on No output from USB charger	Low battery power	Recharge the power processing unit for minimum 8 hours of direct sunlight (solar module facing the sun)		
	Poor cables connection	Check for loose connectors or wire damage		
Not connected	Solar module not connected	Check the connection between solar module and power pack		
Lights or power shut down after short time	Battery life is over or not sufficient charging time	Replacement of battery (please contact our service center for replacement of battery)		

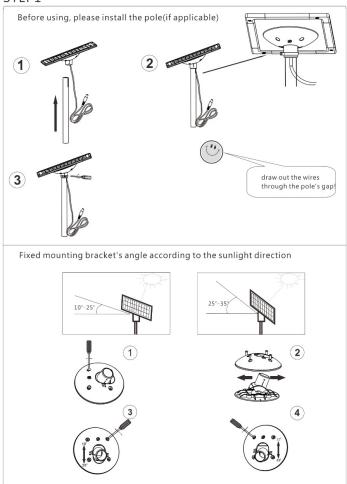


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# Start Up Connection STEP1



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### Specifications

Technical	Model: 1210
System Voltage	12V
Battery Type	VRLA battery
Battery Capacity @ C20	12V/5000mAh
Solar Module Maximum Power @STC	10Wp
Solar Module Optimum Operating Voltage	18V
Solar Module Optimum Operating Current	556mA
LEDs Lamp Rated Voltage	12V
LED Lamp Output Power	1.0W
LEDs Lamp Light Source	15 Super Bright LEDs
LEDs Lamp Output Luminous Flux	100Lm
Charging Time	Approximately 8 hours under standard sunlight to fully charge the battery.
Autonomous Run Time (full battery)	10 hours
Operating Temperature Range	-10°C-55°C (14°F-131°F)



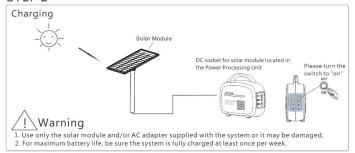
- Please read this manual carefully before using Douglas Power.
- Save this manual. This manual contains guidelines for maintaining your system.
- A phillips-head screwdriver is required to properly mount the solar module to the
  pole.
- Please use the supplied components to connect to Douglas Power's Power Processing Unit.

#### System Components

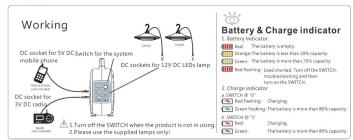
Each system should contain the components indicated in the chart below. Please contact your supplier if you have any questions.

Main Components Name	Model: 1210
Z LED Lamp	x3 (1.0W)
Solar Module	x1 (10W)
Power Processing Unit	x1
O Pole	x1
Manual	x1
Cable Clips	x15
Radio Power	×1
Ise: Ise: (6 connectors) Phone Charging Kit	x1
1 to 2 Cable	x1

STEP 2



STEP 3



#### Maintenance

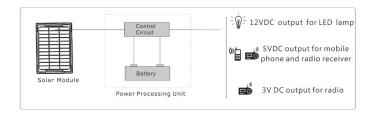
- Use only the solar module and accessories supplied with the system. If any component becomes damaged, consult the manufacturer for the correct replacement part. (service email: douglaspower@utica.sg)
- Rainwater has the ability of cleaning the solar module. However, it's recommended to clean the surface of the solar module regularly, to ensure the optimum performance.
- Keep the power processing unit in a cool, dry location away from direct sun, water and excessive dust.
- The surface temperature of the controller built-in the power pack will heat up.
   During use, please avoid contact and exposure with combustibles.

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#### **Product Description**

- High-efficiency polycrystalline solar powered module.
- Built-in lithium iron phosphate battery,up to 2000 cycles.
- Industrial level MCU software designed controller.
- Over-charge, over-discharge and short-circuit protection.
- Anti-charge protection.
- No electricity leakage.

#### How Douglas Power Works



#### Solar Module Installation

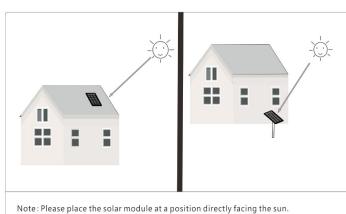
Install the solar module in the following conditions:

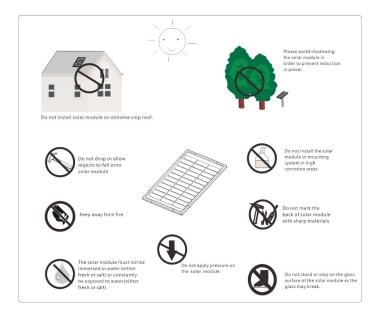
- Environment temperature: -20°C to 40°C.
- Operating temperature: -20°C to 80°C.
- Do not submerge solar module in water. Rain water is acceptable.
- Solar module should exposed to direct sunlight rather than indirect.
- Keep solar module away from salt-spray or other corrosive environments.
- Install in a well-ventilated area as excessive heat will reduce performance.

#### Optimum Orientation and Tilt

To achieve the maximum annual yield, determine the optimum orientation and tilt of the solar module. Generation of maximum power occurs when sunlight shines directly onto the solar module.

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#### **FAQ**

- ? What direction should I tilt the solar module?
- ① The solar module's top surface is the area that generates electricity and this surface should be exposed to the sun to capture maximum light. The maximum light is captured when the module surface is between 10 to 90 angle to the sun's rays.
- ? Will shade affect my solar module performance?
- ① Yes. Do not install the solar module in shadowed areas. Even a small amount of shade can dramatically reduce the output.
- ? Will my solar module work in cloudy weather?
- ① Yes, solar module can work in low light conditions. On overcast or cloudy days there will be less energy collected and therefore less output.
- (?) Will my solar module output increase with higher temperature?
- ① No. High temperature will reduce the overall performance. Good ventilation can effectively prevent overheating photovoltaic cells and components.
- ? How often should I clean my solar module?
- ① It is a good practice to rinse or wipe off the solar module whenever there is visible buildup of dust or debris. Never submerge the solar module.
- ? Should I cover my solar module in the winter or monsoon months?
- $\textcircled{1} \quad \text{No, the solar module can with stand most weather conditions including heat, cold, ice and even } \\$

#### Warranty and Liability

6 Months Limited Product Warranty
The Douglas Power (Model: 1210) is free from defects in material and workmanship under normal application, installation, usage and service conditions. If the product fails to conform to this warranty, then for a period ending 6 months from date of sale to the original end customer, the manufacturer at its option, either repair or replacement, or partial refund the purchase price as paid by the customer. Please keep original purchased receipt

#### Limited Warranty of Power Output

The manufacture guarantees the product for 6 months and the performance of the solar module for 24 months. Within the second year, the output power shall not be less than 70%. UTICA will, at its own discretion, replace such loss in power either by replacing the defective solar module or by refunding partial the purchase price provided that the loss in power is due to defects in materials and/or workmanship under normal installation, application

For further warranty information, please write to us at douglaspower@utica.sg.

#### General Disclaimer

This product has been manufactured in accordance with safety-engineering principles. Nevertheless, incorrect operating or misuse may still endanger life. In no event shall the manufacturer liable for any damage or personal injury caused by non-compliance to the operating instructions and safety suggestions in this brochure. The manufacturer will not bare any responsibility for misuse, damage, injure, incorrect installation and system design as such. General disclaimer information is available at our website www.utica.sg.

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