SHARP ENERGY
INVESTMENTS

User Manual

SUN FLUX

Model SEI 01

On/Off Grid PV Solar Hot Water Controller

 WARNING! Before using the equipment, you need to read all safety instructions.

General Safety Precautions

1: Be sure to read all instructions thoroughly. Installation must be carried out by a licenced electrician following all relevant AS/NZS standards and local regulations of your state/territory or country on installing this equipment. Failure to do so may result in death, fire or electric shock and all warranty will be void.

2: This unit is designed for indoor use only. Do not expose it to rain, snow or spray.

3: To avoid a risk of fire and electric shock, make sure that existing wiring is in good condition and that the wiring is not undersized. Do not operate the unit with damaged or substandard wiring.

4: Do not operate the unit if it has received a sharp blow, been dropped, or otherwise damaged in any way.

5: Do not disassemble the unit. Please disconnect all power before cleaning.

Sun Flux Hot Water Controller works with

*All types of PV solar panels.

*All types of electric hot water tanks.

*All types of AC elements and thermostats.

*All types of AC power supplies.

Specifications	
DC input voltage	60~160V or 200VOC
DC input amps	5~15A
DC input watts	500~1500W
DC output wave form	Modified
DC output voltage	10~160V
DC output amps	0.5~10A
DC output watts	5~1500W
DC peak efficiency	96%
Protection class	IP50
AC input voltage	110~240V
AC input amps	7.5~20A
AC input watts	1800~3600W
AC peak efficiency	100%
Dimensions	250*210*90mm
Weight	1.2Kg

How it works

The Sun Flux Hot Water Controller is a PV solar based system that uses a standard electric hot water tank with a standard element and thermostat.
The Sun Flux Hot Water Controller is comprised of a PV solar input an AC grid input and a single output that can output either PV solar or AC grid directly to a standard electric hot water tank.

The Mechanical Drawing of the Sun Flux Hot Water Controller

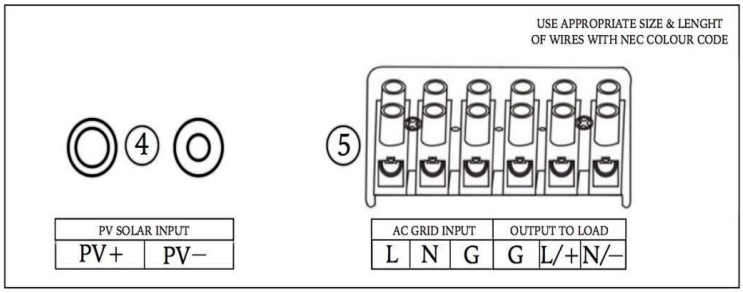
(1)AC Indicator: Red LED indicator lit in AC grid mode.

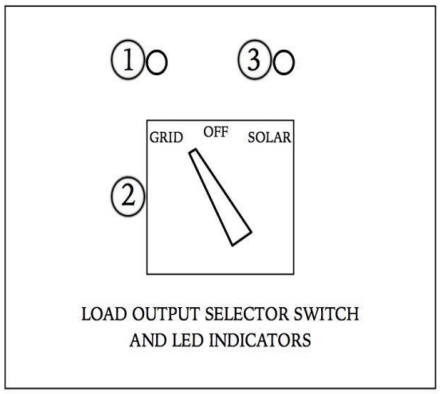
(2)Selector switch: For option of AC grid power or PV solar power.

(3)PV indicator: Green LED lit in PV solar mode.

(4)MC4: For connection to PV solar panels.

(5)Terminal blocks: For AC input and load output and ground connection.





Installation

1: Check and make sure the unit is not damaged in any way before installation.

2: Turn off all PV solar power and AC grid power then test to confirm isolation before installing.

3: Attach the unit securely in place using adequate fixtures.

4: Switch the selector switch to the off position.

5: Remove the protection cover from the terminal blocks.

6: Connect the AC input and load output wires in accordance with the instructions below the terminal blocks.

7: Connect 2 to 6 solar panels in series to the unit via a DC circuit breaker.

8: Restore the protection cover and turn on the AC grid power and PV solar power and commence operation and inspection.

Installation Location

Follow all the local regulations to install the equipment.

It is very important that the unit be installed along with any equipment in a location that is Dry, Clean, Cool and which has good ventilation.

Working temperature: -10 to 50 degrees
Storage temperature: -40 to 70 degrees
Relative Humidity: 0% to 95% non-condensing

Required wire size & circuit breakers

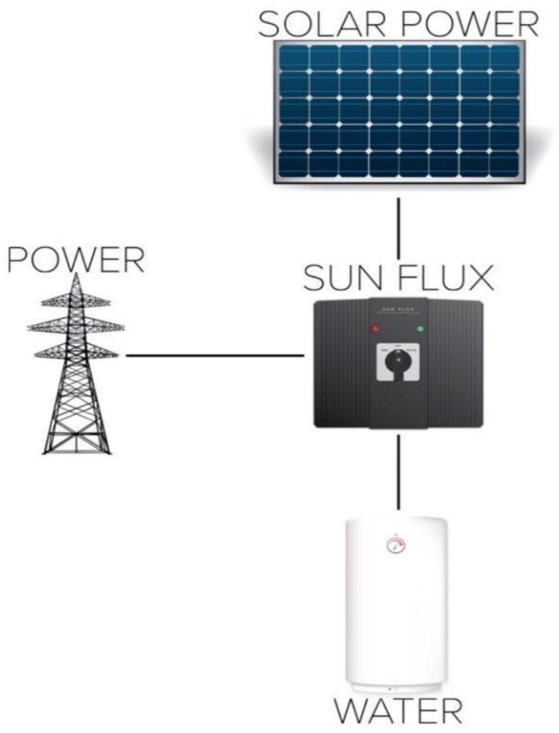
4 to 6mm wire on PV solar input.

2.5 to 4mm wire to connect to the terminal block.

10 to 20amp DC circuit breaker on PV solar input.

20 to 25amp AC circuit breaker on AC grid input.

The Block Diagram of the Sun Flux Hot Water Controller



Protections

*DC Reverse polarity protection
*Microprocessor controlled protections
*AC/DC isolator switch
*AC ground fault protection

Technology

The Sun Flux Hot Water Controller has been design for use with a standard electric hot water tank with a standard element and thermostat uses the latest microprocessors and IGBT technology to create a modified DC output much like AC without the loss in efficiency.
The Sun Flux Hot Water Controller is one of the most efficient ways of harnessing and storing solar energy with up to 96% peak efficiency.

Applications

*Off grid water heating
*Hybrid water heating
*preheat gas water heater

Recommended Installation components

*2 to 6 solar panels in series, 35 to 65volts open circuit
and 5 to 15amps.

*2400/3600watt 240volt AC element and standard thermostat.

*Standard 80 to 320litres electric hot water tank.

WARNING

DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE
IF THE EQUIPMENT IS USED IN A MANNER NOT SPECIFIED BY THE MANUFACTURER, THE PROTECTION PROVIDED BY THE EQUIPMENT MAY BE IMPAIRED AND ALL WARRANTY WILL BE VOID.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN OR DISCONNECT
WHILST IN OPERATION.

WARRANTY

We offer a 1 year limited warranty.
The following cases are not covered under warranty.

1: PV solar reverse polarity.

2: Incorrect wiring size.

3: Operating in a wet environment.

4: Not using required safety equipment.

5: Operating in a manner not specified.

6: Incorrect installation or not fitted by a licenced electrician.

7: Opening or tampering with the unit.

Note: Specifications subject to change.