

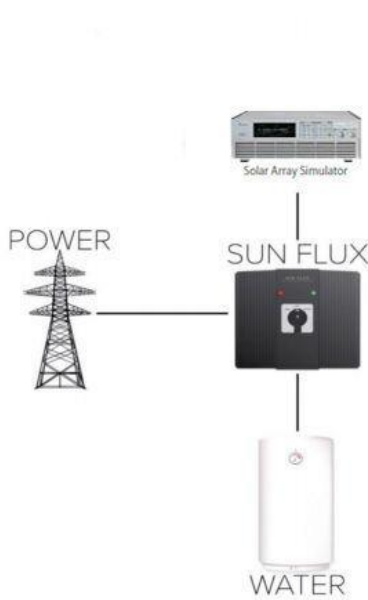
Sun Flux Hot Water Controller Efficiency Test

Watt Test Electrical Safety Testing

September 2016

Testing Summary

The testing was carried out on site at Watt Test using a Chroma PV Simulator as a DC source and a 2.4kW element as the load. Throughout the process the efficiency of the controller was measured. The main purpose was to measure the power transfer efficiency of the device in accordance with AS/NZS 60335.1:2011+A1:20, AS/NZS 60335.1:2002+A1-A3 and electrical safety standards.



The Sun Flux Hot Water Controller is a plug and play device which converts solar DC voltage to a form suitable for use on standard electric hot water tanks. The device also acts as a passthrough allowing the user to switch to grid use. The device can be powered by as little as 500W worth of panels and wires directly into a standard hot water tank's thermostat.

The device is rated at 1.5kW with a maximum rated current of 15A and 160V. The following equipment was used during testing:

- 1x Chroma PV Simulator (62150H-600s)
- 1x Sun Flux Hot Water Controller
- 1x 2.4kW Rinnai Element
- 1x Fluke Clamp Meter (365)
- 1x Digitech DMM (QM-1577)

The following data was collected after a warm up period of 15 minutes:

Test Number	Input Current (A)	Input Voltage (V)	Input Power (kW)	Output Current (A)	Output Voltage (V)	Output Power (kW)	Efficiency (%)
1	6.3	157.39	991.55	6.3	151.45	954.14	96.2

The measurements (as seen in the images below) were made throughout the test and the efficiency was calculated to be ~96.2%

Images: Measured Values While Operating

