

SOLiC 200

The solar immersion controller
Intelligent energy management



Engineered for a 25-year lifespan
10 year return-to-base guarantee

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Manufacturing partner of the SOLiC 200

Key features

- Provides hot water from existing solar PV panels
- Saves up to £250 annually on your energy bills
- Returns on investment in less than three years
- Includes 10-year return-to-base replacement guarantee
- Operates with minimum export to the grid
- Reduces your CO2 emissions
- Requires no plumbing alterations
- Works even on cloudy days
- Installs quickly and easily
- Complies with CE and British Standards
- Engineered to last 25 years
- Keeps indoor frost away when heating is off
- Provides hot water in remote locations
- Incorporates built-in overheating protection
- Provides hot water instantly on return home from holiday
- Works independently of solar installation
- Uses compact and robust aluminium construction to prevent corrosion
- Qualifies for 5% VAT rate when sold on a supply and install contract
- Prevents ingress of insects and dust as unit is fully sealed when correctly fitted



The SOLiC 200

The SOLiC 200 automatically converts energy generated by your existing PV panels into hot water by intelligently diverting unused power to the immersion heater before it's exported to the national grid. Simple to use and maintenance free, the SOLiC 200 is self contained, easy to install and can save you hundreds of pounds over the course of a year.

The SOLiC 200 has a 10-year return-to-base replacement guarantee and has been designed, constructed and fully tested in Britain to the highest CE standards for a 25-year lifespan. The unit can be installed quickly and easily by a qualified electrician—typically in under one hour—without the need for plumbing alterations.

I hadn't realised just how much money I could save using this wonderful device. My electrician installed it with little fuss and I just let it do the work for me. Simple, clean design and lots of free hot water - what's not to like?

Mr.B, Caversham, West Berks

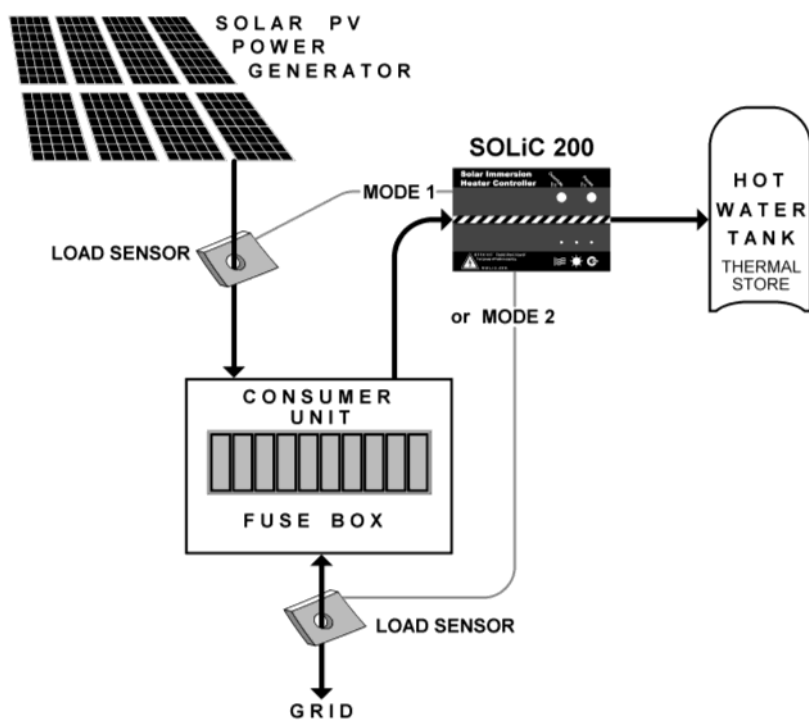
I purchased a SOLiC 200 last month and I have to say, I am surprised at the amount of hot water I have managed to produce for free. It works really well on cold, sunny days but I have noticed it's also effective when the weather is more overcast. Great investment

Mrs F, Surrey

Operating modes

The SOLiC 200 has two variable operating modes. The load sensor can either be mounted to measure the energy being generated by the solar installation or the electricity being fed back into the grid. Based on household habits and requirements, the SOLiC 200 can use either mode to ensure maximum usage of surplus power.

The SOLiC 200 operates independently, without the need for user intervention, however, the override function allows the immersion heater to be switched on manually for 90 minutes. A pause function is also available to turn the immersion heater off for 30 minutes.



Technical specification

Operation voltage: 230VAC mains
Single phase 50Hz
Mains voltage: 205 - 260VAC
Power consumption: 0.025W
(at 230VAC)
Active current: 0.005A
Transfer efficiency: 99.6% (at max power)
Max load current surge: 600A for 10ms
Max continuous load current: 40A
Mains frequency tolerance at 50Hz:
nominally 2Hz
Operating temperature: 0 to 60C
Storage temperature: -20 to +75C
Operating and storage humidity:
10 to 90%, non condensing
Max impact force: 12G
Max crushing force: 1200N
Lightning and ESD protection: to 1.8kV
Current tracking accuracy: better than 90%
Mode 1 export threshold range: 0-
1500Watts
Mode 2 feed loss: 20-120W depending
on grid noise
Audible noise emissions: below 10dBA
RFI (EMC) emissions: below -52dBW
Max power dissipation at 3kW output:
12W
Internal fuse: 250V 100mA 20mm
quick blow
Insulation resistance: above 10M Ohms
Case isolation protection:
better than 2.0kV
Case dimensions: 161 x 103 x 46mm
Total mass as supplied: 475g

Time line

- July 2011

Original idea

- August 2011

Proof of concept

- October 2011

First prototype installed

- March 2012

Six months of testing and refinement completed

- June 2012

Production ready product and CE approval process completed

- October 2012

Earthwise Products Ltd appointed sole manufacturing partner

- November 2012

Official market launch date

Earthwise Products Ltd (owned and managed by Iain CM McRitchie, FCCA)

Iain, already a successful entrepreneur, has 25 year's commercial experience within the senior management of small medium enterprises covering sales, marketing, financial and admin functions. His sector experience includes electronics manufacture, the renewables industry, IT and construction.

The SOLiC 200 (designed by Frank Decmar, BSC Hons)

Frank, an electronics graduate engineer with 30 years' experience and a serial inventor, holds patents in microprocessor technology, engine control, RF EMI reduction process in power systems, thermodynamic transfer process, waste (recycling) stream separation methods, math algorithms for waveform synthesis and has worked in a wide breadth of industry sectors including space, defence, aeronautics design, microprocessor development, PC microchip development, PC main board design, FPGA design, underwater systems design, robotics, tech waste recycling, automotive engine control systems development and power control systems.

The idea for the SOLiC 200 came to Frank after a friend suggested - on a really sunny day - that he shouldn't forget to switch on his immersion heater to make the most of his new solar installation. Realising that he was just too busy to remember to do this all the time, he decided to automate the switching. Then it occurred to him to vary the power to the heating element so that even the tiniest vestige of power could be used to at least pre-warm the water prior to the boiler coming on. Once the prototype was up and running in his home he found the boiler hardly ever came on at all.

The SOLiC 200 unit has now been running continuously for over a year in its original test installation, without any issues, saving £260 per annum off the household's energy costs.

