

## **SUNSAVER™ CERTIFIED FOR THE CE MARK**

The SunSaver solar controller has passed all the tests required for compliance with the European EMC Directive. The CE mark on the SunSaver label indicates conformity with all the requirements of Directive 89/336/EEC and amendment 92/31/EEC.

The SunSaver was tested by MET Laboratories in Baltimore, Maryland USA. MET is a nationally licensed testing lab and has been accredited by three Competent Bodies (RFI, I2T, and TUV) within the European Union.

The Technical Construction File and testing was done in consultation with Radio Frequency Investigations, Ltd. as the European Union Competent Body. All the required tests for the CE mark were successfully passed.

- **EN 55022     Radiated Emissions - COMPLIES**

The SunSaver test units were tested inside a shielded enclosure, and then in an open air test site. The test units were operated at full load, half load, and no load with antenna height varied and the units rotated to find the maximum radiated emissions.

No emissions were detectable between the specified 30 MHz and 1,000 MHz.

- **EN 61000-4-2     Electrostatic Discharge - COMPLIES**

Air discharges of 8 kV and contact discharges of 4 kV were applied to the SunSaver test units. Negative and positive discharges were applied at least 10 times to all sides and many points on the controller.

The SunSaver was not susceptible to any of the discharge tests.

- **EN 61000-4-3     Radiated Electromagnetic Field - COMPLIES**

While the SunSaver was exercised in all normal modes of operation, it was subjected to a radiated electromagnetic field of 10 V/m in the frequency band 80 MHz to 1,000 MHz. The antennae were oriented in both a horizontal and vertical polarization. Testing was carried out in an anechoic chamber.

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After 24 specific tests at different frequencies and polarity, the SunSaver was not susceptible to the applied electromagnetic fields.

- **EN 61000-4-4      Electrical Fast Transient/Burst - COMPLIES**

The SunSaver was operated in all normal modes while fast transients were applied to the controller. The transient generator was coupled to the SunSaver power cables in 8 different configurations. Transient bursts up to 2 kV were applied for a period of not less than 1 minute with both positive and negative transients.

The test units were not susceptible to the electrical fast transient/bursts.

- **EN 61000-4-5      Surge - COMPLIES**

DC lines were tested to 0.5 kV in common and differential modes.

The test units were not susceptible to the surge tests.

- **EN 61000-4-6      Conducted Radio Frequency Immunity - COMPLIES**

While the SunSaver was exercised in all normal modes of operation, it was subjected to a 10 Vrms signal coupled to the PV input leads, the battery leads, and the load leads. This test simulates the operation of the SunSaver in an electrically noisy environment such as a transmitter station where the controller will be subjected to constant RF interference coupled onto the controller leads.

The conducted interference was coupled onto the system through a special coil that was placed at various points along the controller leads. The SunSaver was not susceptible to the conducted radio frequency and passed the heavy industrial requirement of this standard.