

ISC-AC2-A3F Solar Control

User Guide

Ver 1.0



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Introduction and Identification

ISC-AC2-A3F

This replacement control should be installed by a competent person. **You may wish to get a plumber or electrician to do this for you**

The ISC-AC2-A3F is a member of the Aims Electronics AC2 family of Solar Hot Water Controls. This control may be used with OzRoll and Modern systems with three temperature sensors connected via flying leads and a 25W 240VAC pump. This control does not support solenoids.

Earthing Requirements

It is essential that the MAINS EARTH is connected to the PUMP EARTH. Also, if the outer enclosure housing this control and the pump is conductive then the MAINS EARTH must also be connected to that enclosure. The enclosure should have an EARTH STUD to facilitate these connections.



Mains Supply and Pump Connections

These connections are made via the Green and Orange connectors marked Supply N, Supply A, Pump N, Pump A.

Depress the Orange lever a few millimetres into the enclosure to allow the wire to be inserted or removed.

The bare conductors must fully enter the connectors with no conductor or strands of conductor left exposed.

Sensor Connection and Placement.

ISC-AC2-A3F

This control has three temperature sensors which connect to the control via short flying leads. These sensors are:

Panel Sensor, usually 15 metres.

Bottom Tank Sensor, usually 3metres

Mid Tank Sensor (with white band), usually 2 metres

The Panel sensor will only connect with one of the short flying leads.

The Mid Tank Sensor (with white band) connects to the flying lead with the white band.

The Bottom Tank Sensor connects to the remaining flying lead.

The Panel sensor goes to the top of the collector panel, the Mid Tank Sensor goes to a position in the body of the tank and the Bottom Tank Sensor goes to the bottom of the storage tank.

Panel temperature must be sensed as close as possible to the top of the panel either by inserting the sensor into a thermo well in the plumbing fitting or by placing the sensor on the pipework as close as possible to the outlet from the top of the panel.

Mid Tank temperature sensor will require a fitting on the body of the tank so that it can sense the Mid Tank temperature

Bottom Tank temperature must be sensed as close as possible to the bottom of the tank either by inserting the sensor into a thermo well in the bottom of the tank or in the plumbing fitting or by placing the sensor on the pipework as close as possible to the outlet from the bottom of the tank , where water is taken to the panel via the pump.

Put the end of the sensor in direct contact with the temperature to be sensed. On pipework it can be held in place with tape.

Where possible insulation should be placed over the end of the sensor and approximately 100mm of cable behind the end of the sensor to ensure that the sensor reaches the temperature it is trying to measure.

If using silicone sealer, only use those with Neutral Cure. Sealers that smell of asetic acid may cause the sensor leads to be come brittle and crack.

Setup and Adjustment

No setup or adjustment is required for these controls. Frost protection by circulation is enabled by default. This method of frost protection provides some protection against frost damage, however freezing can still occur in some circumstances, such as very cold conditions or dead spots in the panel where water does not circulate.

Fault Finding

To check your system: **You may wish to get a plumber or electrician to do this for you**

- Turn system OFF
- Ensure Frost Protect by Circulation is enabled - use the switches on the control. If there are no switches visible on the outside of the control then your control has Frost Protect by Circulation enabled by default.
- Disconnect all sensors.
- Switch system ON
- You should hear a click from the pump relay after about 10 - 12 seconds and the pump should start.
- If there is no delay before the click or the pump starts immediately then the control is probably faulty.
- If there is no click after the 10 - 12 second delay then the control is probably faulty
- If there is a click but the pump does not start then the pump is probably faulty.
- Measure the sensor resistance. This should be between 600 ohms (hot) and 32000 ohms (cold). Outside this range the sensor may be faulty

If the control and sensors seem to be OK and the pump runs then you possibly have a blockage in the pipework. Also there must be no air in the system as this can also prevent circulation.