

Solaira SMRTOCC40 PIR Controller

Installation & User Manual, 4kW

Issue 2

Feb-16

SAFETY WARNING!

- **ALL INSTALLATIONS/SERVICE MUST BE PERFORMED BY A LICENCED/CERTIFIED ELECTRICIAN**
 - **KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE**
-

SHOCK AND FIRE HAZARD:

- Serious injury or death could occur.
- Disconnect ALL power sources before removing cover. Power should only be re-connected after electrical installations are complete and cover replaced.
- Be certain the power source conforms to specifications outlined on heater label.
- Assure to connect green wire from heater to ground connection from electrical supply, not to a live or "hot" conductor.
- Follow state, provincial, local and national electric codes (NEC) including field certifications.
- Do not use locations containing hazardous or explosive atmospheres.

ELECTRICAL RATING:

- 208-240V AC @ 50/60Hz.

WARNING SERIOUS INJURY OR DEATH COULD OCCUR, DISCONNECT ALL POWER PRIOR TO SERVICE



SPE-1000 Certified

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Introduction

The Solaira SMRTOCC40 4kW PIR is part of a family of controllers designed to provide energy saving when used with Quartz Infrared Halogen Lamps. The 'P' model has a built in PIR sensor allowing the lamps to automatically switch on only when people are present. In addition to the PIR, a temperature sensor monitors the outside temperature and inhibits the lamps when the temperature exceeds a pre-determined set point of between 1°C and 60°C.

The microcontroller-based system incorporates zero-voltage switching and a soft-start function to eliminate the lamps' initial high inrush current – potentially increasing lamp life by as much as 30%. The lamps are switched on for a fixed time period of 5 minutes. This period is reset each time the PIR detects any further movement. Installation of the unit is simple and once installed is relatively maintenance-free.

Product Features

- Energy saving – only provides heat when people are present.
- Extends lamp Life.
- Temperature Sensor – lamps inhibited when ambient temperature exceeds set point.
- Soft-start/zero-voltage switch-off.
- Low-cost.
- Easy to install.

Applications: patio areas, smoking shelters, restaurants, warehouses, workshops and garden lighting.

Installation

Important: Read carefully the following information before installing the unit.

The passive infrared sensor (PIR) fitted in this unit detects changes of infrared energy through the Fresnel lens on the front face of the unit. The detection area and range depend significantly on its mounting position.

The PIR not only detects movement of the human body, but also other heat sources similar to the human body. To prevent false activation, the unit must not be located directly facing or in close proximity to the heater lamps. Avoid locating the unit near to heating flues/exhausts, air conditioning units, moving trees/bushes and reflective surfaces.

Note: The PIR cannot detect the presence of a human body that is not moving.

To prevent malfunction of the PIR sensor, avoid subjecting it to rapidly-changing temperatures, strong shock or vibration or high humidity and temperature.

IMPORTANT! The unit must be orientated with the cable glands facing down.

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Wiring

SAFETY FIRST

The Solaira SMaRT PIR is a high power electrical device and **MUST ONLY BE INSTALLED BY A CERTIFIED ELECTRICIAN TO LOCAL AND NATIONAL ELECTRICAL CODE.**

Warning! Isolate the mains supply before commencing any work on this unit. Ensure all earth wires are connected to maintain earth continuity to the lamp fittings.

The unit is fitted with two cable glands. Only one cable should be fitted per gland to prevent degrading the unit's IP rating. When fitting two lamps, refer to 'Wiring Diagram' for an alternative wiring configuration using a junction box.

The mains supply connects to the terminal block marked '**LINE**'. Connect the supply **LIVE** to the '**L**' terminal, **NEUTRAL** to the '**N**' terminal and **EARTH** to the '**E**' terminal.

The lamps connect to the terminal block marked '**LOAD**'. Connect the load **LIVE** to the '**L**' terminal, **NEUTRAL** to the '**N**' terminal and **EARTH** to the '**E**' terminal. If two lamps are to be fitted they must be wired in parallel.

Check all wiring and make sure the cable glands are tightened.

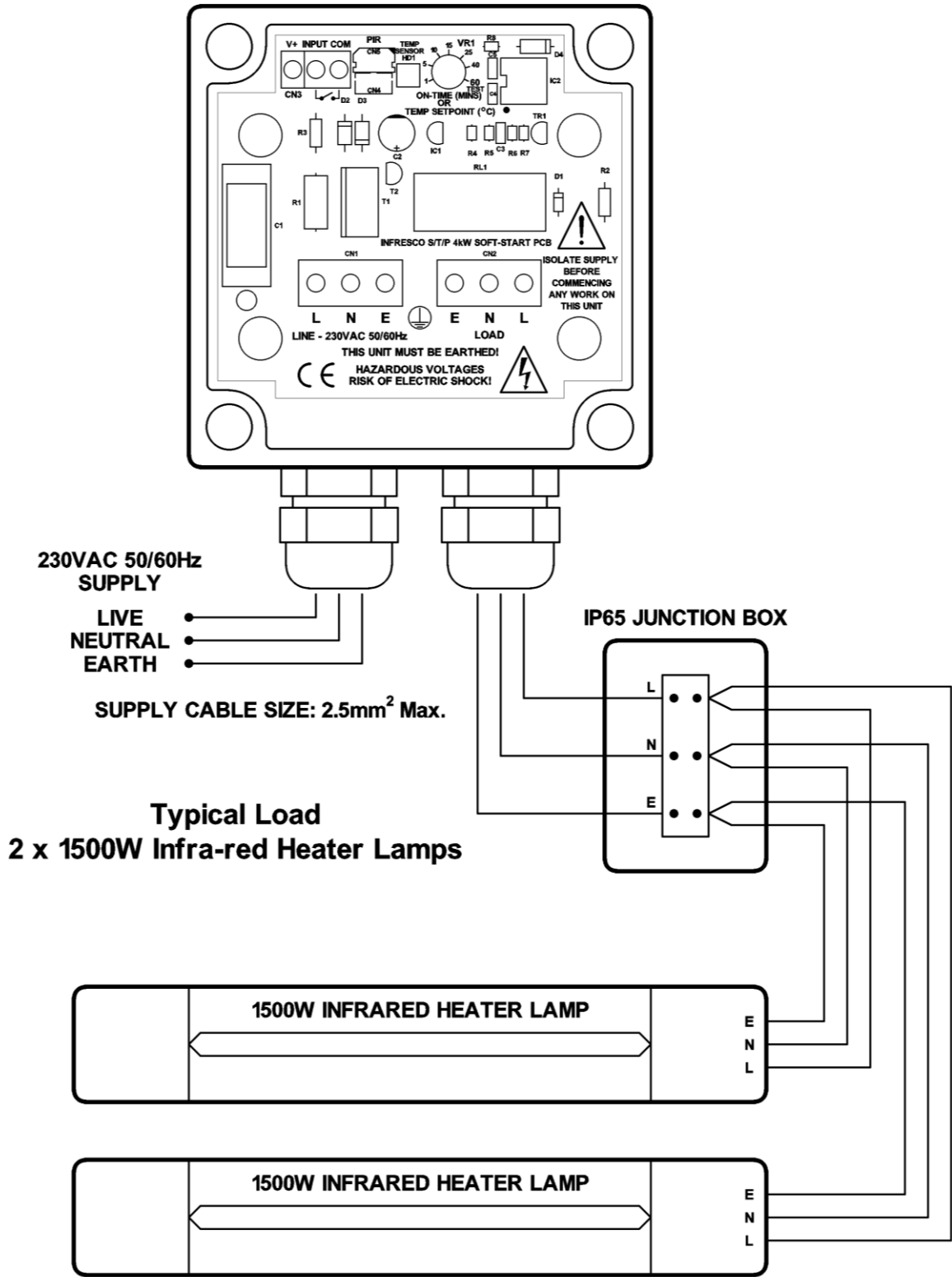
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Wiring Diagram



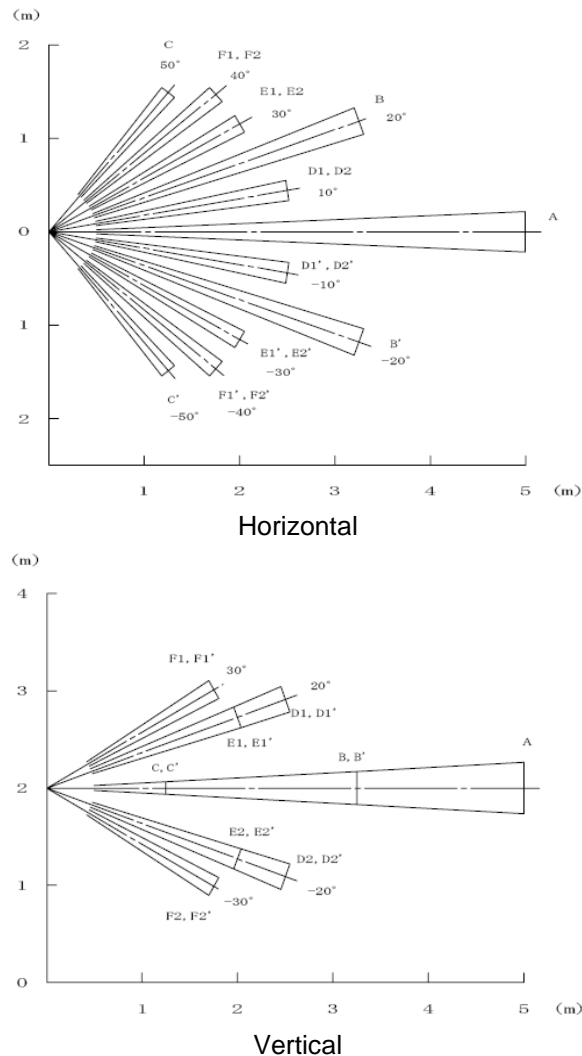
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PIR Detection area



Positioning

The Solaira SMRTOCC40 4kW PIR can be wall or ceiling-mounted. For wall mounting, the unit should be positioned 1-3 metres high. The diagram above shows the PIR's detection area.

The unit should be fixed securely using the four mounting holes accessible from the front of the unit. Remove the lid to access the mounting holes. To ease installation, a mounting template is provided on the next page to locate the 4 mounting hole centres.

IMPORTANT! When wall mounting, the unit must be orientated with the cable glands facing down.

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Commissioning

Turn the set point temperature preset (VR1) fully clockwise to select '**walk test**' mode.

VR1 is located at the top of the printed circuit board as shown opposite.

Replace the lid and switch on the mains supply to the unit. The controller will remain idle for 60 seconds to allow the PIR sensor to stabilise.

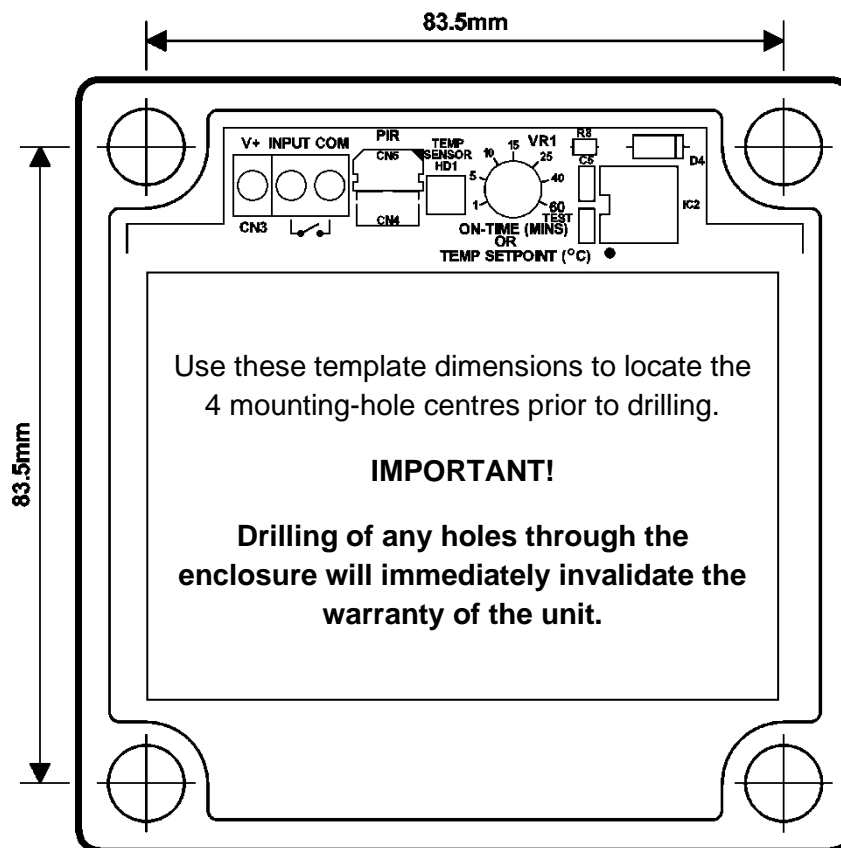
After 60 seconds, the detection area can be walk tested to verify the PIR's coverage. Each time the PIR detects sufficient movement, the lamps switch on for 5 seconds.

Note: Each time the lamps switch off, the PIR is inhibited for 5 seconds to prevent changes in infrared energy, given off by the lamps, from causing a false activation.

Once the detection area has been verified, adjust the set point temperature as required. This will automatically disable 'walk test' mode. The lamp on-time is fixed at 5 minutes.

Note: If the ambient temperature exceeds the set point temperature, the lamps are inhibited.

Mounting Template



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Warranty and Liability

LIMITATION OF LIABILITY

It is understood and agreed that seller's liability whether in contract, in tort, under any warranty, in negligence or otherwise shall not exceed the return of the amount of the purchase price paid by purchaser and under no circumstances shall seller be liable for special, indirect or consequential damages. The price stated for the equipment is a consideration in limiting seller's liability. No action, regardless of form, arising out of the transactions may be brought by purchaser more than one year after the cause of action has accrued.

WARRANTY

1. SOLAIRA CONTROL products are guaranteed to be free from mechanical and electrical defects for a period of one year from date of shipment under normal use and service provided installation is made in accordance with manufacturers' recommendations.
2. Parts deemed defective shall be repaired or replaced at manufacturers option and at manufacturers expense but shall not include foreign or federal excise taxes, state or municipal sale or use taxes, all such taxes not limited to the foregoing being responsibility of the purchaser.
3. No charge for travel and/or mileage will be allowed to purchaser.
4. SOLAIRA reserves the right to make changes in design or make any improvements on any products. The right is always reserved to modify our equipment because of new technology, underwriter's requirements and/or government regulations.
5. The following are not covered under warranty:
 - a. INSTALLATION OF CONTROL BY NON-CERTIFIED ELECTRICIAN.
 - b. Failure from neglect, abuse, careless handling and mis-application of unit.
 - c. Failure to observe guidelines for installation or improper voltage hook-up.
 - d. Failure caused by improper installation and not following local, state/provincial and federal electrical guidelines
 - e. Unless specifically allowed by SOLAIRA CONTROLS, no other charges may be included under warranty.

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