

# PRE5204ec ecostat PIR Auto-on

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<http://www.prefectcontrols.com/our-products/temperature-limited-thermostats/pre5204ec/>



## Specification:

**SIZE:** Standard single gang plate size. Requires a 30mm or larger surface pattress or 25mm or greater sunken box. When mounting into a sunken wall box or metal clad box remove the top and bottom mounting lugs of the box.

**SUPPLY VOLTAGE:** 220-240V AC at 50hZ.

**LOAD:** 16A Resistive, not suitable for use with quartz heaters.

**ELECTRICAL CONNECTIONS:** Live in (L), Neutral (N), Common (C), Normally Open (NO), 230V AC 50hZ Boost Trigger (TRIG).

**TERMINAL CAPACITY:** 4mm<sup>2</sup> Maximum

**INDICATORS:** Heating active, Frost, Boost.

**ADJUSTMENT:** Frost, Boost, (no temperature control)

**PROGRAMS:** Boost, Setback, Frost.

**PIR MODES:** Absence & Presence selectable (handset required not supplied).

**PIR DETECTION RANGE:** 5m

**TIMING RANGE:** Boost 5-999 minutes, Setback 5 minutes to 999 hours, PIR time-out 0-999 minutes (optional).

**TEMPERATURE RANGE:** Boost, Setback and Frost 1-30°C.

**CLOCK EVENTS:** Two auto-on events in 24 hours.

**CLOCK RANGE:** 23 Hours, 59 minutes

**CLOCK CELL:** CR477 3V

**CLOCK CELL LIFE EXPECTANCY:** Based upon 2 months per year the unit is powered down, 5 Years.

**PROGRAMMING METHOD:** AUTO LOCK SYSTEM © Secure Infra-red programming via the PRE5901.

**CONFORMANCE:** EMC-2004/108/EC LVD-2006/95/EC

**ERP CLASS:** ErP class 1, SHE 1%

**CASING MATERIAL:** ABS

**TEMPERATURE ACCURACY:** +/- 0.5°C

## Installation:

- All installation and wiring works must be completed by a competent person and conform to IEE regulations in-force at time of installation
- Locate the thermostat at least 300mm away from the nearest edge of the heater. Ensure the thermostat is placed where it cannot be affected by extraneous heat sources, for example: televisions, desktop computers, fridges. If fitted too close to an extraneous heat source the thermostat will not function correctly. Mount the thermostat at the centre point of the room if possible. Do not mount the thermostat behind curtains or room dividers.
- Ensure the thermostat has a local means of safe isolation. A double pole isolator must be used.
- Mount the thermostat at 1.2m from finished floor level.
- The thermostat can be mounted in both surface and sunken boxes. When mounting into a metal clad pattress or sunken box the upper and lower lugs must be removed.
- Ensure the thermostat is not mounted within 1m of forced heating or ventilation systems.

## Wiring:

### Mains output

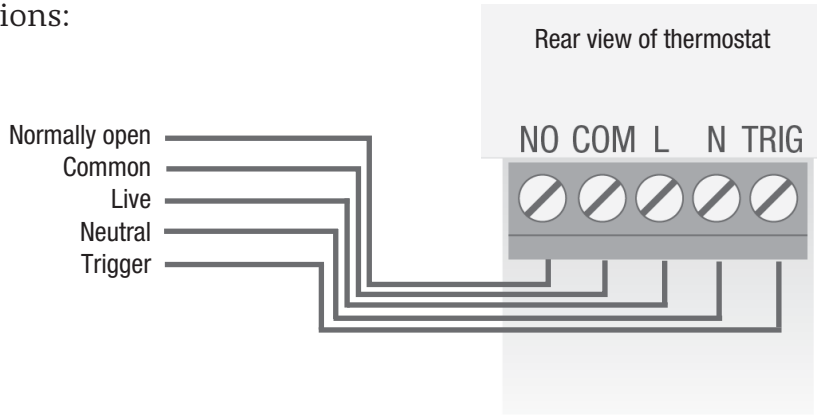
1. Isolate the appropriate circuit that the thermostat is to be supplied from. Perform safe isolation procedure to ensure the circuit is completely isolated. Ensure the supply has been locked in the off position. Always ensure safe working practices.
2. Make any circuit adjustments required in accordance with current IEE regulations.
3. If the trigger terminal is to be used ensure the trigger supply is fed from the same circuit as the thermostat supply to conform with current regulations.
4. Connect the live and neutral supply to the thermostat, note that the load neutral must be fitted with the supply neutral. Ensure the supplied mains link is fitted between L and COM terminals, terminate the loads live supply to the normally open (NO) terminal.
5. Recheck all terminal connections and fit unit to back box ensuring cables are not in a position to be damaged.
6. Re-energise the circuit. Press the up button twice to enable a 2 minute test cycle.

### Volt free output



1. Isolate the appropriate circuit that the thermostat is to be supplied from. Perform safe isolation procedure to ensure the circuit is completely isolated. Ensure the supply has been locked in the off position. Always ensure safe working practices.
2. Make any circuit adjustments required in accordance with current IEE regulations.
3. If the trigger terminal is to be used ensure the trigger supply is fed from the same circuit as the thermostat supply to conform with current regulations.
4. Terminate the live and neutral supply to the thermostat. Ensure the supplied mains link is removed.
5. Terminate the loads feed cable to the common (COM) terminal. Terminate the load return to normally open (NO) terminal.
6. Recheck all terminal connections and fit unit to back box ensuring cables are not in a position to be damaged.
7. Re-energise the circuit. Press the up button twice to enable a 2 minute test cycle.



Terminal connections:



Troubleshooting:

Fault	Checks
No LEDS are lit	<ol style="list-style-type: none"> <li>1. Check the unit is wired as per the wiring section starting on page 3.</li> <li>2. Check the mains supply voltage, ensure that 220-250V AC are present and stable.</li> </ol>
The Load does not turn on	<ol style="list-style-type: none"> <li>1. Ensure there is power to the load if not fed by the thermostat, for example a volt free boiler connection.</li> <li>2. Check the unit is wired as per the wiring section starting on page 3.</li> <li>3. Check that the  LED is lit. This LED will only light when the thermostat relay is closed. If the LED is off the relay is open. If the LED is lit the thermostat is calling for heat.</li> <li>4. Check that the current room temperature is not above that of the thermostat set-point. If the room temperature is above the top temperature set-point the thermostat will not close it's relay to heat until the room temperature falls below the set-point.</li> <li>5. If wired in a mains output configuration ensure the mains link has been fitted.</li> <li>6. If the load is not turning on at a programmed auto-on event time, Check that the auto-on events have been correctly programmed into the thermostat. Programmed auto-on timings can be read using the PRE5901 handset. See PRE5901 instructions for details.</li> </ol>
The load does not turn off	<ol style="list-style-type: none"> <li>1. Check the unit is wired as per the wiring section starting on page 3.</li> <li>2. Check that the  LED is not lit. This LED will only light when the thermostat relay is closed. If the LED is off the relay is open. If the LED is lit the thermostat is calling for heat and therefore the load will not switch off until heating is complete.</li> <li>3. Check that the current room temperature is not below that of the thermostat set-point. If the room temperature is below the top temperature set-point the thermostat will not open it's relay to discontinue heating until the room temperature is raised above that of the set-point.</li> <li>4. If wired in a volt free contact configuration ensure the mains link has been removed.</li> <li>5. Presence is detected.</li> <li>6. Check that the clock auto-on function has not activated. Programmed auto-on timings can be read using the PRE5901 handset. See PRE5901 instructions for details</li> </ol>
Only the blue LED is lit and the buttons do not function	This is normal after first power up. The thermostat stays dormant for 1 minute while the PIR stabilises. Once this time has elapsed the unit will function as normal.
The Load switches off after 2 minutes	The thermostat has a 2 minute test cycle/pre-warm, when the unit is boosted from setback or frost, or triggered via the PIR the thermostat will heat regardless of temperature for 2 minutes. Once this time run has elapsed the thermostat will resume temperature sensing. If the load is switching off after this time the temperature set-point is below that of the room temperature meaning there is no need for the load to be on.
The thermostat is always in boost mode	<ol style="list-style-type: none"> <li>1. Presence has been detected and boost mode activated.</li> <li>2. A voltage is present at the trigger terminal holding the unit in boost mode.</li> <li>3. Foreign substance jamming up button.</li> <li>4. Auto-on is active. Programmed auto-on timings can be read using the PRE5901 handset. See PRE5901 instructions for details</li> </ol>
The thermostat does not enter boost mode when I enter the room	<ol style="list-style-type: none"> <li>1. The thermostat is in absence detection not presence detection.</li> <li>2. Your presence is out of range of the PIR.</li> <li>3. The thermostat has been sited in an obstructed area.</li> <li>4. The PIR has been covered.</li> <li>5. The unit is not powered.</li> </ol>
The thermostat does not stay at set level	<ol style="list-style-type: none"> <li>1. The boost run time has elapsed and the thermostat has returned to setback mode.</li> <li>2. A foreign substance is jamming one of the buttons.</li> <li>3. Presence has been detected and the unit has entered boost mode.</li> <li>4. Absence has been detected and the unit has returned to setback mode.</li> <li>5. A voltage is present at the trigger terminal changing the program to boost mode, the thermostat will return to setback mode once the voltage is removed unless presence is detected in which case the unit will stay in boost mode.</li> </ol>

