

General

The Pactrol Micro 7+ Water Heating Programmer has been designed to enable users of Economy 7 or White Meter tariffs to take advantage of the low overnight rate to heat their hot water cylinders.

The Pactrol Micro 7+ can be used to control one, two or a dual immersion heater system. It only permits one immersion heater to be on at time and therefore, only a single 13 amp circuit is required between the consumer unit and the programmer.

The Programmer operates by using an accurate electronic timer with digital display and 100-hour battery reserve.

The display can show BST (British Summer Time) or GMT (Greenwich Mean Time). The programmer operates using the GMT clock only regardless of whether the display shows GMT or BST.

The Micro 7+ can be programmed over a 24-hour period starting at 12.00pm (noon) GMT to provide the following features

- A)** Up to 5 On/Off periods to bottom heater (Auto Channel) or
- B)** Up to 5 On/Off periods to the top heater (Boost Channel) or
- C)** a combination of up to 5 On/Off periods shared between the top and bottom heater (Auto and Boost Channel)

The main "ON" period of the programmer should be within the low rate period for your particular tariff. If in doubt please seek advice from your local Electricity Board or Manufacturer.

Installation

The installation of the control should only be carried out by a competent electrician and it must be wired in accordance with IEE regulations.

The control should be mounted in a suitable position between the consumer unit and the hot water cylinder. The control can replace any existing 20 amp double pole isolating switch on an existing circuit.

The incoming supply wiring should be carried out in either 1.5 or 2.5 sq mm 2 core earth insulated and sheathed cable. Incoming supply wiring should be suitably fixed and clamped externally to the control. The wiring from the control to the immersion heater must be carried out with heat resisting flex (minimum 1.5 sq mm) and securely fixed at each end by means of the clamps provided.

The immersion heater and the control must be earthed. Two earth terminals are provided, one for incoming earth and the other for the earth to the heater(s). The wiring diagram shows all the necessary connections.

When only one heater element is being fed, a link of at least 1.5 sq mm should be connected between the live terminals labelled "L Top Heater" and "L Bottom Heater". In this case, the live terminal on the single heater can be connected to either terminal (i.e terminals 6 or 7)

N.B. Safety Insulation and earth continuity tests should only be carried out on the incoming wiring when the control has been removed or isolated. When wiring is complete, ensure that all terminal screws, including the earth terminals are securely tightened. Do not loosen outer screws holding factory fitted wires.

1. This controller should not be mounted on unearthed metallised surfaces including metallised wall tiles.
2. Incoming electrical supply must always be isolated before removing the control cover. The isolation may be provided by the consumer unit.
3. For circuits in excess of 17 metres a minimum cable size of 2.5 sq mm should be used.
4. Care should be taken when removing knockouts to ensure no sharp edges are created which may cause damage to the cable.
5. When fixing the control to the mounting surface care should be taken to prevent dust and swarf from entering the unit.

**THIS PRODUCT IS NOW
DISCONTINUED**

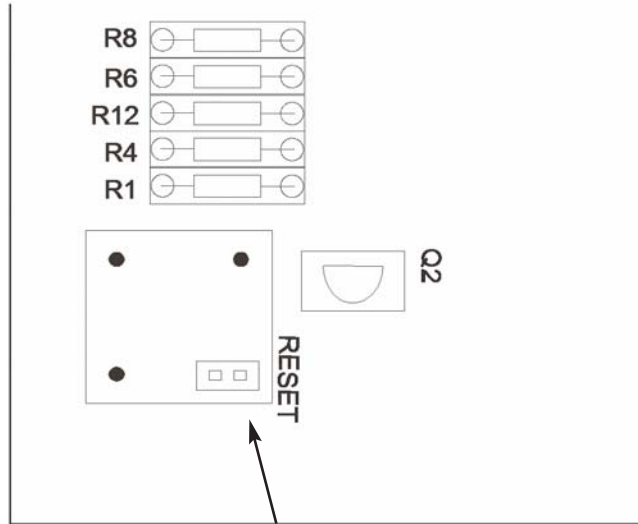
Micro 7+

Addition to Instructions

Once the base has been installed, but before the black front cover is connected.

The following procedure must be followed:-

1. Remove the shorting link located at the bottom right hand corner of the printed circuit board
2. Continue to connect front cover to base and programme control.



Remove Shorting Link

Programming Procedure

- (1) Ensure that the mains supply is connected.
- (2) Ensure that GMT/BST switch is set to GMT.
Note 1: The "A" button corresponds to the bottom heater (Auto Channel) and the "B" button corresponds to the top heater (Boost Channel).
- (3) Press and release "CANCEL" and "A" buttons together to clear the programme of back-up times - Display will revert to ____:____ ____ and then 12 noon GMT, when the buttons are released

IMPORTANT - Enter On/Off times in the order they occur, starting from 12.00pm(noon) GMT - so an automatic afternoon boost must be entered before the night time Economy 7 heating period.

- 4) Depress the HR/MIN buttons repeatedly to display the required start time for the first "ON" period -

Display shows the required start time for the first "ON" period.

- (5) If first "ON" period is to the bottom heater then press and release "A" -

*Bottom heater "ON" light comes on.
(adjacent to main switch)*

Set the display to the required "OFF" time and again press and release "A" -

Bottom heater "ON" light goes off.

OR

- (6) If the first "ON" period is to the top heater (Boost) the press and release "B" -

*Boost "ON" Light comes on
(next to the "Boost" button.)*

Set the display to the required "OFF" time and again press and release "B" -

Boost "ON" light goes off.

- (7) For further On/Off periods set the display to the next required start time and repeat (5) or (6) as appropriate.

Note 2. If an error is made during time settings, then press buttons A and CANCEL together and start from the beginning.

- (8) When all the required On/Off periods have been entered press the HR/MIN buttons repeatedly to advance the programme through the complete 24-hour period to check time settings. -

The Auto and Boost "ON" lights will come on during the programmed periods.

- (9) Switch the GMT/BST switch to the relevant position for the time of year and press "HR/MIN" buttons to display the correct time -

Display shows the correct time of day.

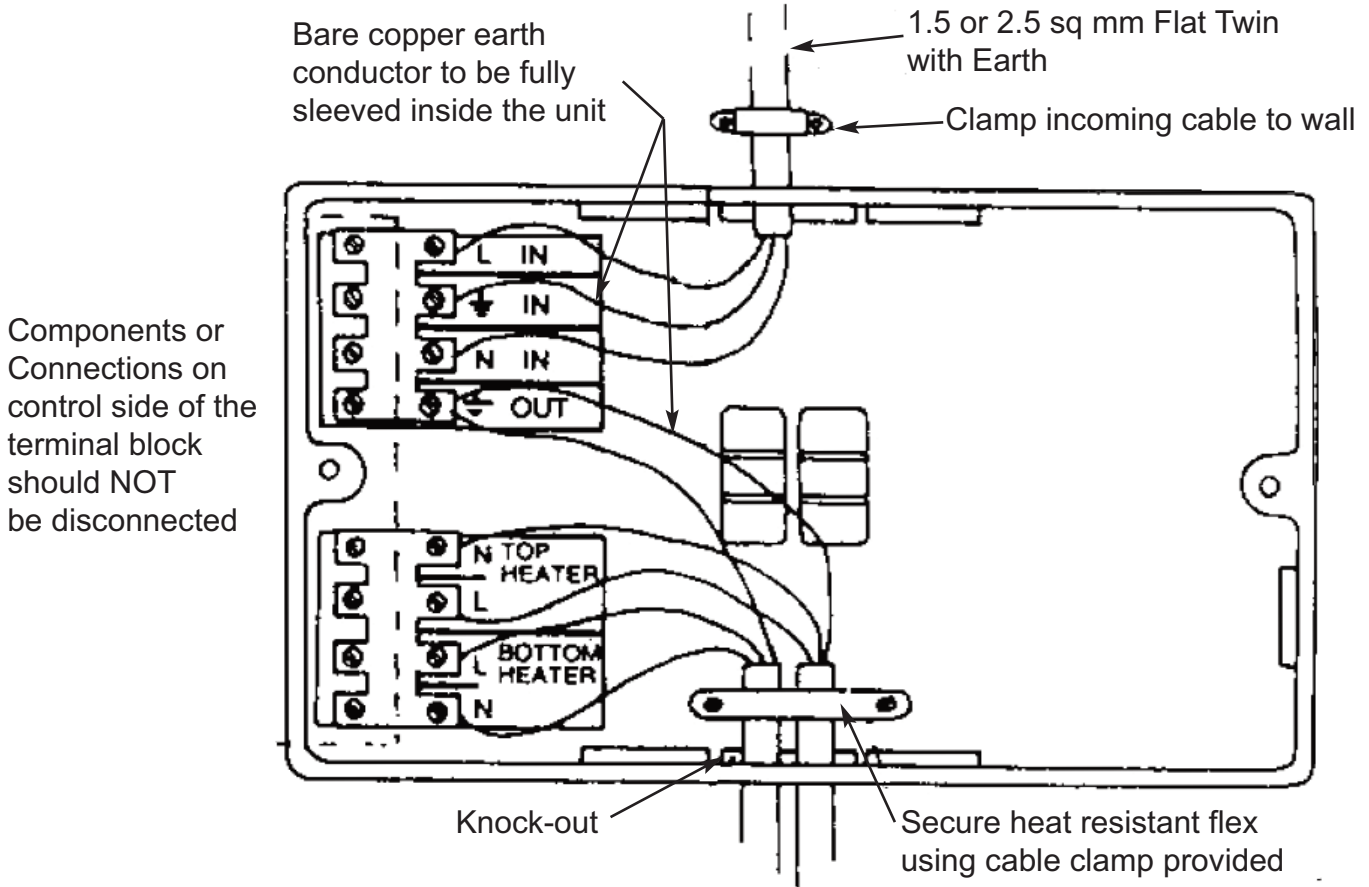
Note 3. Only one channel can be energised at a time and the Auto Channel has priority where "ON" times overlap.

Note 4. When the power is first applied to the unit back-up times are Auto ON 12.35am GMT, and Auto Off 7.30am GMT

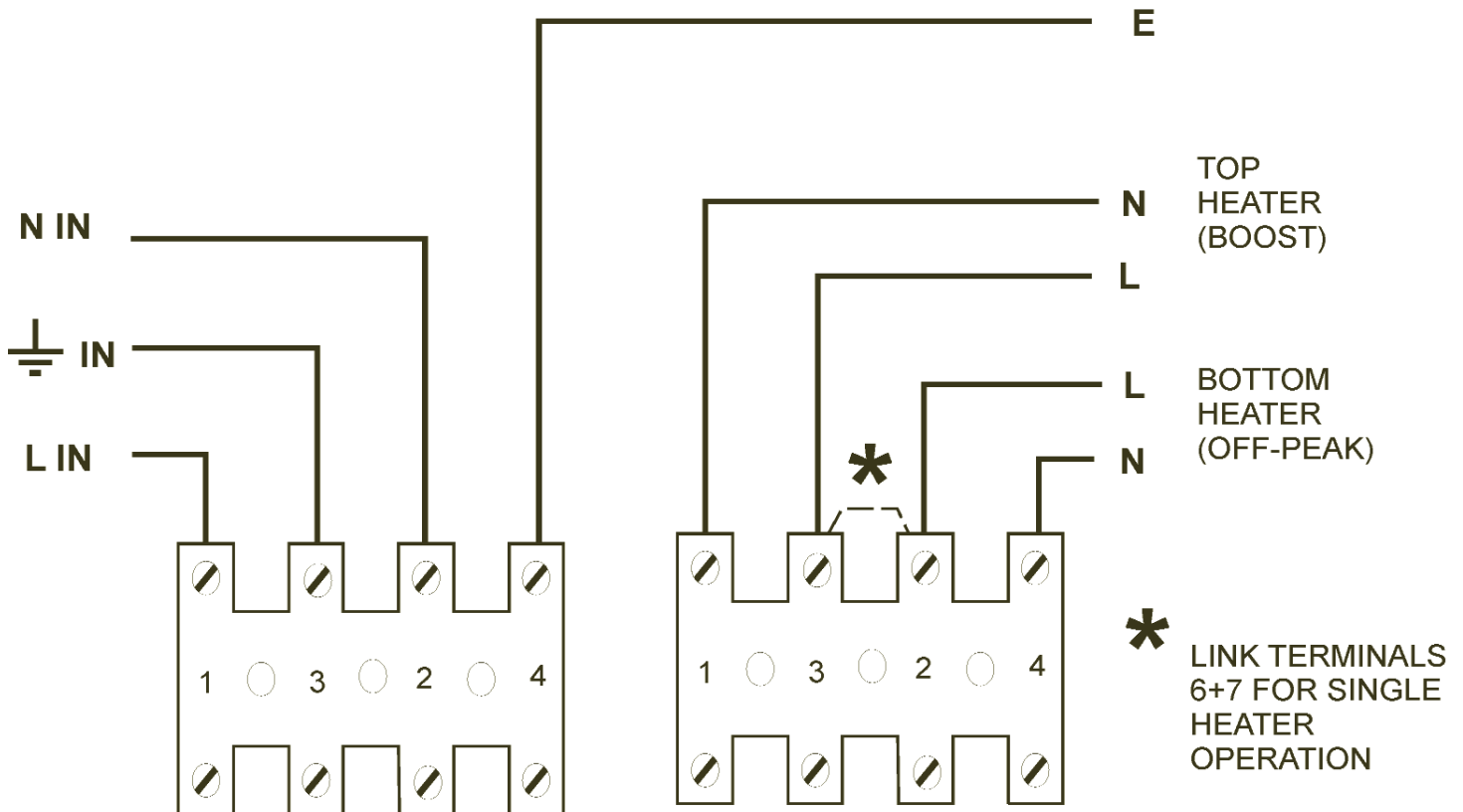
Example - To set top heater ON 3pm OFF -4pm and bottom heater ON 1am OFF 7am GMT

1. Ensure GMT/BST switch is set to GMT.
2. Press and release CANCEL and button A together.
3. Set display to 3pm then press and release button "B" (light comes on)
4. Set time to 4pm then press and release button "B" (light goes off)
5. Set time to 1am then press and release button "A" (Light comes on.)
6. Set time to 7am then press and release button "A" (light goes off)
7. Advance time display through 24-hours to check time setting.
8. Ensure GMT/BST switch is in correct position for time of year.
9. Finally set the display to the correct time of day.

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**MICRO 7+
SCHEMATIC EXTERNAL WIRING DIAGRAM**



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Adjusting the Clock Display

Normally the clock display should remain accurate, but where an adjustment is required the following procedure should be adopted.

- (1) Switch off the main switch on the Micro 7+
- (2) Ensure GMT/BST switch is in the appropriate position.
- (3) Advance the HR and MIN buttons as required to cause the display to show the corrected time.
- (4) Finally, switch on the main isolating switch again ready for use.

User Instructions

Isolating Switch.

The switch marked "Heater off Timed" isolates the immersion heater(s) when in the "OFF" position, but leaves the mains onto the programme circuitry.

(Note: the lamps still operate when the switch is in the "OFF" position but no power is supplied to the heaters.

Manual Boost Control.

If extra hot water is required during the day, operation of the Boost control button will allow the immersion heater to operate for one hour.

At the end of the boost period the immersion heater will switch off again until a further boost is selected or the automatic time switch operates during the next programmed period,

The Boost control can be overridden i.e Switched off at any time by pressing the button marked "CANCEL"

A red boost "ON" lamp indicates when the boost is operating

White
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New models are continuously under development.
For further information visit our Website www.pactrol.com or contact the sales team at sales@pactrol.com Pactrol Controls reserve the right to change the specification of this product range without notice.