$C\epsilon$

powrmatic

EUROTROL OSII

ENERGY SAVING WARM AIR HEATING CONTROL $C\epsilon$

16:27

1 2 3 4 5 6 7

5°c 10°c 15°c
0°c 20°c
0 25°c

5°c 10°c 15°c
0°c 20°c
0 25°c

0

0

⧖1hr
0
⧖2hr

Installation & Users Instructions

INDEX

1.   Specifications
1.1 General
Electricity supply	240V 50Hz Fused at 3A.
Internal control fuse	20mm 500mA. 240V.
Day set point range	0 - 25 °C.
Night set point range	0 - 25 °C.
Temperature accuracy	0.5 °C.
Overall switching differential	1.0 °C.
Sensing Element	Remotely mounted up to 100m from control.
Switching contacts ratings	13A. 240V.ac. (resistive). All Volt Free
Mains ON Indicator	Green L.E.D.
Heating ON Indicator	Red L.E.D.
Optimising ON Indicator	Yellow L.E.D.

1.2 Time Switch
Display	7mm L.C.D.
Programming Instructions	12 (6 On and 6 Off)
Shortest switching time	1 minute
Manual override	Self cancelling ON & OFF.
Battery backup	50 hrs. after 100 hrs. connected to mains.

Overall Dimensions

161mm
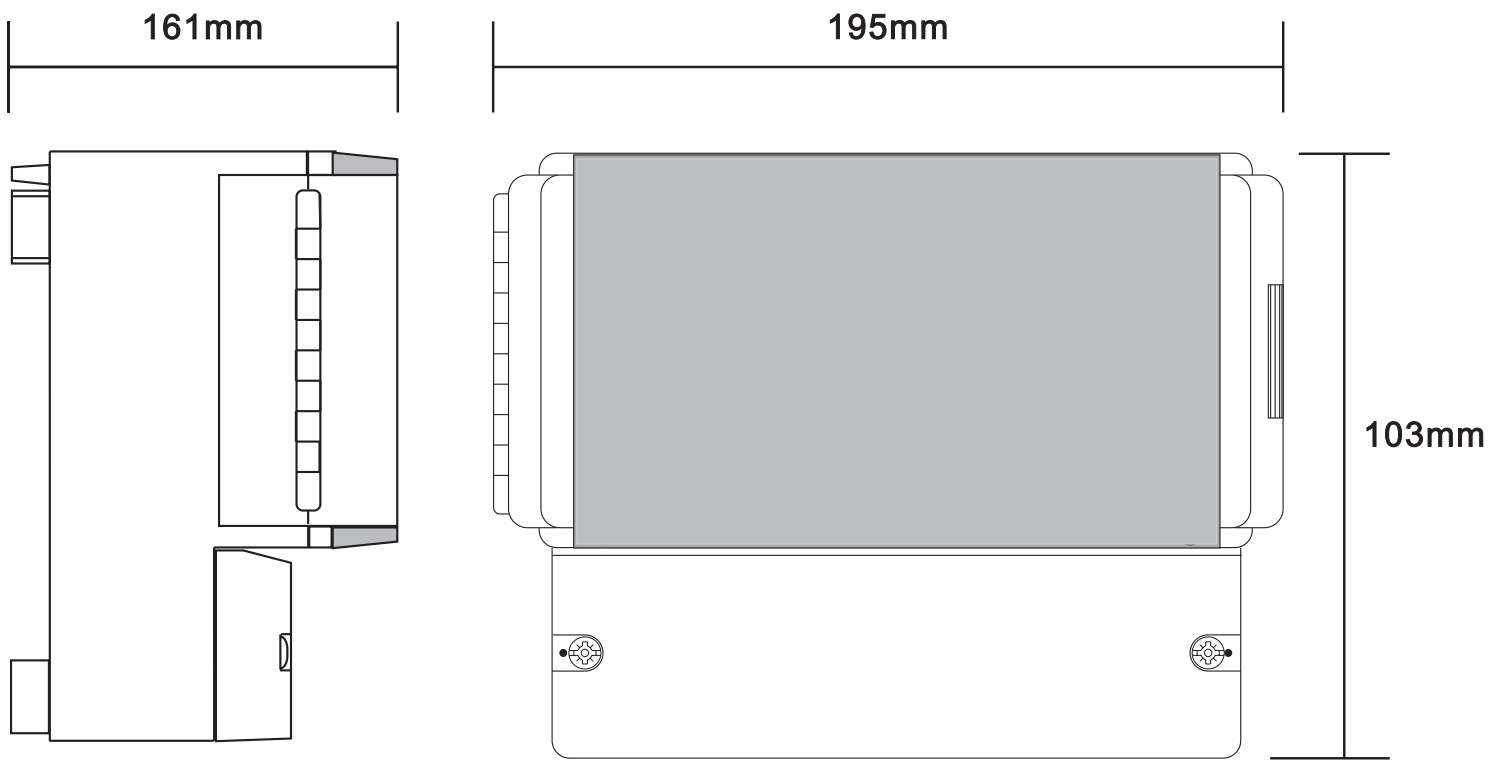
195mm

103mm

Fig.1

2. Installation
2.1 Siting
IMPORTANT
The Eurotrol 𝘴II or sensor **MUST NOT** be sited in areas of high electromagnetic fields, i.e. distribution boards, transformers or heavy duty supply cables.

Sensor
Siting of the sensor is important in that it must be fitted where the temperature will be generally representative of the area to be heated. It should be installed 1.7m above floor level and away from draughty areas or areas subjected to direct heat from sunlight, radiators etc.

Eurotrol 𝘴II
The siting of the Eurotrol 𝘴II should be no greater than 100m from the sensor and should be in a position easily accessible for programming and control.

2.2 Fixing
For fixing into wood use No.8 x 1¼" woodscrews, on masonry use screws together with wallplugs and on metal use M5 machine screws.

2.2.1   Sensor
Offer the mounting template up to the intended mounting position and mark location of the two fixing holes. Unclip the sensor cover and fix sensor base plate to the wall.

2.2.2   Eurotrol 𝘴II
Remove the two screws securing the terminal cover of the Eurotrol 𝘴II and remove the required electrical knockout. Offer the template up to the intended mounting position and mark the location of the three fixing holes and electrical entry position. Secure the top fixing leaving approximately 5mm protruding, hang the Eurotrol 𝘴II on the top fixing screw, line up the bottom fixing holes and secure using two screws.
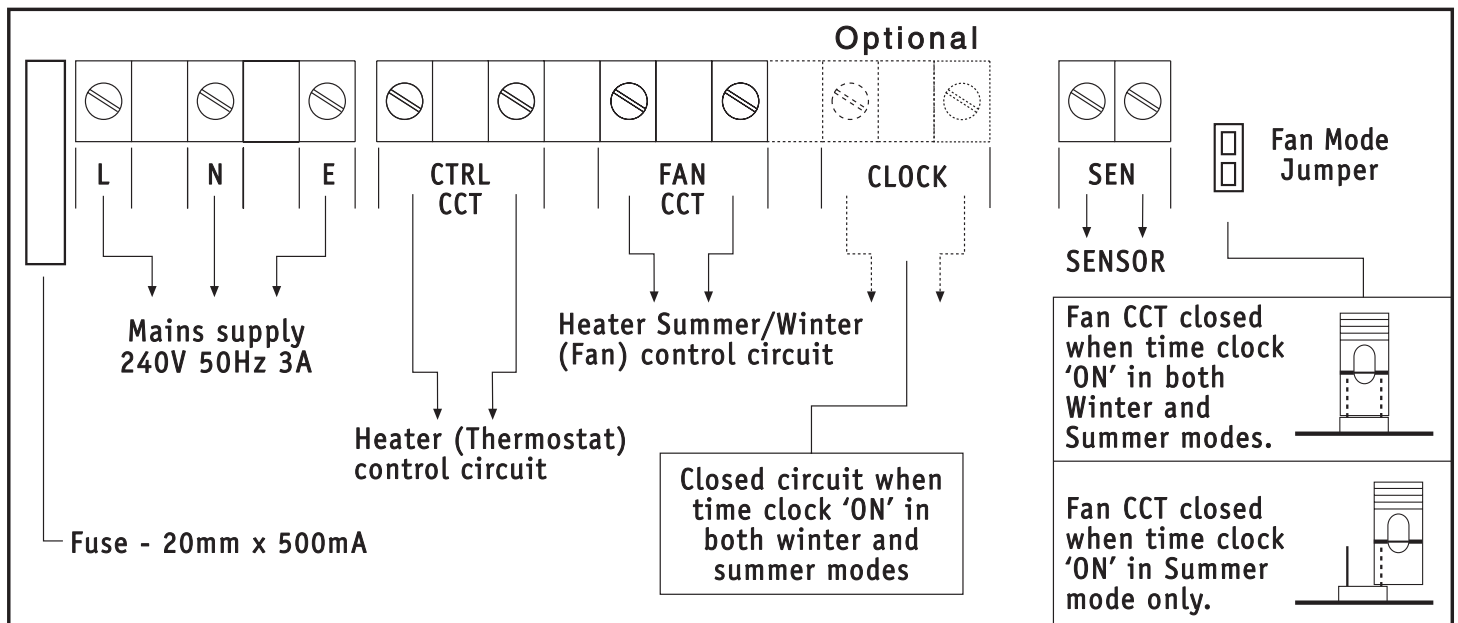
2.2 Electrical Connections

IMPORTANT

Wiring external to the Eurotrol §II must be installed in accordance with I.E.E. Regulations together with any local regulations which may apply. Wiring should be completed in conduit, entry for which is provided in the bottom or base of the unit. *See external wiring diagram (Fig.2.)* Mains supply and control circuit wiring should be completed in cables not less than 0.5mm² and fan circuit in not less than 1.5mm². The method of connection to the mains electrical supply can be taken from the appliance or a separate 'local' supply, but in both cases a local isolator must be fitted adjacent to the Eurotrol. Should more than one appliance be controlled from one Eurotrol §II a relay box **MUST BE USED**.

WARNING - *SENSOR WIRING*

Sensor cable must be two core and a minimum of 0.6mm² if solid and 7 x 0.2mm² if multistrand. Wiring for the temperature sensor **MUST BE RUN SEPARATELY** and apart from ALL other wiring. Failure to regard this instruction may cause the Eurotrol §II and/or appliance to malfunction and may render if faulty. If screened cable is used, screen must be grounded only at the Eurotrol §II.

Fig.2

Optional

| L | N | E | CTRL CCT | FAN CCT | CLOCK | SEN |

SENSOR

Fan Mode Jumper

Mains supply 240V 50Hz 3A

Heater Summer/Winter (Fan) control circuit

Heater (Thermostat) control circuit

Fuse - 20mm x 500mA

Closed circuit when time clock 'ON' in both winter and summer modes

Fan CCT closed when time clock 'ON' in both Winter and Summer modes.

Fan CCT closed when time clock 'ON' in Summer mode only.
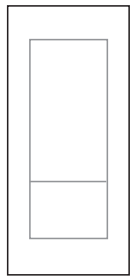
CAUTION - *INSULATION TESTS*

Do not use a 'Megger' or other high voltage test equipment to test site wiring after connections have been made to the Eurotrol ⚬sⅡ .

CONTINUITY TESTS

Use only a low voltage instrument e.g. Avometer, set to ohms range.

3.   Method of Operation

3.1 Mode Selector

WINTER: The heating appliance operates to the day temperature control when the clock is 'ON', and the night temperature control when the clock of 'OFF'.
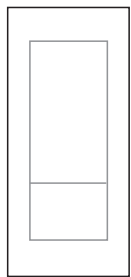
OFF: The heating appliance will not operate irrespective of clock or temperature control.

SUMMER: The air movement fans of the heating appliance (and/or ventilation equipment) will run when the clock is 'ON', the burner is inoperative.

3.2 Optimisation Selector

1hr: The optimisation period is for 1 hour from the start of an on period.

OFF: No optimisation, heating appliance will operate immediately an 'ON' period starts if the space temperature is below the day set point. Switching momentarily from 1hr (or 2hr) to OFF will cancel the optimisation in progress.

2hr: The optimisation period is for 2 hours from the start of an ON period.

How Optimisation works

At each pre-programmed ON time, the Time Switch will switch ON and will begin OPTIMISING the switching-on of the heating system. The Optimiser calculates a

time delay in switching the heating system on, which is dependent on current space temperature, i.e. when space temperature is high, time delay is long and when space temperature is low, time delay is short. The range of the OPTIMISER delay is either 1 hour, or 2 hours for areas that require a longer pre-heat time. It is important when setting switching times, to take into account the optimiser delay. This is done as follows:-

(a)   Determine the necessary pre-heat time of the area to be controlled, 1 hour or 2 hours.

(b)   Set the optimiser selector switch accordingly.

(c)   Programme the ON times appropriately, (see example).

EXAMPLE

If the area to be controlled is to be at desired space temperature at 9.00am, then set switch time as follows:-

(i)   With optimiser range set to 1 hour maximum, set ON time to 8.00 am.

(ii)   With optimiser range set to 2 hours maximum, set ON time to 7.00am.

Optimising in progress is shown by the yellow LED being alight.

During the optimising period, the temperature control will remain at the night set point setting. Once the unit has optimised, temperature control will switch to the day set point setting for the duration of the heating period (i.e. until the next programmed OFF).

3.2 ☀ Day Temperature Control
The day temperature control may be adjusted between 0 - 25 °C.

3.3 ☾ Night Temperature Control
The night temperature control may be adjusted between 0 - 25 °C.

3.4 Mains ON Indicator
The green L.E.D. will be illuminated when the mains supply is present.

3.5 Heating ON Indicator
The red L.E.D. will be illuminated when the heating appliance is called to operate.

3.6 Optimising ON Indicator
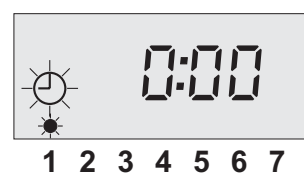The yellow L.E.D. will be illuminated when the heating appliance is operating.
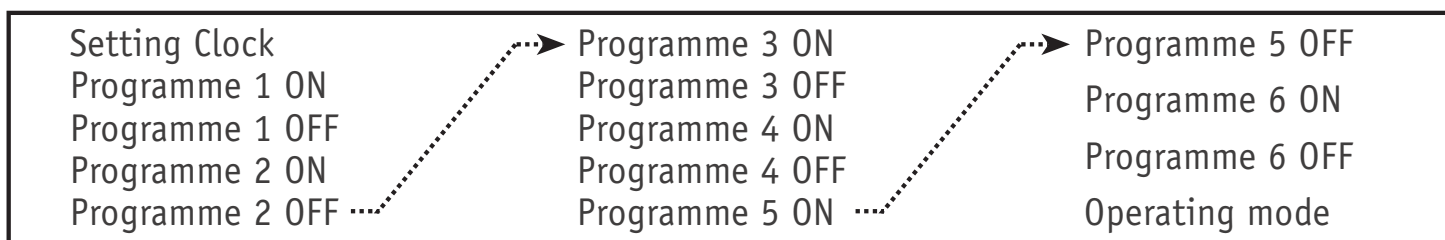
4. Digital Time Controller
4.1 Start Up
Switch mains power to Eurotrol ⚙II on. If no clock display shows wait 30 minutes and then reset display as in 4.2 below

4.2 Reset Display (If required)
To clear programmes from memory and reset the time controller press and hold down both buttons **+** ➤ until the display goes blank. Release the buttons and display will fill with its complete range of characters and the clear to show clock and day 1 symbol flashing.

4.3 Programming Sequence

| Setting Clock	Programme 3 ON	Programme 5 OFF
Programme 1 ON	Programme 3 OFF	Programme 6 ON
Programme 1 OFF	Programme 4 ON	
Programme 2 ON	Programme 4 OFF	Programme 6 OFF
Programme 2 OFF	Programme 5 ON	Operating mode

Note: If, during programming, there is a delay of 1 minute or more between button presses the controller will automatically return to operating mode.

4.4 Setting Clock
Note: If you did not start by resetting the display press the ➤ button and then the **+** button before proceeding.

Day Setting - Press **+** button to advance to the current day of the week. 1=Monday, 7=Sunday.

Hour Setting - Press the ➤ button once to select the hour - display shows clock symbol and the hours digit flashing. Press the **+** button to advance the hour setting. For rapid hour selection keep button pressed.
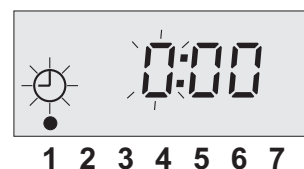
Minute Setting - Press the ➤ button once to select the minutes - display shows clock symbol and minutes digit flashing. Press the **+** button to advance the minute setting. For rapid minute selection keep button pressed. (Note: 16hours shown as example hours set)

Press ➤ button once - clock is now set and display shows ready for first ON programme time.
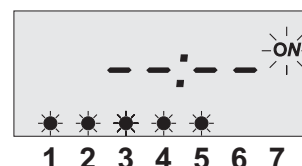
4.5 Progamming of ON/OFF Times (after clock setting)
**Note:** If you did not start by setting the clock press the ➤ button twice before proceeding.

i) Press **+** button to advance the day flag to the required day(s) settings which are as follows

```
1 2 3 4 5 6 7
● ● ● ● ●           = 5 days (Weekdays) Mo Tu We Th Fr
            ● ●     = 2 days (Weekend) Sa Su
● ● ● ● ● ● ●       = 7 days (Everyday) Mo Tu We Th Fr Sa Su
●                   = Individual days starting with Monday through to Sunday
```

ii) Once day option selected press ➤ button once to select hour time - display shows hour digits and ON flashing. Press **+** button to advance hour setting (Note: Monday shown as an example of days set)
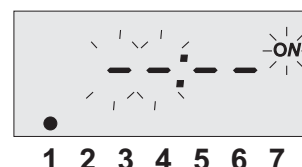
iii) Press ➤ button once to select minute time - display shows minute digits and ON flashing. Press **+** button to advance minute setting (Note: 16hrs shown as an example of hours set)
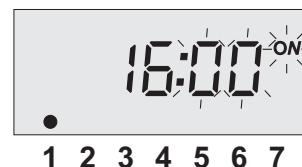
iv) Press ➤ button once - the first ON time is now set and display shows ready for the first OFF programme time.
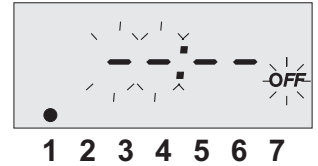
v) Now set the hours and minutes as before. The day(s) selected remains the same.

vi) Repeat steps i to v to set the remainder of the 5 ON/OFF times as required. Note: Any unused ON/OFF programme should be skipped until the display shows normal operating mode. Do not enter '0's into unused programmes.

Important: After setting a clock time which falls within a programmed On period, the unit will not switch ON. Use the **+** button to switch unit ON. After this the unit will operate normally to the programme set.

4.6 Programme Review
Press ➤ successively to indicate all programmed switching times. Hold the button down to fast review the set programmes or for quick exit to normal operating mode.

4.7 Initiating Programme or Clock Setting Modes

These can be initiated at any time during the normal operating mode. Press ➤ button and the clock symbol, day flag, hrs and minutes on the display will flash - this is review mode. If any change to programmes is required press **+** button to initiate programme mode and then follow steps 4.4 and 4.5.

4.8 Cancelling Programmes
Any ON/OFF programmes can be cancelled by clearing its ON or OFF time. Follow step 4.7 and when into the ON or OFF programme to be cancelled press the **+** button until the hour digits show **– –**. The press the ➤ button to clear the programme. The display will show the hour and minute digits and ON or OFF flashing.

4.9 Manual Switch

Press **+** button to advance to next switching Status, either 'ON' or 'OFF'.

The output status will change and idicate that override is in operation by flashing. Status will revert to programme at the next switching time.

5.   Commissioning and Testing

NOTE: Reference is made to 'the burner starting'. This may not be instantaneous as burners with automatic sequence controls take up to 30 seconds to actually ignite after the control box has been activated.

1.   Ensure all external electrical connections are correct.
2.   Check, and if necessary adjust, the fan mode jumper. With the jumper connecting the two pins the fan circiut will be closed when the time clock is in an 'ON' period in both Winter and Summer modes. This provides for continuous run fans where make up air is required.
      With the jumper only fitted to one pin the fan circuit will be closed when the time clock is in an **'ON'** period in Summer mode only. *(See Fig 2 - Page3)*
3.   Turn Day and Night set point adjusters to their lowest settings and set Mode and Optimising selectors to '**OFF**'.
4.   If not yet completed set time clock and programme 'ON' and 'OFF' periods. *(See Section 4 - Page 6)*
4.   Switch on the electrical supply.and the mains on indicator will illuminate.
5.   Set time switch to '**ON**' using manual override *(see 4.9)*, and Mode selector to '**WINTER**'.
6.   Turn day set point adjuster slowly clockwise, as it passes through the ambient space temperature the heating on indicator will illuminate and the burner will start.
7.   Set time switch to '**OFF**' using manual override, Heating on indicator will extinguish and burner will stop.
8.   Turn Night set point adjuster slowly clockwise, as it passes through the ambient space temperature the Heating on indicator will illuminate and the burner will start.
9.   Turn Mode selector '**OFF**', Heating on indicator will extinguish and burner will stop.
10. Turn Mode selector to '**SUMMER**' and time switch to '**ON**', the main air

circulation fans of the heating appliance will start running.

11. Set time switch to '**OFF**', the fans will stop.
12. Set day and night set point adjusters together with Mode selector to customers requirements.

6.   Instructions to the Installer

Explain to the customer the principles involved in setting the time switch together with the operation of the unit, leaving these instructions with the customer.

7.   Fuse Replacement

1. Isolate electrical supply
2. Remove the terminal access cover. The fuse holder is located at the left hand side of the printed circuit board.
3. Pull of plastic cover and fit replacement fuse of 20mm x 500mA size.
4. Refit plastic fuse cover and then the terminal access cover.

IMPORTANT

There are no other user servicable parts in the Eurotrol ᶴⅡ ,faulty units must be returned complete for replacement.

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FM 414
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Air Moving Equipment;
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