ES-LCD User Control
SD Card Location

Addendum to Leaflet Number 671415

The EMC Directive 2014/30/EU
The Low Voltage directive 2014/35/EU

ecosmart

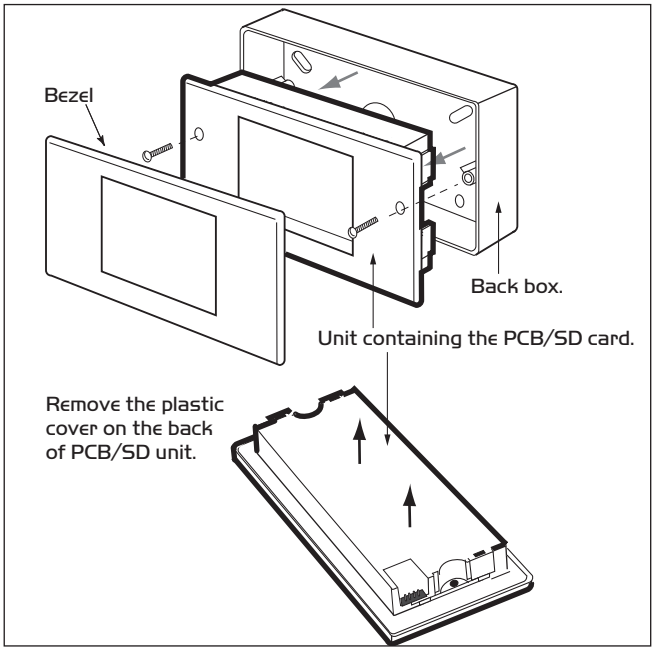
Checking SD Card for secure location

Due to the possibility of movement during transit, we recommend a check is undertaken to ensure that the SD Card is located securely in its housing on the PCB before installation commences.

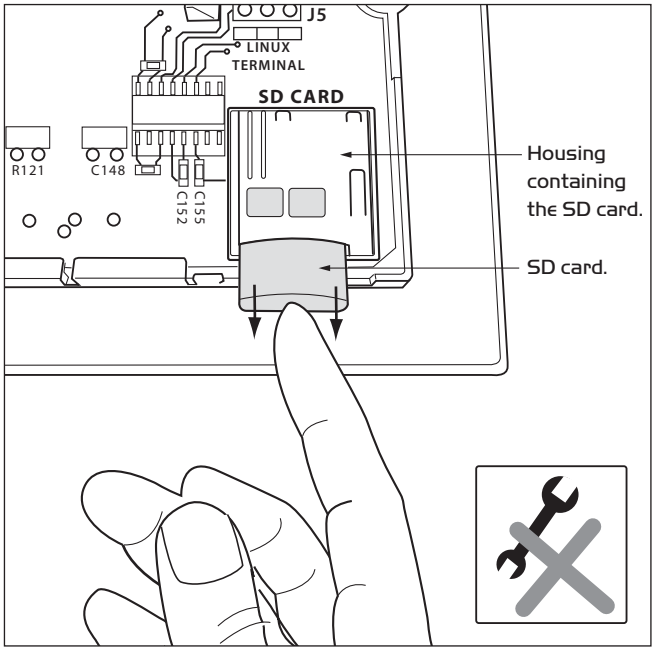
This is necessary as the SD card on the PCB contains the software for the controller and if movement of the SD card has taken place in transit the controller will not function.

Follow the pictures below to locate the easily accessible SD card.

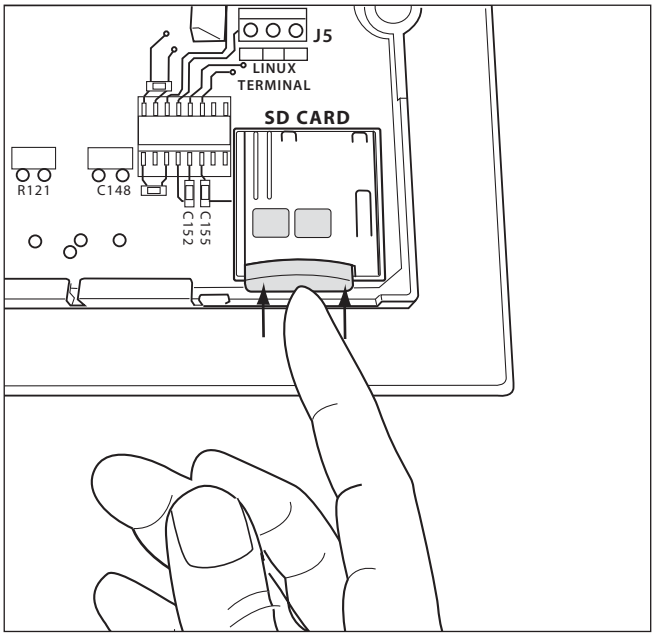
Step 1: Remove the bezel and detach PCB unit from back box. Remove plastic cover on the back of the PCB unit casing to gain access to PCB board and SD Card.



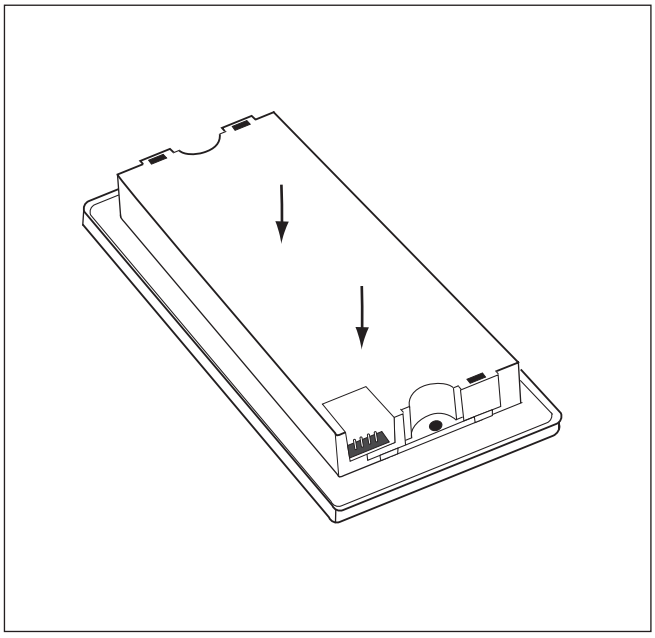
Step 2: Locate the SD Card on PCB. Press SD Card using finger to release from SD Card housing (as shown). Note: components are fragile, do not use tools when adjusting SD Card.



Step 3: Press SD Card using finger to secure SD Card into housing to ensure that the hardware & software is connected.



Step 4: Refit the back plastic cover of the PCB unit and follow the Installation and Maintenance instructions for full installation of the control. In the event of a blue screen, please repeat Step 2 and 3.



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11. 05. 17. Leaflet Number 671415

ES-LCD User Controls

Installation & Operating Instructions

The EMC Directive 2004/108/EC
The Low Voltage directive 2006/95/EC

ES-LCD is a new range of user control from the Ecosmart range.

They have a 3.5in colour LCD touchscreen display to provide improved user interface. The unit can be surface or semi-recess mounted and is compatible with standard 2-gang recess back box.

ES-LCD– the unit is all plastic construction and supplied with 10m of pre-plugged connection cable and surface mounting back box.

It is supplied with 10m of pre-plugged connection cable and surface mounting back box.

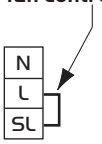
The units are SELV (12V d.c.) with the power supplied from the fan unit via the pre-plugged cable.

1.0 Installation

IMPORTANT

Installed environment
0-40°C and up to 90% RH non-condensing.
Caution: The unit must be installed away from any direct source of heat (e.g. radiators) and not in areas where it would be subjected to steam or water spray.
The mounting surface must be free from vibration.

Important: Remove link wire between L & SL at the fan control



The unit is supplied with back box suitable for surface mounting. (see Figs. 1 - 5).

If semi-recess (final projection from wall is 7mm approx) is needed, a proprietary 2-gang back box (25mm deep min.) may be used.

Always physically check the suitability of the back box before fitting.

In some instances, the earthing point of the back box may foul the unit and need to be removed.

a) Fix one end of the 10m cable to the fan's connection box (connection sockets marked NET, see Fig. 1) and route the cable to the mounting position.

b) Unclip the front bezel from the unit and remove the 2 retaining screws, then remove the working section from the back box. (see Fig. 2).

c) Feed the cable through the knock-out hole in the base of the back box and mark the fixing point on the wall.
Drill appropriately sized holes at the fixing points and insert the wall plugs.
Fix the back box on to the wall. (see Fig 3).

d) Plug the data cable into the socket. (see Fig. 4).

e) Fix the unit back into the back box using the screws supplied, then clip the bezel back on the unit again noting which way is up. (Top is printed on the inside face of the bezel and and middle section). (see Fig. 5)

2.0 Data cable installation

IMPORTANT

Due to the higher current consumed by the EC-LCD, the max cable run between the fan control and the ES-LCD must be limited to 50m.

A 4-core SELV data cable is used to connect the control to the fan.

Do not run data cable in the same conduit as the mains cables and ensure there is a 50mm separation between the data cable and other cables.

Please note that the total data cable length used in any system must be less than 1000m. Keep the number of cable joints to a minimum to ensure the best data transmission efficiency between devices.

Figure 1.

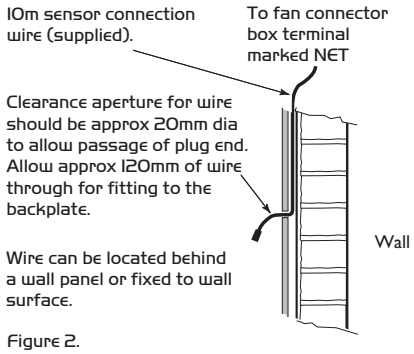


Figure 2.
Remove the bezel and 2 screws to detach front of unit from back box.

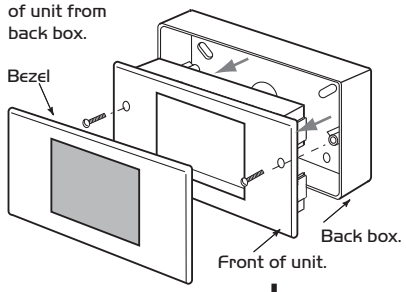


Figure 3.
Feed cable through hole in back box.
Fix back box to wall using screws.

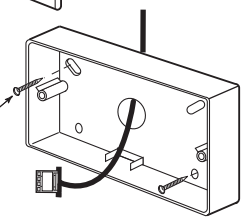


Figure 4.
Plug end mounted into the PCB socket inside the front half of the unit. Note that the data cable socket is positioned at the top corner of the unit.

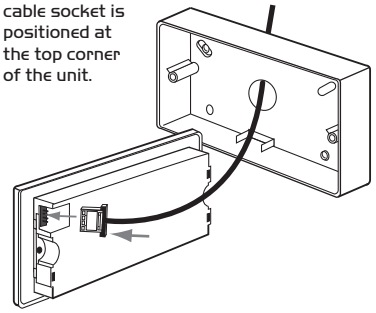
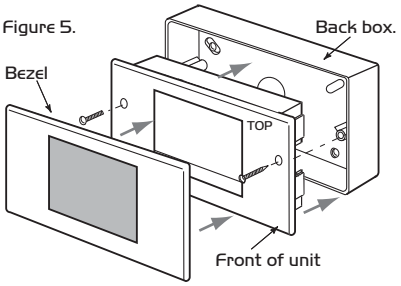


Figure 5.



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3.0 Operation

IMPORTANT

**WARNING: Do not use a sharp object on the touch screen (e.g. the writing point of a pen), this will cause irreparable damage to the surface of the touch screen.
Always use the tip of finger or other rounded object.**

IMPORTANT

Please note: the LCD will go blank after 30 secs of inactivity to save power and to increase service life. Touch any part of the screen to re-activate the LCD. When the LCD control is powered up, the screen will stay blank for approximately 20 secs while the system loads the software.

The ES-LCD operates via a set of menus.

It can control the function of the fan by manual setting or using a set of timed programmes. The control will guide you through the initial set up routine via menus when the unit is initially switched on. Please note these settings could be changed subsequently if needed.

Upon initial power up, the unit will request the following are set up:

- **Day and time; see 3.1**
- **Initial system settings (i.e. to define any heating cooling elements fitted to the Ecosmart fan and to give the system an easily recognisable name); see 3.2.**
- **Any custom timed programs; see 3.3.**

All the menus will operate in the same manner:

Perameters that could be changed have a light background. Press the box to highlight the value that needs to be changed then use the adjustment buttons ('<' and '>') to change the value. Help is available for each perameter; touch the relevant perameter and then press help.

3.1 Day & Time

The above screen is used to set up the current day and time.

Press 'Exit' to save the settings and exit this menu.

Season: the options available are 'GMT' Greenwich Mean Time or 'BST' British summer time (daylight saving time).

Changing from GMT to BST will automatically increase the time by 1 hour and vice-versa.

Time: this is a 24hr clock adjustable to the nearest minute. The range is 00:00 (midnight) to 23:59.
Tip: if you keep your finger on the < or > button it will speed up the change.

Day: day of the week; options are Monday to Sunday inclusive.

3.2 Initial System Setting

This screen allows a meaningful name to be assigned to the control so that the system it controls can be easily identified. Up to 20 characters (including spaces) could be assigned. To make any changes; use the cursor control buttons to move the cursor, then either 'Delete' the character or replace it with another character.

Press 'Save' to save the name.

Press 'Exit' to exit this screen and enter into the second part of this menu.

Press the appropriate box to toggle between 'Yes' and 'No'; e.g. if LPHW heating is fitted in the fan; change the LPHW heating setting to 'Yes' by pressing the box adjacent to LPHW heating.

Press 'Exit' to exit this menu.

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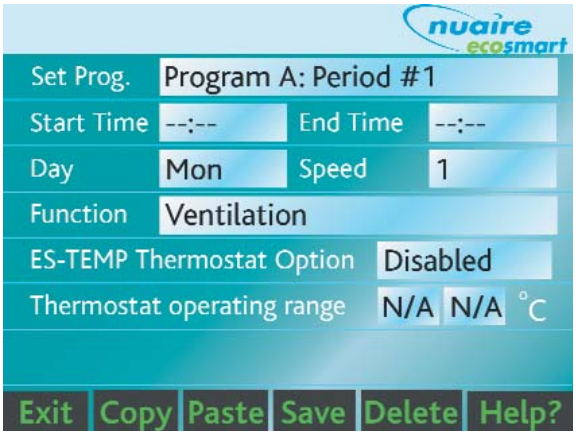
3.3 Timed Programmes

There are two custom programmes available (custom program A & custom program B) for each control.
If it is more energy efficient, use one program for summer operation and the other for winter operation to prevent unnecessary heating or cooling.

Within each program; up to 32 timed periods can be set up. Please note that each timed period must not span more than one day; e.g. start on Monday and stopping on Tuesday is not allowed.

Please note the program only stores the periods when the fan is on. The fan is assumed to be off at all other times that have not been defined.



This is the display screen of a default blank program. Note that a valid start and end time is not present. Any program period with ÷ in either start or end time will be ignored.

Set Prog: The top line is showing the program and timed period being edited; in this case Program A and timed period 1. Highlight this and use the '<' & '>' adjustment keys to move to other program/periods.

Start time: valid start time must be in the range 00:00 to 23:59.

End time: valid end time must be in the range 00:00 to 23:59 and must be greater than start time.

Day: define the day(s) associated with this period; options are Mon to Sun, weekdays (Mon to Fri inclusive) weekends (Sat & Sun) or ALL (i.e. everyday).

Speed: define the fan speed associated with this period; options are 1 to 10 inclusive, manual, auto or trickle. If 'auto' speed is selected, the fan will use an Ecosmart sensor to govern its speed which in some cases will result in the fan being switched off. Please refer to appropriate installation guide for the sensor. If 'trickle' is selected, the fan will be locked in lowest speed until another Ecosmart enabler is activated; e.g. ES-PIR.

When this happens, the fan will run at the maximum speed. 'Manual' will use the last speed setting as starting point.

Function: this selects the operating function of the unit. The default is ventilation only unless an appropriate heating and/or cooling option is selected in the initial system set up (see 3.2).

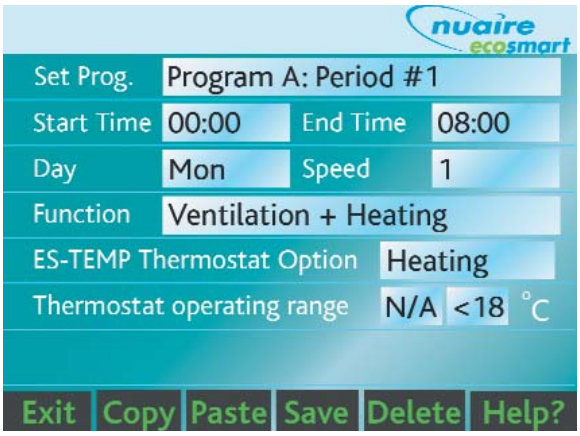
ES-TEMP Thermostat Option: Normally the ES-TEMP is used as a fan speed control, but not this option.

Here the temperature measurement of the ES-TEMP is used by the LCD to decide whether to bring on the ventilation, heating or cooling depending on the temperature measured at the ES-TEMP location. The measurement range is limited to the set-point of the ES-TEMP plus/minus 10 degrees; e.g. a set-point of 22°C will give a measurement range of 12°C to 32°C. Therefore we recommend the target temperature of the ES-TEMP is set to 20-25°C for most applications.
Only one ES-TEMP should be fitted if it is used in this way.

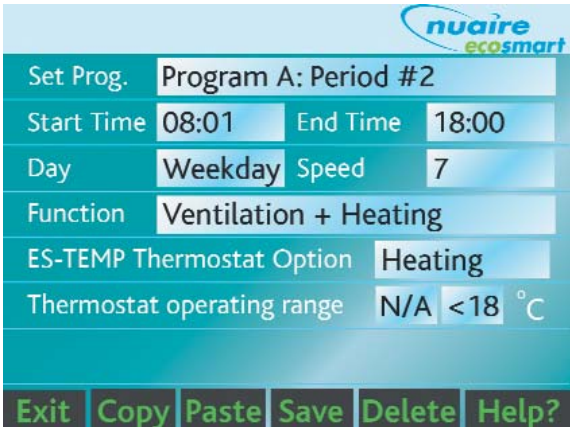
Do not program the fan speed to 'Auto' when using this feature as it could produce an unexpected result.

The available options are none, ventilation, heating, cooling, ventilation + heating and ventilation + cooling. This option is disabled if none is selected. For example, if ventilation and heating is selected for a period, the thermostat can be selected to switch on the heating function when the room temperature had fallen before a set point.

Temperature operating range: this sets the upper and/or lower temperature limit of the thermostat option if the option is selected. For example; selecting heating if temperature is below 18°C. **When you are happy with the program period, press 'Save' to confirm the settings before moving on to the next period.**



The example above shows the fan will run at speed 1 between midnight and 8am every Monday. The heating will be selected if the ambient temperature at the ES-TEMP is below 18°C.



The example above shows the fan will run at speed 7 between 8:01am and 6pm every Monday to Friday. The heating will be selected if the ambient temperature at the ES-TEMP is below 18°C. (continued on page 4).

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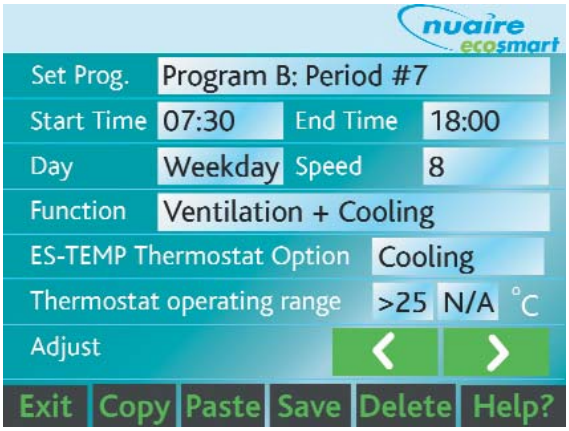
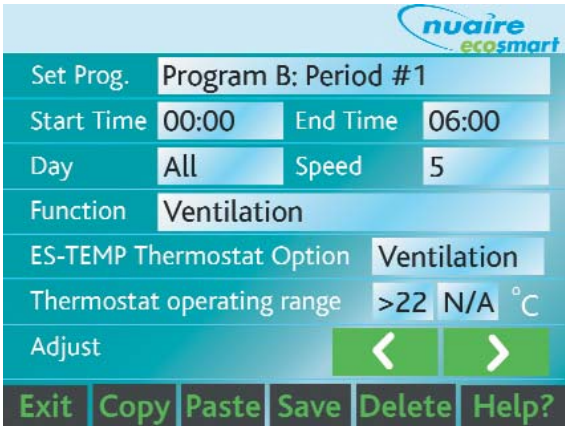
The example below shows the fan will run at speed 8 between 7:30am and 6pm every Monday to Friday inclusive. The cooling will be selected if the temperature at the ES-TEMP is above 25°C.



The example below shows the fan will run at speed 5 between midnight and 6am every day if the temperature at the ES-TEMP is greater than 22°C. Such a program could be used to provide night time free cooling during the summer.



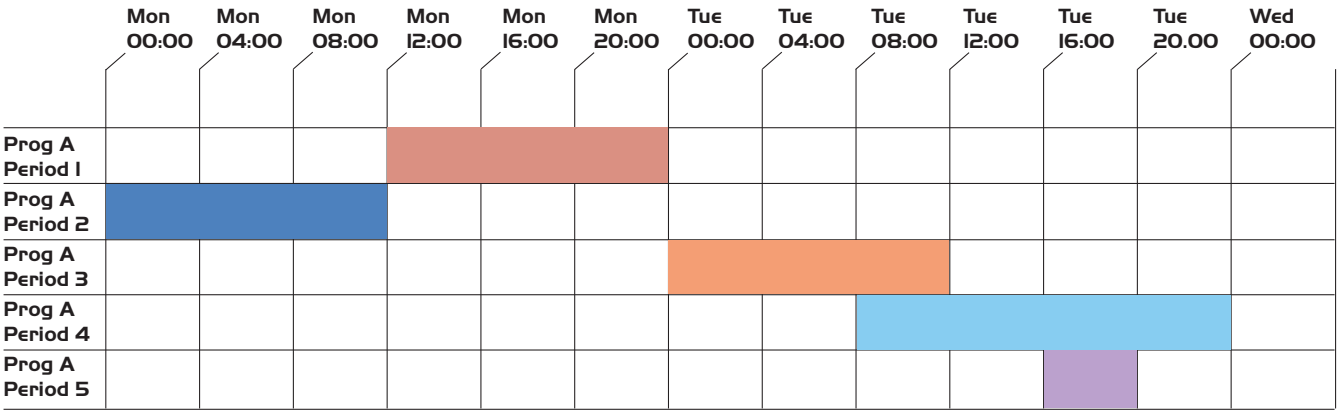
Note that program B is used in this example. It is recommended that functions with opposite effect on operation, e.g. heating and cooling are separated into 2 programs for clarity and ease of programming.

If the thermostat option is set to ventilation and the function includes heating or cooling, by default the heating/cooling will also be controlled by the thermostat.

If a program period is no longer needed, scroll the screen to display this period and press 'Delete' to remove that period from the program.

To copy a program period into another, scroll the screen to display this period then press 'Copy' to copy the data. Scroll screen to the program period to be overwritten and press 'Paste' to paste the data. Edit the program as necessary and press 'Save' to save the new settings.

Press 'Exit' to exit this menu.



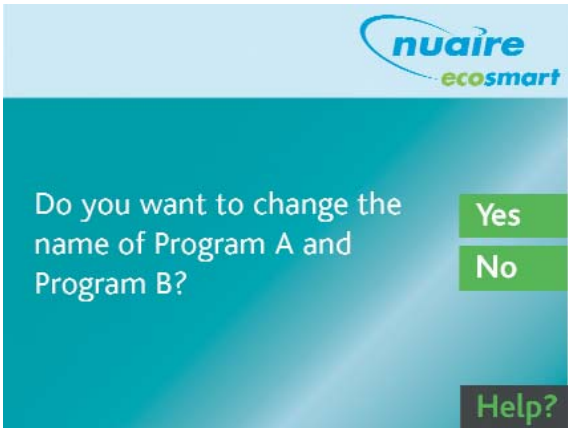
If the programmed periods are overlapping; the following rule will apply. The example shows the starting time for each 4 hour block (for illustration purpose only).

The figure above shows the type of overlapped programming that could occur and is dealt with by using the starting time as controlling factor.

The program will produce the following results:

Period 2 will run from Mon 00:00 to Mon 12:00
Period 1 will run from Mon 12:00 to 00:00
Period 3 will run from Tue 00:00 to Tue 08:00
Period 4 will run from Tue 08:00 to Tue 16:00
Period 5 will run from Tue 16:00 to Tue 20:00
Period 4 will run again from Tue 20:00 to Wed 00:00

(continued on page 5).



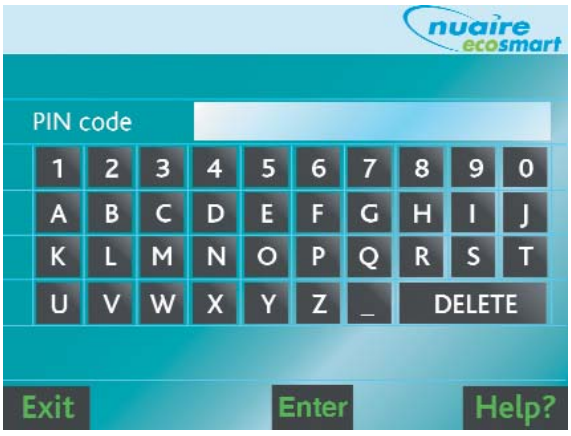
When exiting the programming screen, there is an option to give Program A and Program B a more meaningful name to reflect how the program should be used.

Press 'Yes' if this is required.

Enter the new name for the program; the above screen will pop up twice; firstly for Program A and the second time for Program B.

Press 'Enter' will store the new name and move on to next page. Please note that pressing 'Enter' without actually entering any character will change it back to the default names. **Press 'Exit' would ignore the entry and retain the old name.**

3.4 PIN Protection of Program



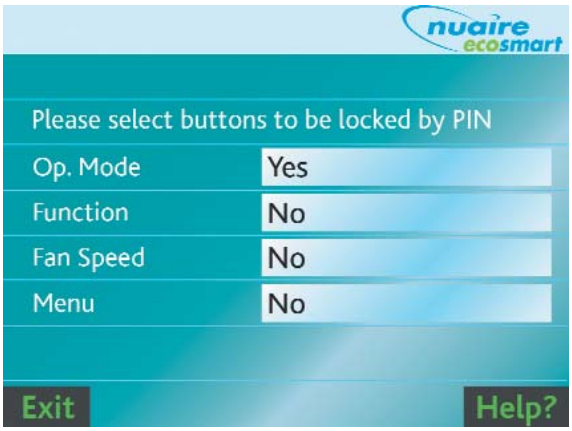
When leaving the programming section, you will be prompted to enter a four character PIN code to prevent unauthorised changes to the program. Just type in any four characters that you can easily remember and press 'Enter' to protect the programs.

When PIN protected; the correct PIN must be entered before any changes can be made to the programs. If this facility is not needed then do not enter any characters; just press 'Enter' to skip this function.

Note: Press 'Exit' will retain the old PIN code.
Press 'Enter' without any characters will disable PIN protection.

It is possible to prevent unauthorised changes to the settings in the Status Screen using the same PIN code (this is the default screen of the control).

Press 'Yes' to lock the Status screen.



The four buttons that change the operation of the control can be individually locked by the PIN code. Press the relevant box to toggle between Yes and NO; yes means the button will be locked by PIN.

Press 'Exit' when you are happy with the settings.

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3.5 Status Screen

This is the default screen showing on the display during normal operation.

The first two items are for information only.

System: shows the name of the control system.

Status: shows the current status of the system.

The options are:

OK – system is fully operational.

Fault – there is a fault in the system; generally means a fan has failed.

Frost – if a LPHW heater is fitted the downstream temperature is 4°C or below. When this occurs; the fan is switched off and the coil's control valve is switched to the fully open position. Select heating mode, check that the boiler and circulating pump is running and that hot water is reaching the coil.

Heater fault – the over-temperature protection of the electric heater battery has tripped.
This must be investigated and manually reset at the fan unit.

Comms error – problem communicating with Ecosmart fan unit.

Op. Mode: this shows the current operating mode.

The options are:

Off – the fan system is switched off manually.

Manual – the fan system is running under manual control.

Default Program – this provides basic ventilation with fan running at speed 5 between 8:00 and 18:00 (i.e. 8am to 6pm). The fan will be off at other times.

Custom Program A – custom program A as set up by the user.

Custom Program B – custom program B as set up by the user.

To select a different operating mode, highlight the item and use the adjustment keys '<' & '>' to change.

Function: this shows the current selected function of the fan system either selected manually or via the program.

The options are:

Off – the fan is switched off.

Ventilation – ventilation only is selected.

Ventilation + heating – both ventilation and heating are selected.

Ventilation + cooling – both ventilation and cooling are selected.

Fan Speed: this shows the current selected fan speed either selected manually or via the program.

The options are:

1 to 10 – speed 1 to 10.

Auto – speed will be dictated by an Ecosmart sensor.

Trickle – locked in minimum speed by the program (this is not selectable manually, see below).

To change the function and/or speed; highlight the item by pressing it once and use the '<' and '>' to change the values.

Please note if the operating mode (Op. Mode) is one of the programs then any changes to function and speed is temporary. The changes will be overridden when the program enters its next programmed period. The only exception will be the speed if the program calls for manual speed setting.

Clean: Press this to enter safe cleaning mode before attempting to clean the control.

Menu: This will bring up the menu to allow access to change day & time etc.

3.6 Menu screen

This screen allows access to the various screen modes mentioned in previous sections.

1. **Set Day/Time:** see 3.1.
2. **Initial System Set Up:** see 3.2.
3. **Set Programme:** see 3.3.
4. **Contact Details:** gives the contact detail for sales and service.
5. **Safe Cleaning mode:** see 3.7

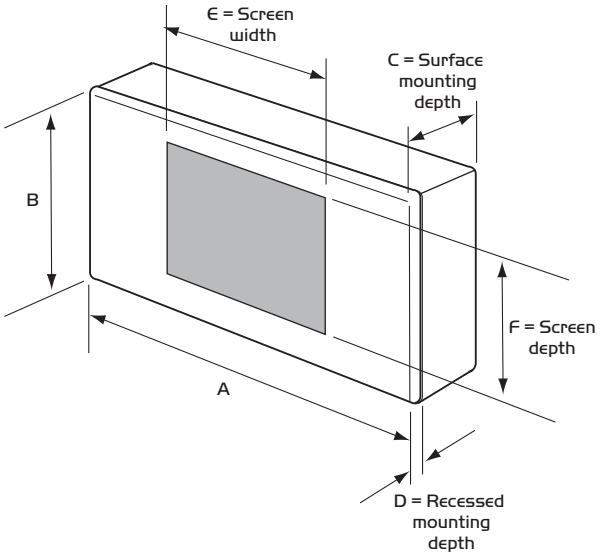
Press 'Exit' to return to Status Screen.

3.7 Safe Cleaning Mode

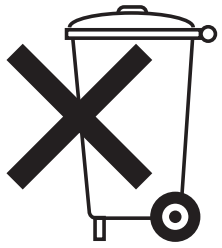
This disables the touchscreen for approximately 2 minutes to allow the control to be wiped clean.
The screen will show the time remaining in this mode.

Please do not spray any cleaning agent directly onto the control. Only use a damp cloth to clean the control.

4.0 Dimensions (mm)



Unit Dimensions	A	B	C	D	E	F
	145	85	35	6	73	57



Note: This unit contains a small lithium battery and must be disposed of by a suitable recycling centre.

Do not dispose of with normal household waste. Do not burn.

5.0 Maintenance

The unit does not require any routine maintenance. However, for optimum performance, it is advisable to remove any accumulated dust with a low power vacuum cleaner.

6.0 Warranty

The 5 year warranty commences on the day of delivery and includes parts and labour for the first year.
The remaining period covers replacement parts only.
The labour content is subject to full, free and safe access to the equipment as recommended by the CDM regulations. The warranty excludes any damage to the LCD touch screen caused by misuse of a sharp object.

This warranty is void if the equipment is modified without authorisation, is incorrectly applied, misused, disassembled, or not installed, commissioned and maintained in accordance with the details contained in this manual and general good practice.

The product warranty applies to the UK mainland and in accordance with Clause 14 of our Conditions of Sale. Customers purchasing from outside of the UK should contact Nuaire International Sales office for further details.

7.0 After Sales Enquiries

For technical assistance or further product information, including spare parts and replacement components, please contact the After Sales Department.

Telephone 02920 858 400

8.0 Compatibility with Ecosmart Fans

The ES-LCD controller is 100% compatible with the Ecosmart fans and air handling units supplied with the controller. However, some fan units delivered prior to spring 2009 may not be capable of supplying the 300mA needed to power the controller and could cause the system to reset and behave erratically. Please check the suitability of the fan unit before upgrading the existing user control to the ES-LCD controller.

To check if the fan is suitable for upgrade, please contact Nuaire with detail of the fan code and the serial number printed on the rating label.