MOUNT PLEASANT

PHOENIX PLACE

HEATING & COOLING USER MANUAL

CILANTRO ENGINEERING UK LTD
7 RIDGMOUNT STREET, FITZROVIA, LONDON WC1E 7AE

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0. INTRODUCTION

THE HEATING AND COOLING ENVIROMENTAL CONTROL SYSTEM IS EQUIPED WITHIN THE APARTMENT TO PROVIDE YOU WITH A COMFORTABLE ENVIROMENT ONCE ADJUSTED AND SET TO YOU DESIRED COMFORT LEVEL. BELOW ARE SYSTEMS INSTALLED TO ACHIEVE THIS:

- ZENNIO CONTROL PANEL AND ROOM THERMOSTATS TO PROVIDE AN EASY SETUP OF THE COMFORT SETTINGS.
- HEAT INTERFACE UNIT (HIU) WHICH ACTS AS A BOILER WITHIN YOUR APARTMENT TO PROVIDE HOT WATER FOR DOMESTIC USE AND HEATING.
- COOLING INTERFACE UNIT (CIU) WHICH PROVIDE COOLING TO THE FAN COIL UNITS FROM THE BUILDING COOLING NETWORK.
- FAN COIL UNT (FCU) WHICH PROVIDE COOLING BY USING CHILLED WATER FROM THE COOLING INTERFACE UNIT.
- UNDERFLOOR HEATING IS ALSO PROVIDED BY THE HEAT INTEFACE UNIT

1. HEATING AND COOLING CONTROL PANEL

Heating and Cooling Controls within the apartment is achieved by the Zennio Z41PRO control panel. This will activate automatically (or manually if required) the system needed to reach the temperature desired.

Figure 1 Control Panel

The HVAC system within the apartment has been commissioned to the required specification provided. FCU (Fan Coil Unit) and UFH (Underfloor heating) are interfaced within one system and can be controlled using the Control Panel which are pre-programmed for your comfort. These Control Panel are located in the entrance lobby within the Apartment.

Each room can also be individually set up by a room thermostat.

Figure 2 Room Thermostat

1.1 HEATING & COOLING CONTROL PANEL

The User interface is organised into pages, each of which can be accessed from the Menu page which is automatically shown after the start-up.

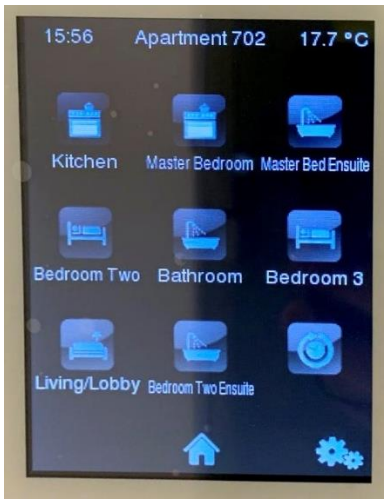

Figure 3 Control Panel main menu

The access to the different pages is provided by a set of icons, one for each area on the apartment. A press on one of these icons will navigate to the configuration page of that particular Area.

Living areas and Bedrooms allow for Mode setting (cool or heat), fan speed selection (only for cooling mode) and temperature setpoint selection. On Bathroom areas, only the temperature setpoint can be adjusted, as these count only with Underfloor heating system.

Figure 4 Control Panel Room menu

It is also possible to see a graph of the room temperature information during the last hours by selecting room temperature icon in the menu.

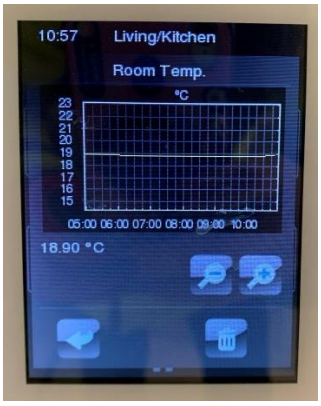

Figure 5 Control Panel Room temperature graph

The last icon in the Main Menu is for the Weekly timer, where we can schedule a programme to switch on and off at specific times during the different days of the week.

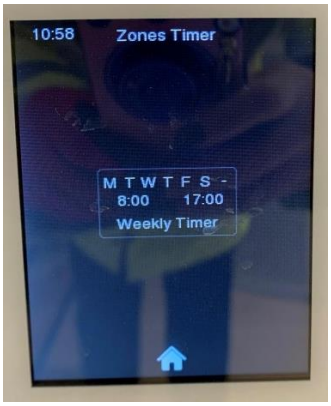

Figure 6 Control Panel Zone Timer

At the bottom of the page it is the Home icon, to return to the Home screen from any other screen, and the Settings button, that lets the user know or adjust certain technical values, as the time & date, device screen, profile settings (to change the contrast or brightness of the screen) and the Device pairing (to pair an android or iOS phone for remote control).

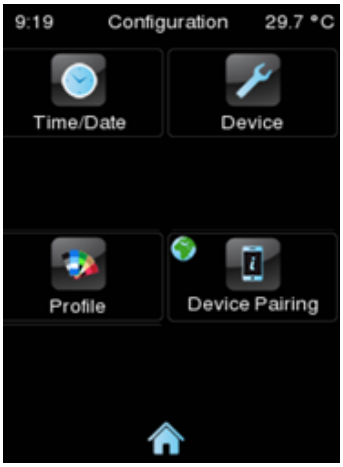

Figure 7 Control Panel Settings menu

Figure 8 Control Panel Individual settings menus

Model: ZENNIO Z41PRO **Location: Entrance Corridor**

Figure 9 Zennio Z41Pro Control Panel

The device can also be controlled remotely through the Z41 Remote app available on iOS and Android devices. For more information please refer to Zennio Z41 Remote Documentation.

Z41 Remote

Figure 10 Zennio Z41 Remote App

1.2 ROOM THERMOSTATS

The room thermostat located in the different apartment rooms is a multifunction capacitive touch switch with an analogue display with proximity sensor, luminosity sensor and backlighted buttons and display.

There are 5 capacitive buttons within the room stat.

- There are two mode of environment to select from, Cool or Heat, by selecting one of these the room where the stat is located will enter in that mode.
- The next two buttons allow to select the desired temperature (temperature setpoint), the room stat will automatically bring heating or cooling until the desired temperature is achieved, entering then in standby mode until the temperature drops or exceed the desired temperature when it will activate again the heating or cooling.
- The last button allows to select a different fan speed for the Cooling function only. The FCU in the room will blow cool air at the fan speed selected.

Figure 11 Room Thermostat

Model: ZENNIO FD **Location: Apartment Rooms**

Figure 12 Zennio FD Room Thermostat

NOTE: IT IS RECOMMENDED TO SELECT A HEATING AND COOLING SET TO DESIRED SEASONAL TEMPRATURES SO THE SYSTEM CAN MAINTAIN THOSE TEMPRATURES RATHER THAN TURNING THE COOLING OR HEATING DOWN/UP FOR SMALL PERIODS OF TIME, AS IT LESS EFFICIENT FOR SYSTEM TO BRING TEMPRATURES UP/DOWN CONSTANTLY.

2. Heating, Cooling Units and Maintenance

2.1 HEATING SYSTEM

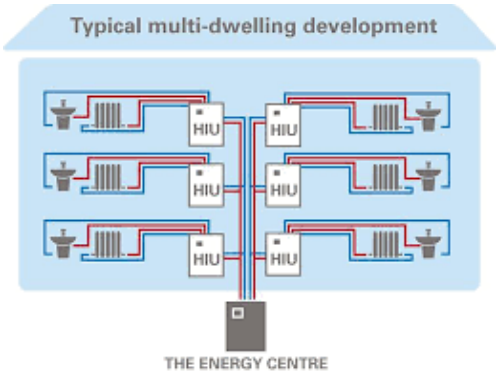

Figure 13 District Heating Schematic

Heating in Mount Pleasant is achieved through a District Heating Installation. The Boilers are located in the Basement of the Building and supply Heating flow and return to the different apartments.

Within each apartment, Cilantro has installed a Heat Interface Unit (HIU) that will interchange heat with that Primary system and provide this heat to the Heating and Hot Water within the Apartment.

The apartments are equipped with Underfloor heating, making the floor surface into a big radiator in essence. Underfloor heating is more energy efficient and capable of maintaining the temperature more efficiently than conventional systems.

The Cooling and Heating within the Apartment is done through a Control Panel located within the Living areas.

Model: EVINOX ModuSat XR **Location: Utility Cupboard**

Figure 14 HIU Unit

HIUS PROVIDE HEATING, AND DOMESTIC HOT WATER, TO INDIVIDUAL PROPERTIES WITHIN A MULTI DWELLING DEVELOPMENT (SUCH AS A BLOCK OF FLATS OR APARTMENTS, OR A LARGER DISTRICT HEATING SCHEME) SERVED BY CENTRALISED HEATING PLANT. HEAT INTERFACE UNITS ALLOW CONNECTION TO A CENTRALISED HEAT NETWORK WHILST STILL GIVING INDIVIDUAL OCCUPANTS CONTROL OVER THE TEMPERATURE IN THEIR PROPERTY AND ALLOWS INDIVIDUAL METERING AND BILLING.

Note: There are no particular operating instructions for the HIU, this is managed through the Control Unit and thermostats.

2.2 COOLING SYSTEM

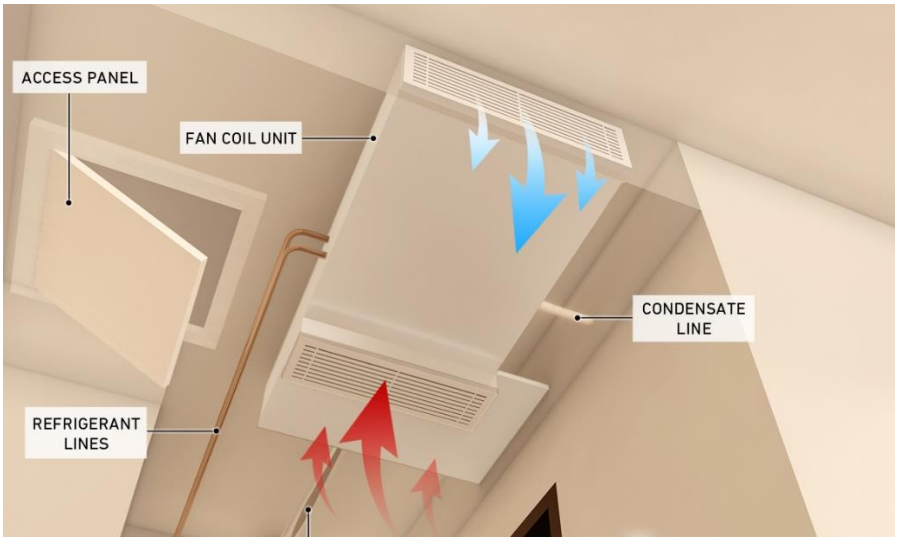

Figure 15 Cooling Schematic

The Cooling System in Mount Pleasant works similarly to the Heating system. The Chillers are located within the building Roof with the distribution within the Basement Plantroom, Chilled water flow and return pipework goes from this plantroom to each Apartment.

Within each apartment, Cilantro has installed a Cooling Interface Unit (CIU) that will interchange cooling with that Primary system and provide this cooling to the Fan Coil Units within the Apartment.

The Fan Coil Units (FCU) will blow air through an internal radiator to reduce the temperature in the ambient.

The Cooling and Heating within the Apartment is done through a Control Panel located within the Living areas.

Note: There are no particular operating instructions for the FCUs or CIU, these are managed through the Control Unit and thermostats.

Note: Cooling system in Mount Pleasant is Comfort Cooling, not Air Conditioning. Avoiding the disadvantages of really low temperatures associated with Air Conditioning Units.

Model: EVINOX ModuSat SPC **Location: Utility Cupboard**

Figure 16 CIU Unit

MODEL: CAICE H235 **LOCATION: CEILING VOID**

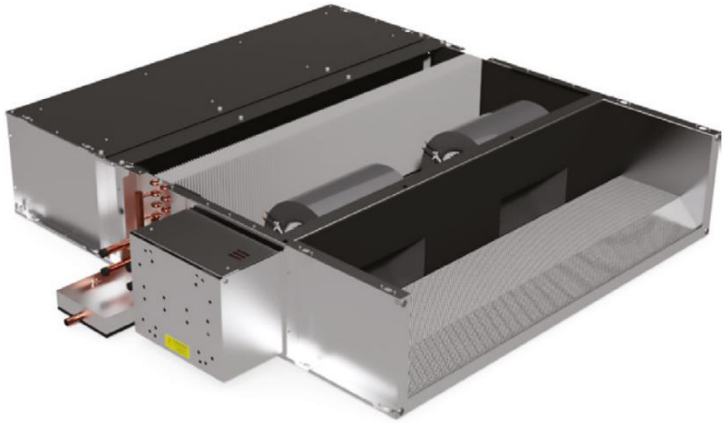

Figure 17 FCU Unit

A FAN COIL UNIT (FCU) IS A SIMPLE DEVICE CONSISTING OF A HEATING AND/OR COOLING HEAT EXCHANGER OR 'COIL' AND FAN. IT IS PART OF AN HVAC SYSTEM FOUND IN RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL BUILDINGS. A FAN COIL UNIT IS A DIVERSE DEVICE SOMETIMES USING DUCTWORK AND IS USED TO CONTROL THE TEMPERATURE IN THE SPACE WHERE IT IS INSTALLED OR SERVE MULTIPLE SPACES. IT IS CONTROLLED EITHER BY A MANUAL ON/OFF SWITCH OR BY A THERMOSTAT, WHICH CONTROLS THE THROUGHPUT OF WATER TO THE HEAT EXCHANGER USING A CONTROL VALVE AND/OR THE FAN SPEED.

2.3 MAINTENANCE

2.3.1 FCU Maintenance

Your new Caice fan coils will operate for many years affording a comfortable, controlled working environment. This sheet provides useful installation guidelines, a trouble shooting table and a list of routine maintenance procedures.

Note: All the Maintenance procedures must be carried out by a competent technician and following correct statutory and manufacturers indications.

Service and Routine Maintenance	
Every 3 Months	• Clean filters
Every 6 months	• Clean filters • Brush or vacuum coil surface & compressed air through the coil fins. • Wipe out condensate tray and chemically clean if required • Vacuum (or soft dry brush) fan and motor sets if required.
Every 12 months	• Clean or replace filters • Brush or vacuum coil surface & compressed air through the coil fins. • Wipe out condensate tray and chemically clean if required • Vacuum (or soft dry brush) fan and motor sets if required. • Visually inspect for any failures or failing components

	Frequency			
Maintenance item	Monthly	Every 3 months	Every 6 months	Every 12 months
Filters		✓		
Heat exchange coil			✓	
Condensate drip trays and drains			✓	
Fans			✓	
Internal and External surfaces				✓
Controls / PCB / Fuses				✓

ROBLEMS AND POSSIBLE CAUSES	
Air Volumes are lower than expected or the noise level is higher than expected	• The filter may be dirty • If VCD's are fitted, have they been left closed? • Are the flexible ducts installed correctly there should be no tight bends, no restrictions and no excess material in the lengths of duct?
Condensate does not drain or the unit leaks	• The air filter may be dirty — Dirty filters impede condensate flow • Is the fan coil installed out of level?
Controls do not work	• Have the commissioning valve caps or pegs been removed? • Has the set point temperature been reset correctly after commissioning? • The sensor may be "fooled" by an external temperature influence • Have the controls not yet finished their start-up diagnostics routine?
Unit becomes noisier over time	• The filter may be dirty

2.3.2 Filter and Routine Maintenance

Before attempting to perform any maintenance work whatsoever on the equipment, it is essential that the equipment is disconnected and completely isolated from the mains power supply.

After disconnection of the mains power supply, a minimum of 1 minute should be allowed for any rotating parts to come to rest before access panels are removed. However, care should still be taken as it is possible for airflow generated in other parts of the system to cause the fan impellor to rotate (windmill effect) even when power is not present.

Access panels are not fitted with restraints.

Appropriate PPE should be worn and correct tools should be used when undertaking these various maintenance tasks.

Access panels that are removed for maintenance operations should be placed at floor level in a safe location until they are ready to be re-fitted. Replace access panels at the same locations and in the same orientation as found, and ensure that the screw fixings are fastened securely, but not over-tightened.

If failure of the equipment occurs or is suspected, then it should be taken out of service until the appropriate maintenance or repair can be undertaken.

• Locate the FCU Access Panel in the ceiling.

• Locate the Filter at the back of the unit.

• Gently apply force in the direction you want slide the filter out on (see figure 23). This will ease the filter out of its location slot on the fan coil unit.

• When the filter is clear of the flange on the fan coil unit, the filter can be slide clear of its location slot.

• Carefully remove the filter from the ceiling void for cleaning. Avoid snagging the filter media on suspended ceiling wires for example. Also avoid twisting the filter to clear obstacles. This may deform the filter and make it more difficult to refit.

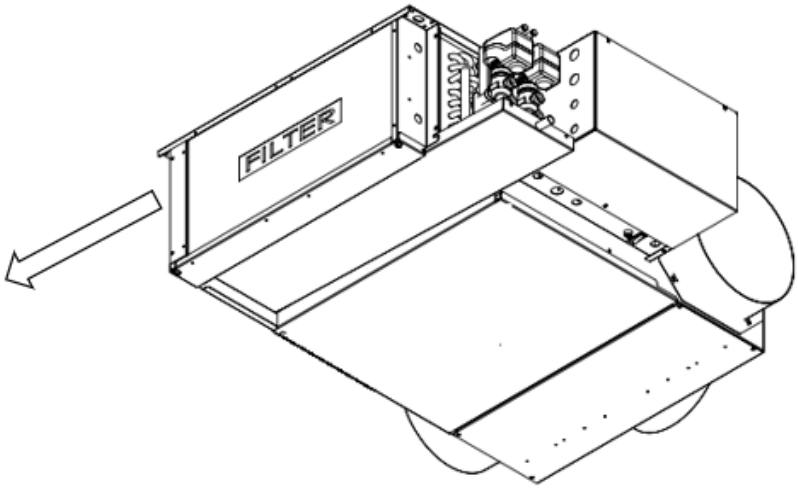

Figure 18 FCU Filter removal

• Clean the filter using a vacuum cleaner. The filter can also be cleaned using warm water and a mild detergent, if required.

• Installation of the filter is the reverse of removal.

• Check the filter is correctly located. If the filter is damaged or too dirty to clean satisfactorily, it must be replaced. Contact Ability Projects for any replacement parts.

2.5.3 HIU MAINTENANCE

The HIU is free from any maintenance different to the minimum statutory or legal maintenance in Heating systems. There is a Viewsmart panel located at the front of the HIU where consumptions and energy information can be accessed.

Figure 19 Viewsmart panel

A pressure gauge within the unit is visible for troubleshooting if the pressure drops below the normal working pressure (red indicator handle).

Figure 20 HIU pressure gauge view

The system is designed for remote monitoring and fault diagnosis through the SmartTalk system allowing for remote investigation of reported problems and often resolved also remotely.

WORKS WITHIN THE HIU TO BE CARRIED OUT BY QUALIFIED AND COMPOTENT PERSON RECOMMENDED.

2.5.4 CIU MAINTENANCE

The CIU is free from any maintenance different to the minimum statutory or legal maintenance in Heating systems. There is also a Viewsmart panel located at the front of the CIU where consumptions and energy information can be accessed.

The system is designed for remote monitoring and fault diagnosis through the SmartTalk system allowing for remote investigation of reported problems and often resolved also remotely.

WORKS WITHIN THE HIU TO BE CARRIED OUT BY QUALIFIED AND COMPOTENT PERSON RECOMMENDED.

2.5.5 CONTROL PANEL MAINTAINANCE

Zennio Control panel and room thermostat are maintenance free. In case of malfunction of the device, a unit reset (Within Settings > Device > Reset) may be needed. If the problem persists, a power cut from the consumer unit (locate and turn down the fuse for the Heating & Cooling system for a couple of minutes) may be needed by the system to work normally.

NOTE: AFTER A POWER LOSS OR POWER CUT FRO THE CONSUMER UNIT, SOME VALUES AS THE DATE/TIME OR ANY SCHEDULES MAY NEED TO BE UPDATED.

ANY OTHER WORKS TO BE CARRIED OUT BY QUALIFIED AND COMPETENT PERSON RECOMMENDED.

3 Manufacturer Contact Details

3.1 Heating and Cooling Control Panel

Manufacturer: Zennio
Model: Z41 Pro

https://www.zennio.com/products

Mail: info@zennio.com

Tel: +34 925 232 002

3.2 Room Thermostat Panel

Manufacturer: Zennio
Model: FD

https://www.zennio.com/products

Mail: info@zennio.com

Tel: +34 925 232 002

3.3 Heat Interface Unit

Manufacturer: EVINOX
Model: ModuSat XR

https://www.evinoxenergy.co.uk/

Mail: billing@evinoxresidential.co.uk

Tel: 01372 722277

3.4 Cooling Interface Unit

Manufacturer: EVINOX
Model: ModuSat SPC

https://www.evinoxenergy.co.uk/

Mail: billing@evinoxresidential.co.uk

Tel: 01372 722277

3.5 Fan Coil Unit

Manufacturer: CAICE
Model: H235

https://www.caice.co.uk/

Mail: enquiries@caice.co.uk

Tel: 0118 918 6470