

Features In-built
PaySmart®
Prepayment
System



ModuSat®
Heat Interface Unit System

For Communal & District Heating

The **Hub** of the System.

ModuSat® Range

The Evinox ModuSat® satellite heating system has been designed to provide apartments and communal housing developments with independent fast recovery hot water and high efficiency heating.

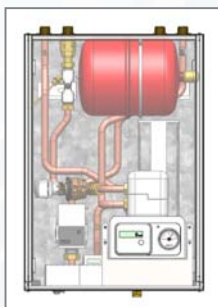
With a large range of models available, the system suits a variety of applications such as:

- Small Apartments
- Communal housing developments
- Large luxury apartments
- Sheltered accommodation
- Student accommodation

Drawing energy from the main primary circuit delivered from a centralised plant room, the ModuSat® meets with latest legislation encouraging the use of centralised energy rather than individual heating and hot water systems in each dwelling.

The design of the ModuSat® provides the end user with the same control as if they had their own boiler and tank. This includes a meter for billing of energy usage and cold water consumption, where required, for each apartment or house, and also offers models for both heating and cooling.

Single Plate HIU
(Including Direct Heating & Dual Circuit Models)



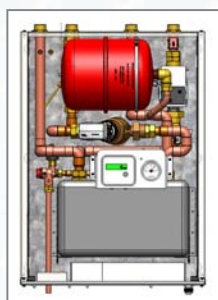
Twin Plate HIU



Floor Standing Unit with Integrated Hot Water Storage Tank



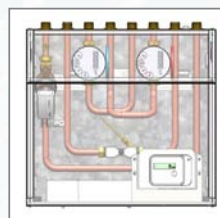
ModuSat®
A Versatile Range



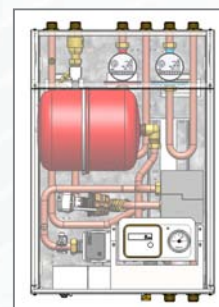
Single Plate Cooling



Combined Heating and Cooling Units



Metering Stations
(with & without Heating Plate)



More than Just an HIU - The Hub of the System



End User Control
ViewSmart Room Controller.

Meters
Integrated Ultrasonic Heat Meter - MID Certified, Accuracy Class 2 (BS EN 1434).

Unit also capable of reading the following MOD-Bus meters:

- Cold water
- Chilled water
- Electricity

Intelligent Control board works with TCP/IP (Transmission Control Protocol/Internet Protocol). Features include:-

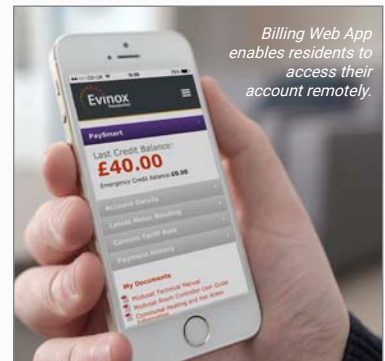
- Control of up to two heating circuits.
- Ability to link to room controller on internal BUS for interrogation and remote control.
- ENE3 Compliance for Code for Sustainable Homes.
- Weather compensation.
- Operates PaySmart® prepayment system.

Flexible Metering & Billing Solutions Including -

- Credit billing
- PaySmart® prepayment debt-free energy billing
- Residents' website with online payment facility & customer login area

SmartTalk® two-way data communication.
Provides remote control and surveillance.

Fast Hot Water -
Unit takes around 15 seconds to reach 55°C from the tap opening, providing an impressive dynamic response.



Data Sent Via
Broadband to Evinox
Secure Server

Additional Features & Benefits

- Simple to install due to factory assembled pipe work, internal wiring and integrated heat meter.
- System integrates readily with renewable energy sources.
- No flue or gas requirement in each dwelling and no annual gas appliance inspections required.
- Central plant dramatically reduces kW load for the building compared to individual boilers.
- Pressure Independent Control Valves (PICV) - Improved differential pressure control.
- Wilo Low Energy PWM Pump - Compliant with 2015 Pump Efficiency Regulations.
- External filling loop – Secondary heating circuit can be easily re-pressurised.
- Easy access for servicing and minimal maintenance requirements.
- Available to operate with a wireless RS485 module, which can provide connection remotely without the requirement of a Bus network.
- Storage unit includes in-built unvented kit to simplify installation and reduce required cupboard space.
- Optional 2 zone heating control.
- Chilled water meter kit.
- Can provide direct supply to, and control of underfloor heating without the need for any additional external underfloor pumps, blending valves or mixing valves (single circuit only).

Technology

Control Board

The ModuSat® control board is the heart of the unit and works with TCP/IP (Transmission Control Protocol/Internet Protocol), providing the intelligent operation of the unit plus a number of other features including:-

- Control of up to two heating circuits.
- Ability to Link to room controller on internal BUS for interrogation and remote control
- ENE3 Compliance
- Weather compensation
- Operates PaySmart® pre-payment system

A key benefit is that any additional software installation and firmware configuration can be performed by remote access over the internet, which therefore removes the requirement for an engineer to attend the property to perform this task. When using an Ethernet network our TCP/IP control board enables additional real time data modelling. For example this may include system diversity modelling and energy usage modelling.

For the PaySmart® system operation, the control board stores data concerning the amount of credit and adjusts this according to usage until such time as the credit runs out (normally after an amount of emergency credit has been exhausted). At this point it will set the unit to an agreed default position giving either a reduced level of heat and hot water or complete shut off.

Energy Meters

The ModuSat® ultrasonic meter has been designed for use in both heating and cooling residential metering applications, and is MID certified, with accuracy Class 2 (BS EN 1434).

The meters employ the latest technology to guarantee high quality and outstanding long-term measurement stability. The sensor body is constructed from brass and has no moving parts, making it virtually maintenance-free.

The meters feature high quality paired PT1000 temperature probes to ensure performance according to the EN 1434 standard, and can operate with water temperatures up to a max of 95°C and nominal pressure of 16 bar.



The ModuSat® heat interface unit is best supplied complete with our ViewSmart Room Controller to enable full system functionality.

ViewSmart Room Controller

Simple to use controller with back lit display

- Reads room temperature
- 7 day programmer allows resident to set temperature set points
- Includes Antifreeze temperature setting
- Can be upgraded to provide ENE3 compliant display
- 2-Zone Control for Part L1 2010 Building Regulations
- Holiday settings feature
- Summer and Winter Operation programming for use with heating and cooling systems
- Programming of heating and hot water, with comfort, night and antifreeze modes
- Ability to read the heat, water, cooling and electricity meters where fitted
- Fault display
- Ability to view remaining credit and heating cost (where PaySmart® is used)
- Low pressure alarm for heating circuit
- Night set back facility

ENE3 Energy Display Device

As part of the Code for Sustainable Homes, credits are available when an ENE3 compliant energy display device is installed in the home.

The ViewSmart Room Controller features an ENE3 compliant model, which is capable of displaying all of the information required to gain up to 2 credits.



SmartTalk® - Two-way Communication

SmartTalk® Provides a Number of Important Benefits:-

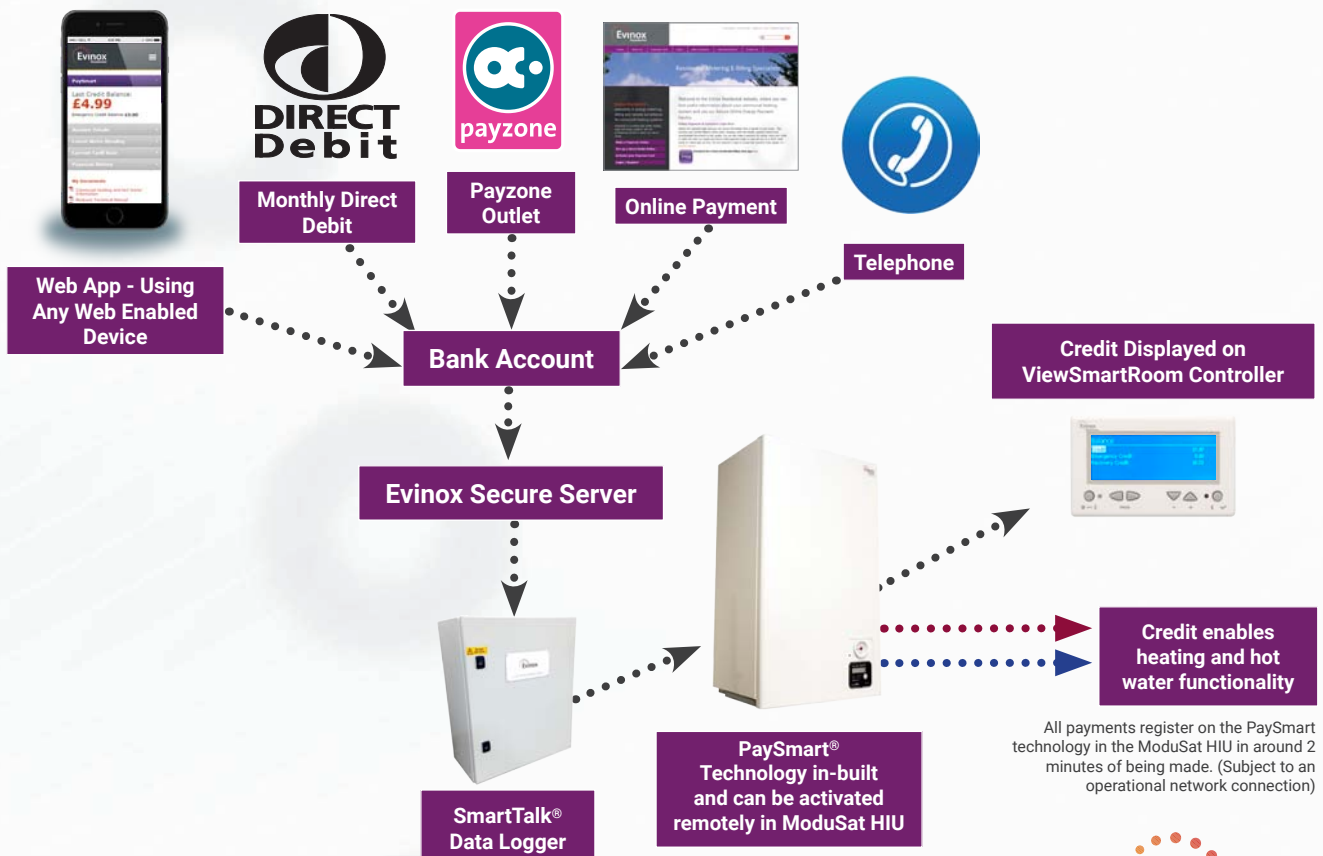
- The system in each apartment can be fully controlled remotely, including timings and settings, and provides remote diagnostic capability and client support.
- Empty apartments can be monitored and controlled without the need to visit site for example un-sold or un-let properties can be left on frost protection and if the unit is sold or let or simply has a viewing then the heating can be turned on from the management office.
- Fault alarms can be checked by testing the operation of components.
- Avoids unnecessary call-outs as a result of user error.
- Provides data logging of apartment temperatures.



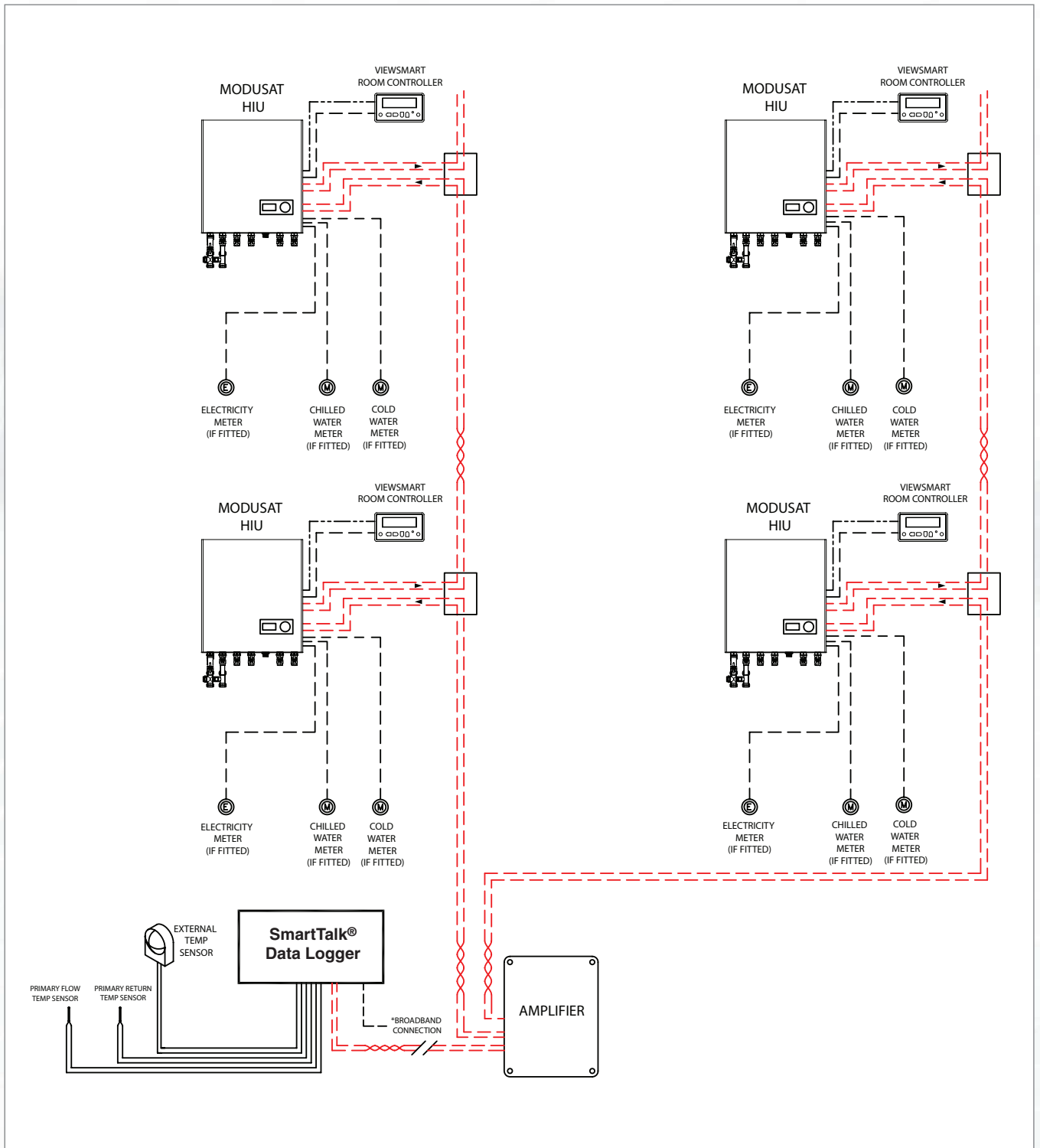
PaySmart® Pre-Payment

The Evinox PaySmart® solution puts residents in control of their own energy bills by allowing them to pay for energy as they consume it, removing the burden of building up unpaid bills or debt.

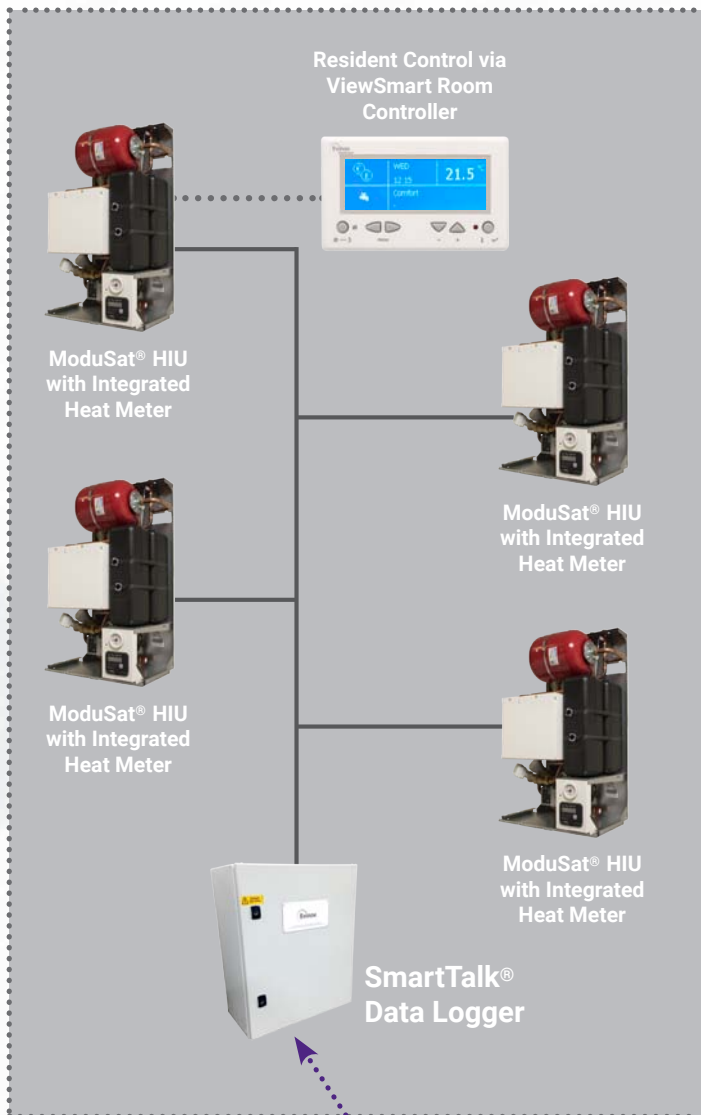
PaySmart® Payment Process



Typical System Wiring Architecture

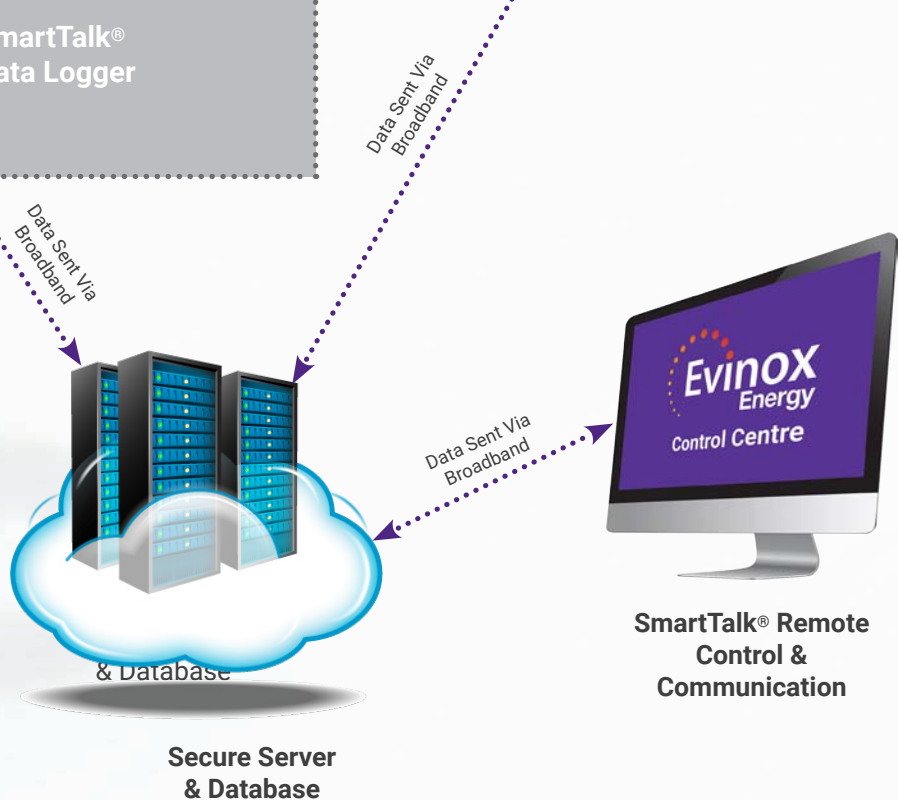
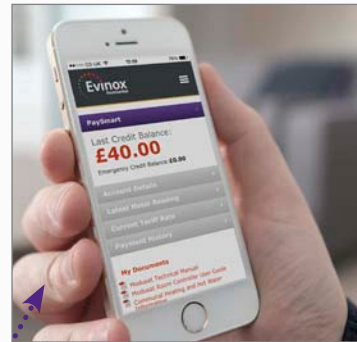


Ultimate Control & Communication



Hard Wired Bus,
Ethernet or Fibre
Optic Network Around
the Scheme

Access to Billing Account
Remotely via any Web
Enabled Device





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