



# smarter features



Optional central control unit available

## How DuoHeat works

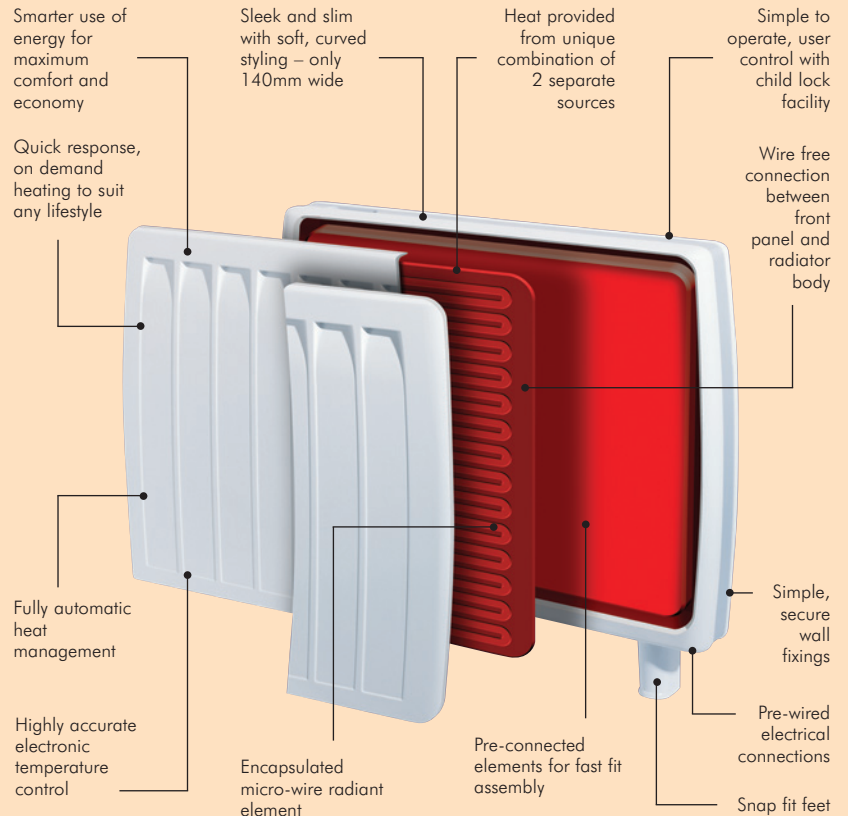
The secret to the DuoHeat radiator is its intelligent use of energy, ensuring plenty of heat is available right through the day, while keeping running costs low.

Uniquely, DuoHeat achieves this by providing heat from 2 separate, fully automatically controlled sources. Energy from low cost electricity tariffs (normally available at night) is retained in the heart of the heater and radiates from the casing throughout the day to provide heat input in to the room. Whenever needed to maintain the room temperature, this is automatically supplemented by a low wattage radiant element fitted in direct contact with the radiator's front panel. To operate effectively and efficiently, both sources must operate together to meet the user's room temperature requirement, set using a single electronic room temperature control. DuoHeat's 'smart' heat management system then automatically adjusts the proportion of heat output provided by each source as needed throughout the day to meet the occupants' selected comfort level.

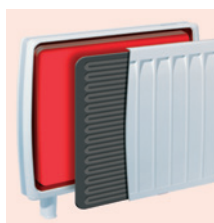
## Economical and Controllable

Using a combination of heat sources in this way has proven to be a more effective and energy-efficient way of heating.

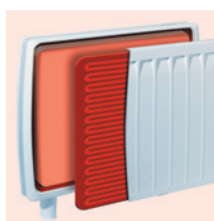
- Reduction of total energy use (kWh) by up to 10%, compared to traditional storage heaters.
- The 10% reduction in energy use is recognised by the Government's SAP 2005 (Standard Assessment Procedure for energy ratings in dwellings).
- Not reliant on 'off peak energy' alone for heating.
- Heat output provided by a combination of off-peak and standard rate electricity sources.
- Stored heat is supplemented by small amounts of direct acting energy, released from the radiant front panel.
- Provides background heat to maintain room temperature, as required by the user throughout the later part of the day.
- Patented 'Smart' heat manager automatically controls output level from each heat source, optimising controllability and economy.
- Simple to use interface, with added features of child safety lock.



Unique twin heat sources for smart optimisation of energy...



constant background heating from low cost energy...



supplemented by unique thin-film radiant element whenever more heat is needed.



One simple finger-tip and child-proof control

# technical specifications

## Construction Details

Durable polyester coated steel front and rear casing mounted on plastic feet (clip on). Insulated heat-retaining core behind inner front skin.

## Internal Details

### 1 Heat retention

High density bonded magnetite energy retention cells.

### 2 Heating elements

Encapsulated microwave element fixed to the inside of the front panel, covering the whole fascia. Two, three or four (depending on model) mineral filled incoloy sheathed units of 0.65kW.

### 3 Thermal insulation

Front and rear panels: microporous silica.  
Top and ends: resin free ceramic fibre.  
Base: calcium silicate slab.

## Controls

### 1 Room temperature controls

Integral user adjustable electronic room thermostat controlling front panel element operation. Set via LED membrane display on top of heater. Child lock facility.

### 2 Input charge control

Electronic room temperature sensing thermostat with external sensor. Limits charge in relation to room temperature during charge period. User selectable setting.

### 3 Thermal safety devices

Automatic reset core limit thermostat and manual reset over temperature cut out. Thermal control device on front panel limits surface temperature to 75°C maximum.

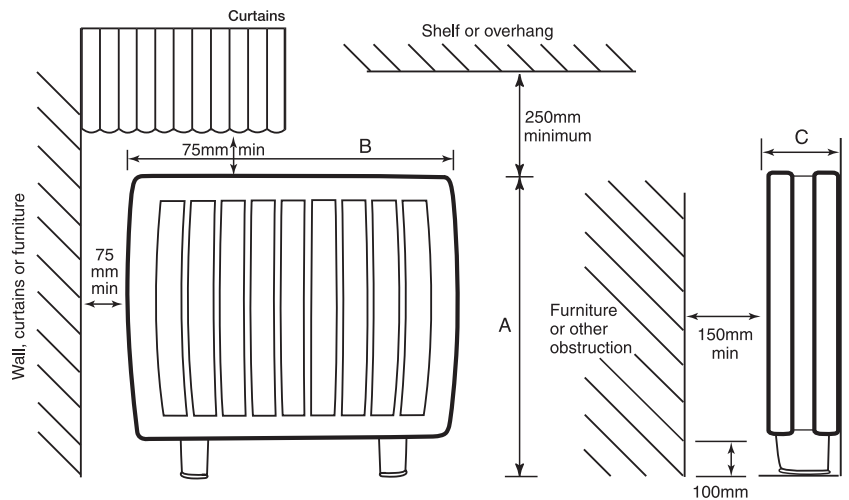
### 4 Central control

Enabled for pilot wire connection as standard. Requires optional receiver for Mains Borne Signalling connection (RX03002). Functions are:

Controller Mode	Heater Function
Comfort	Heater functions at thermostat setting
Background	Temperature controlled at 2°C below thermostat setting
Frost protection	No input charge accepted. Film element maintains frost protection
Off	Heater does not function

See pages 24-26 for central control compatibility details.

## Dimensions and clearances



Model No.	Duo300i	Duo400i	Duo500i
Height A	712mm	712mm	712mm
Width B	600mm	830mm	1060mm
Depth C	130mm+10mm	130mm+10mm	130mm+10mm
Weight (Installed)	65kg	94kg	124kg

Model No.	Duo300i	Duo400i	Duo500i
Nominal Output	0.7kW	1.0kW	1.4kW
Charge Acceptance	9.1kWh	13.65kWh	18.2kWh
Input Rating	18.2kW	1.95kW	2.6kW
Input Rating	0.3kW	0.35kW	0.4kW

## Installation

### 1 Assembly

Removable front panel with wire free low voltage connection to main body.

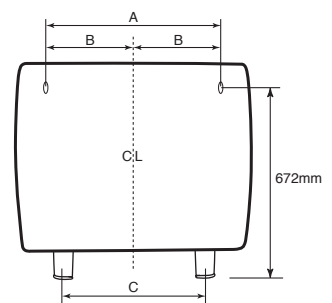
### 2 Supply connection

Off peak supply: Located at front left hand end of base. Pre-wired with 1.6m 3 core, 2.5mm<sup>2</sup> cable. 24 hour supply: Located at front right hand end of base. Pre-wired with 1.6m 4 core, 0.75mm<sup>2</sup> cable (for pilot wire control).

### 3 Feet

Plastic moulded with 'clip on' fixing to base.

## Fixing Dimensions



Model No.	A	B	C
Duo300i	424mm	212mm	295mm
Duo400i	652mm	326mm	523mm
Duo500i	880mm	440mm	751mm