

DUOHEAT RANGE

this product information has been extracted from

theheatingbook



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BUILDING REGULATIONS PART L COMPLIANT



Introducing smarter heating

The revolutionary DuoHeat Radiator re-defines the way we think about electric heating.

Designed to provide warmth throughout the day whenever and wherever it is needed, DuoHeat is a totally flexible solution for individual room or whole house heating that's both innovative and stylish.

But what makes DuoHeat unique is the way it provides the perfect blend of comfort, controllability and economy by making intelligent use of energy available at different times of the day.

To heat smarter, DuoHeat provides a constant low level of background warmth, which prevents the building shell from chilling off. When more heat is needed, DuoHeat is able to respond quickly and efficiently to raise the room temperature to a comfortable level.

This gives the user total control over when and where heat is delivered, guaranteeing plenty of heat is available whenever it is

needed – day or night – and through effective use of energy, ensures that running costs are kept low.

But better comfort and control aren't the only benefits. Attractive, modern styling means DuoHeat will fit in perfectly in any home and its slim-line design means that it's no deeper than a typical "wet" radiator.

As if that's not enough, DuoHeat boasts another unique feature in its simple one-touch electronic control, allowing the user to adjust the comfort level in each room at the touch of a button. Nothing could be simpler.

For the installer, DuoHeat has been designed to be quick and easy to install, with features such as pre-wired electrical connections and fast fit assembly, and because it's electric, you have all the benefits of low installation cost, reliability, flexibility and low maintenance.

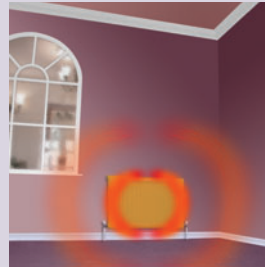
With DuoHeat, electric heating really has got a whole lot smarter!



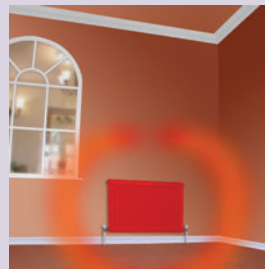
How DuoHeat heats smarter



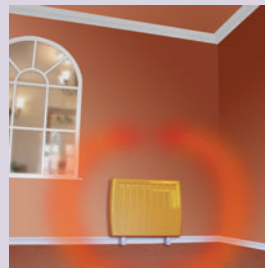
With a conventional 'wet' heating system, when heating goes off, building shell cools....



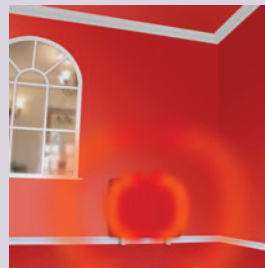
building shell has to be warmed again before room feels comfortable....



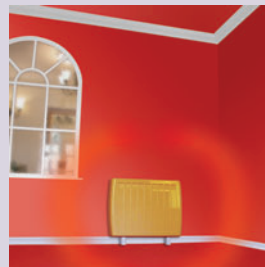
takes time and energy – slow response....



it is smarter to maintain low level background heat....



room temperature can be raised quickly and efficiently when needed....



Responsive. Effective. Smarter!



Smarter features

Smarter use of energy for maximum comfort and economy

Quick response, on demand heating to suit any lifestyle

Heat provided from unique combination of 2 separate sources

Fully automatic heat management

Highly accurate electronic temperature control

Unique thin-film radiant element

Simple to operate, user control with child lock facility

Optional central control unit available

Sleek and slim with soft, curved styling – only 140mm wide

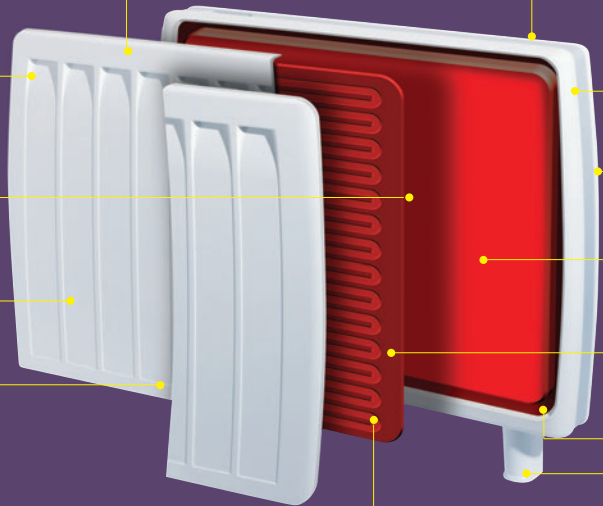
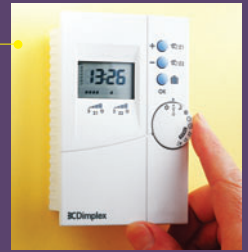
Simple, secure wall fixings

Pre-connected elements for fast fit assembly

Wire free connection between front panel and radiator body

Pre-wired electrical connections

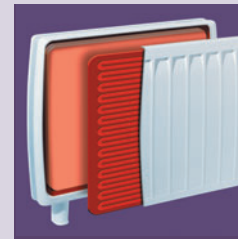
Snap fit feet



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.



A Smarter radiator

The secret of 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 two separate but complementary sources, which work together to deliver responsive, controllable economical heating.

Instant warmth is provided by a low wattage radiant panel incorporated into the front of the radiator, and controlled by a highly accurate electronic thermostat. This uses the latest in thin film element technology, and is able to quickly raise the room temperature to the user's desired level of comfort whenever needed.

Importantly, this controllable radiant heat is used to maximum effect as a supplement to background warmth provided by low cost energy retained within the heart of the heater and

released throughout the day.

But the key to maximum performance and economy is in the fully automatic control over the output from the twin heat sources.

Each radiator continually monitors the temperature of the room and intelligently adjusts the balance of heat output between background and instant radiant heat. This maintains the temperature the user has selected using the radiators digital one-touch control.

In the early part of the day, the majority of the heat demand will be met by low cost energy. Later in the day, the radiant panel operates automatically as needed to maintain the user's set comfort level.



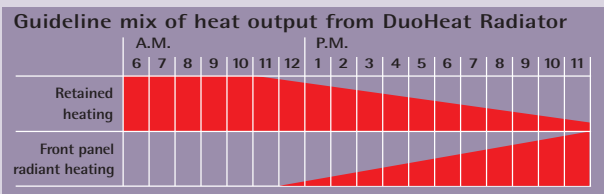
One simple finger-tip and child-proof control

A Smarter radiator

The DuoHeat radiator delivers impressive results when it comes to performance, efficiency and comfort.

Smarter energy use

By combining the use of background and top up heat from two complimentary sources, the DuoHeat Radiator is able to make optimum use of energy at different times of the day. Typically, 75-80% of the total heating demand will be met by low cost energy. However, because the DuoHeat Radiator doesn't rely on low cost energy alone, it can be used in a more effective way. Cost savings made from optimising the amount of energy retained in the heater are used to offset the relatively small amount of energy used by the radiant panel later in the day, resulting in running costs and energy efficiency levels that compare favourably with other types of heating system.



Low cost energy retained in the DuoHeat Radiator is released during the day, meeting the majority of the heating demand in the morning, and provides background warmth to maintain the temperature of the building shell later in the day.

When needed, the radiant panel cycles to supplement the background heat and raise and maintain the room temperature at the required level.

A smarter choice all round

Electric heating has frequently been the smart choice for many reasons. It offers low installation costs, low maintenance, is 100% efficient at the point of use and it's easy to install. Electric heating is clean, safe and reliable too, meaning no annual services are required, and because there's no flue, it allows greater flexibility in the design and layout of the buildings.

SMARTER FOR USERS

- Quick response, on demand heating to suit any lifestyle.
- Smart use of energy and accurate temperature control for maximum comfort and economy.
- Simple to operate and understand user controls, with child lock facility.
- Fully automatic management of output from complimentary heat sources.
- Smart, attractive appearance.
- Slim lime – only 140mm wide.
- Optional central programmer for total system control.



morning afternoon evening

DuoHeat Radiators maintain a base level of temperature in the building shell, allowing a more consistent temperature profile which is quick to respond when more heat is needed.



morning afternoon evening

Controllability of heat output means the DuoHeat Radiator suits the needs of any lifestyle with plenty of warmth available at any time of day, while maintaining economical running costs.

SMARTER FOR INSTALLERS

- Pre-wired electrical connections.
- Simple wall fixings.
- Pre-connected elements for fast fit assembly.
- Snap fit feet.
- Wire free connection between front panel and radiator body.



Electric heating is smarter everywhere

Whether it's new build, a refurbishment project or replacement for an existing heating system, the benefits of the DuoHeat Radiator make it the ideal choice for heating an individual room or an entire home.

Heating throughout the home is simple with DuoHeat and is where the flexibility of electric heating really comes into its own, with DuoHeat Radiators heating the main living areas - living room, dining room, kitchen/diner and hallways/ landings.

For rooms requiring only occasional heating, such as bedrooms and bathrooms, Dimplex slim-line electronic panel heaters are the perfect complement. These provide rapid, totally silent heating and have sensitive electronic controls to maintain the levels of comfort and economy demanded by modern users.



Smarter control



With DuoHeat, it's not only the radiator that's smart – controlling a whole house system just got smarter too!

For ultimate whole house control, multiple DuoHeat Radiators and Dimplex panel heaters can be controlled from an optional wall mounted central control unit, providing fully programmable, energy saving control across 2 separate heating zones.

Each zone can be programmed with a customised heating programme for each day of the week, meaning the entire system can be set to suit the needs of virtually any lifestyle – for perfect comfort conditions – around the clock.

For more information on the Dimplex range of panel heaters and central control options, see pages 15-25



CONSTRUCTION DETAILS

Durable polyester coated steel.

INTERNAL DETAILS

1. Heat retention

High density bonded magnetite energy retention cells.

2. Heating elements

Encapsulated micro element fixed to front panel inner, 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. User controls

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

2. Input charge control

Pre-set hydraulic close differential room temperature sensing thermostat with external sensor. Limits charge in relation to room temperature during charge period.

3. Thermal safety devices

Automatic reset core limit thermostat and manual reset over temperature cut out. Thermostat 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:

Controller Mode	Heater Function
Comfort	Heater functions at thermostat setting
Setback	Film element controlled at pre-set minimum setting
Frost protection	No input charge accepted. Film element maintains frost protection
Off	Heater does not function

INSTALLATION

1. Assembly

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

2. Supply connection

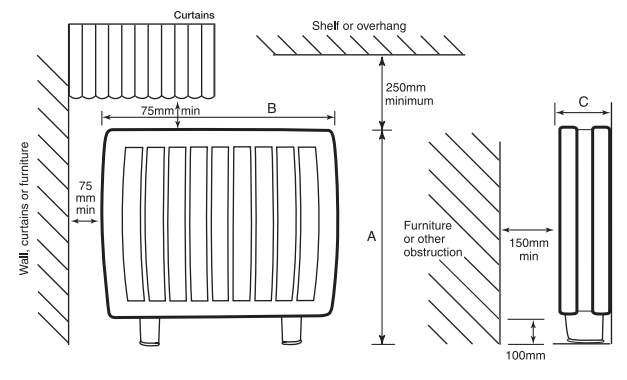
Off peak supply: Located at front left hand end of base. Pre-wired with 1.6m 3 core, 2.5mm² cable

24 hour supply: Located at front right hand end of base. Pre-wired with 1.6m 4 core, 0.75mm² cable (for pilot wire control).

3. Feet

Plastic moulded with snap fit to heater.

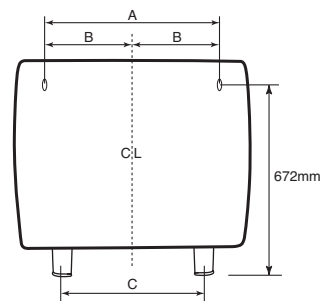
DIMENSIONS AND CLEARANCES



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

Model No.	Nominal Output	Charge Acceptance	Input Rating (Off Peak Supply)	Input Rating (Radiant Element)
Duo300i	0.7kW	9.1kWh	1.3kW	0.3kW
Duo400i	1.0kW	13.65kWh	1.95kW	0.35kW
Duo500i	1.4kW	18.2kWh	2.6kW	0.4kW

FIXING DIMENSIONS



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



Heater sizing table

How to use this selection guide.

The tables below are for use with DuoHeat radiators only – for other products please refer to our selection charts on pg 6. Unlike the charts on page 6, these tables cover all applications – living room, dining room, kitchen and hallway – and are designed to provide for an internal temperature of 21°C.

DuoHeat radiators are designed to provide primary heating in main living areas, including living rooms, dining rooms, kitchen/diners and hallways/landings. This should be supplemented in other rooms, such as bedrooms and bathrooms, with Dimplex electronic panel heaters.

DuoHeat Radiator Sizing – Replacement Systems

For sizing of DuoHeat radiators to replace existing storage heater systems, replace the existing heater with a similarly sized DuoHeat radiator, as indicated below. Due to the consistency of heat output from DuoHeat radiators, this will provide a significant improvement in room comfort levels throughout the course of the day.

Existing Heater	DuoHeat Radiator
XL/XLS12	Duo300i
XL/XLS18	Duo400i
XL/XLS24	Duo500i

When considering the correct replacement for a combination storage heater, the frequency with which the convector component is used should be taken into consideration (i.e. if it is used often, the heater may already be undersized). Therefore

it is recommended that combination storage heaters are replaced with a larger size of DuoHeat radiator, to ensure there is sufficient capacity within the system to match the capability of the convector heater being replaced. In the case of a 2kWh combination storage heater, it is recommended that an additional appliance – either a second DuoHeat radiator, Dimplex panel heater or flame effect fire is added:

Existing Heater	DuoHeat Radiator
CXL/CXLS12	Duo400i
CXL/CXLS18	Duo500i
CXL/CXLS24	2 x Duo400i, or Duo500i + panel heater or Duo500i + flame effect fire

DuoHeat Radiator Sizing – First time installations

The following chart provides guidance on radiator sizing for first time installations in key living areas for existing buildings. Simply select the floor area of your room from the left hand column, and choose the correct number of outside walls from either the cavity or insulated cavity wall columns. These tables do not take into account particularly old properties or those

built very recently. If your property fits into one of these classifications, please complete the form on page 7 so that we can provide a more accurate assessment.

Note: A ceiling height of 2.4m and a minimum of 75mm of roof insulation is assumed.

	Cavity Walls			Insulated Cavity Walls		
	Number of outside walls			Number of outside walls		
	1	2	3	1	2	3
12m ²	Duo500i	Duo500i	Duo400i+400i	Duo400i	Duo400i	Duo500i
16m ²	Duo500i	Duo400i+400i	Duo 400i+500i	Duo400i	Duo500i	Duo400i+300i
20m ²	Duo400i+400i	Duo400i+400i	Duo500i+500i	Duo500i	Duo400i+300i	Duo400i+400i
24m ²	Duo400i+400i	Duo400i+500i	Duo400i+400i+400i	Duo400i+300i	Duo400i+400i	Duo400i+400i
28m ²	Duo400i+500i	Duo500i+500i	Duo400i+400i+500i	Duo400i+300i	Duo400i+400i	Duo500i+400i
32m ²	Duo500i+500i	Duo400i+400i+400i	Duo400i+500i+500i	Duo400i+400i	Duo400i+400i	Duo500i+500i

After Sales Service

After sales service if required is absolutely no problem with Dimplex – we have a network of appointed Service Agents spread throughout the Country who are qualified and trained to repair or service any of our appliances.

Bathrooms

Any electrical appliances installed in a bathroom should be fitted by a competent electrician in accordance with the current I.E.E. Regulations.

Portable heaters are NOT suitable for use in a bathroom.

Unless otherwise specified in this brochure, heaters that can be permanently fixed have to be so mounted that any controls cannot be reached by a person using a bath or shower. This restriction does not apply to Dimplex heated towel rails, which do not have controls.

Safety

Dimplex products are designed to comply with EN60335 the British Standard covering the safety requirements of electric heating appliances, and momentary contact with any part of the heater should not cause injury. However, in order to be effective, heaters or towel rails of any type do get hot especially (if applicable) around the air outlet grille. Therefore if aged or infirm persons, or young children, are likely to be left unsupervised in the vicinity of a heater we advise that precautions should be taken. We recommend that a guard is fitted around the heater, as is normal with many types of heating appliance in similar circumstances, to ensure contact with the heater is avoided and objects cannot be inserted into the product.

(Please see page 36 for details of accessory guards.)

Heating appliances should never be covered or positioned where objects may fall onto them.

Specifications

Dimplex policy is one of continuous improvement; the Company therefore reserves the right to alter specifications without notice. Although every care has been taken in the reproduction of product finishes in this brochure, the colour photographs should be taken only as a guide. The information contained in this brochure is correct at the time of printing. You are advised to consult your Dealer before purchasing.

Plugs

All portable appliances are supplied with a fitted plug.

British Electrotechnical Approvals Board BEAB Approved

The mark of the British Electrotechnical Approvals Board signifies that the appliance bearing it has been produced to the stringent safety requirements for domestic electrical appliances as laid down in EN60335.



CE Mark

Products carrying the CE mark comply with European safety standards and the European Standard for electro-magnetic compatibility.



Installation Guidance

This brochure is designed to assist you with your choice of Dimplex products and it is not intended as an installation guide.

For safety, products should only be installed by a competent person, in accordance with current regulations and the manufacturers instructions. If you require further advice concerning the installation of our products – especially where the installed dimensions may be critical to your choice and the location of the product – please contact our customer service department on 0870 727 0101 or consult your installer.

Please note that the dimensions contained within this brochure do not in all cases include clearances required around installed products for safe operation.

Additional Literature

In addition to this publication we have separate, more detailed brochures on the following products:

- DuoHeat radiator
- Commercial heating
- Under-Tile heating
- Fires and surrounds
- Water Heating

Please ring our brochureline for your copy

Useful Numbers

Tel: Customer Services: 0870 727 0101
Brochure line: 0870 727 0115

Fax: Customer Services: 0870 727 0102
Brochure line: 0870 727 0123

Email: customer.services@glendimplex.com

Websites: www.dimplex.co.uk
www.smarter-heating.co.uk

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Dimplex®

Making life comfortable

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