MAKING MODERN LIVING POSSIBLE

Wireless Heating Control Packs
Catalogue

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Efficient lean production facility

State of the art, temperature controlled auto assembly cell

On-site product testing laboratory used internally and externally for product validation and research

ISO 9001 BUREAU VERITAS Certification

ISO 14001 BUREAU VERITAS Certification

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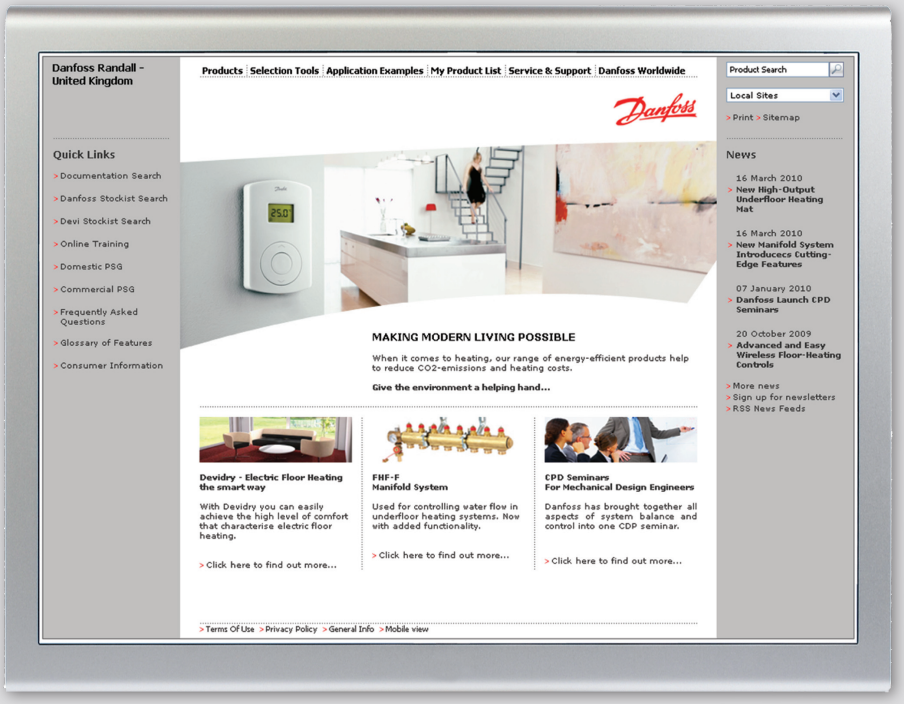

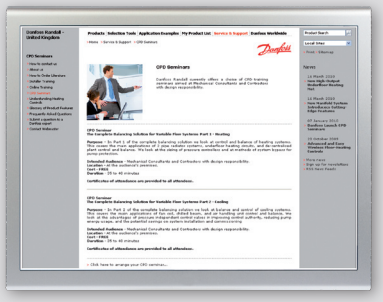

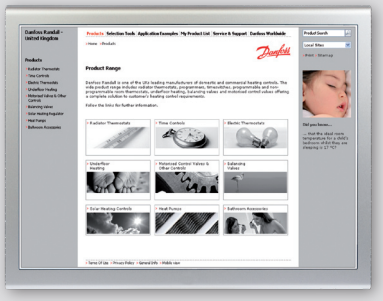

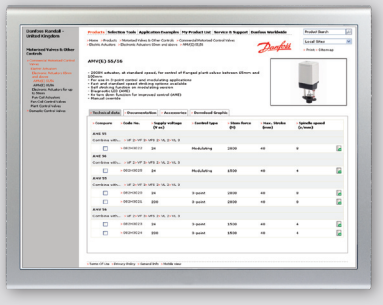

Today's high demand for energy-saving controls, plus the continual introduction of new products, has left many installers searching for answers. Optimum energy-efficiency in buildings increasingly calls for the use of advanced, more-effective controls. Some installers remain unaware of the latest, ground-breaking products that are essential to their continued professional success.

A great starting place for this information is **www.danfoss-randall.co.uk**. After many months of research, dedicated work, structured thought, imagination and unswerving attention to detail an easily navigable on-line encyclopaedia of clear and easily accessible information on controls for domestic, commercial and industrial heating/cooling applications is available. Visitors to the site will also find valuable advice, tips and detailed connection diagrams.

Navigation of the website is extremely quick and easy, and is helped by its cool, uncluttered style. With just a few clicks, product listings, selection tables and illustrations appear on screen instantly. Favourite products can be conveniently saved as a list for future visits.

Datasheets, instructions and user guides may be downloaded in pdf format and printed. Clear wiring connection diagrams for all popular controls are provided.

The 'Understanding Heating Controls' advice section explains controls usage and explodes many of the myths that have grown up surrounding domestic heating controls. This section can be easily downloaded and printed.

Full contact details are given to enable site visitors to obtain Sales Office support, order literature, obtain details of Training Seminars and pose specific controls problems to a Danfoss expert.

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Wireless Controls
Product Selector

Wireless Room Thermostats Including Control Packs With RX Receivers and Motoris			
Contents	**Dial Setting**		
	2 Port Pack	**3 Port Pack**	**Unvented Pack**
2 HP22 2 Port Valves	•		
1 HP11 2 Port Valve			•
1 HS3 Mid Position Valve		•	
1 RET B-RF	•	•	•
1 TP5000Si-RF			
1 TP7000-RF			
1 CET B-RF	•	•	
1 WP75-RF			
1 RX2C Receiver	•	•	
1 RX1 Receiver			•
1 FP715 Si Programmer	•	•	•
1 WC4B Wiring Centre	•	•	•
Order No	087N6500V4	087N6500V3	087N6500V5
Page	20	16	24

Wireless Room Thermostats including Set Solution with RX1 Receivers (Battery Pow		
	Dial-setting	**Digital**
	With LCD	**Manual Return to Day**
	RET B-RF	RT51-RF
Order No	087N727600	087N729900
Page	8	9

Wireless Hot Water Thermostats including Set Solutions with RX1 Receivers (Battery	
	Dial Setting
	With LCD
	CET B-RF
Order No	087N727800
Page	13

Wireless Receivers for use with Wireless Room and Cylinder Thermostats (Mains Pow			
	Single Channel	**Two Channel**	
Contact Details	1 x SPDT	1 x SPDT 1 x SPST	2 x SPDT
	RX1	RX2	RX2C
Order No	084N747600	087N747700	087N747900

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ed Valves				
	Programmable			
	5/2 Day		7 Day	
	2 Port Pack	3 Port Pack	2 Port Pack	3 Port Pack
	•		•	
		•		•
	•	•		
			•	•
	•	•	•	•
	•	•	•	•
	•	•	•	•
	087N742500	087N742400	087N742300	087N742200
	22	18	22	18

vered)			
	Programmable		
	24 Hour	5/2 Day	7 Day
	TP4000-RF	TP5000Si-RF	TP7000-RF
	087N792100	087N791400	087N741800
	10	11	12

y Powered)		
	Programmable	
	5/2 Day	7 Day
	WP75-RF	WP75-RF
	n/a	n/a
	13	13

wered)		
	Three Channel	
	2 x SPST Heat 1 x SPDT	1 x SPDT 2 x SPST
	RX3B	RX3
	087N748400	087N747800

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Battery Powered Room Thermostat with Setting Dial
RET B-RF

The RET B-RF is a micro-processor powered room thermostat with many advanced features. The significant difference between it and many other similar thermostats is that it retains the setting dial that so many consumers are fully accustomed to and which, generally speaking, can be set and adjusted by most people intuitively.

The RET B-RF also incorporates an LCD display which in normal operation displays actual room temperature. However, when the setting dial is moved, the display momentarily changes to show set temperature. The display also incorporates icons to indicate output status and low battery indication.

The RET B-RF utilises secure digital wireless signals to communicate with a receiver unit mounted adjacent to the boiler or in the airing cupboard. This removes the need for any fixed wiring between the thermostat and other controls, reducing installation time and eliminating the risk of damaging decoration and furnishing, particularly important when upgrading existing systems, or at time of boiler change.

Thermostats and receivers sold as sets are matched in the factory using a simple commissioning process, details of which can be found at the rear of this publication.

The RET B-RF is factory set for On/Off control normally used when controlling motorised valves. In systems where the thermostat directly controls the operation of the boiler, it can be set by the installer to chrono-proportional output. In this mode, the micro-processor imposes a defined number of operating cycles per hour on the systems, and within each cycle, determines the on and off time of the boiler dependant upon load. This type of control, which utilises an advanced PI control algorithm, significantly improves comfort and economy compared to regular On/Off control.

The RET B-RF is ideally suited for use in combi boiler systems and in systems where an additional time and temperature control zone is added to an existing heating system. All products are available in convenient boxed sets that include a single channel receiver. If the system is zoned and requires more than one thermostat, purchase thermostats as loose items and select a receiver unit with the appropriate number of channels from the table below.

RET B-RF

RX1

- ***Easy to use***
- ***Utilises secure digital wireless communication***
- ***Ideal solution for system upgrades and combi boilers***
- ***Advanced microprocessor design***
- ***Set solutions include thermostat and receiver***
- ***Can be combined with other Danfoss wireless thermostats***

Thermostat Features	**RET B-RF**	**RET B-LS-RF**
Code No - Without Receiver	087N727000	087N727200
Code No - Set with RX1 Receiver	087N727600	-
Auto/Off Selector Switch		•
Temperature Range	Off, 5 - 30°C	
Setting Dial and LCD Display	•	
Chrono-proportional or On/Off Control	•	
Selectable Fahrenheit or Centigrade Scaling	•	
Transmitter Frequency	433.92 MHz	
Transmitter Range	Typically 30 metres (1)	
Power Supply	2 x AA/LR6/MN 1500 Alkaline Batteries	
Dimensions (mm)	85 Wide x 86 High x 42 Deep	

(1) Please ensure there are no large metal objects between thermostat and receiver, as these will interfere with radio signal.

Receiver Options	**RX1**	**RX2**	**RX2C**	**RX3**
Order Codes	087N747600	087N747700	087N747900	087N747800
Single Zone Receiver	•			
Two Zone Receiver		•	•	
Three Zone Receiver				•
Power Supply (receivers)	230 Vac ±15%, 50/60 Hz			
Contact Details, Commons Linked Internally	1 x SPDT	1 x SPDT 1 x SPST		2 x SPST 1 x SPDT
Contact Details, Independent Commons, Volt Free			2 x SPDT	
Contact Rating	10-230 Vac, 3 (1) A			
Dimensions (mm)	138 Wide x 88 High x 32 Deep			

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Digital Room Thermostat
RT51-RF

RT51-RF

RX3

- ***Easy to use***
- ***Utilises secure digital wireless communication***
- ***Ideal solution for system upgrades***
- ***Large easy to read LCD display***
- ***Set solutions include thermostat and receiver***
- ***Can be combined with other Danfoss wireless thermostats***

Thermostat Features	**RT51-RF**
Code No - Without Receiver	087N699900
Code No - Set with RX1 Receiver	087N729900
Temperature Range	Off, 5 - 30°C
Setting Dial and LCD Display	•
Chrono-proportional or On/Off Control	•
Selectable Fahrenheit or Centigrade Scaling	•
Transmitter Frequency	433.92 MHz
Transmitter Range	Typically 30 metres (1)
Power Supply	2 x AA/LR6/MN 1500 Alkaline Batteries
Dimensions (mm)	85 Wide x 86 High x 42 Deep

(1) Please ensure there are no large metal objects between thermostat and receiver, as these will interfere with radio signal.

Receiver Options	**RX1**	**RX2**	**RX2C**	**RX3**
Order Codes	087N747600	087N747700	087N747900	087N747800
Single Zone Receiver	•			
Two Zone Receiver		•	•	
Three Zone Receiver				•
Power Supply (receivers)	230 Vac ±15%, 50/60 Hz			
Contact Details, Commons Linked Internally	1 x SPDT	1 x SPDT 1 x SPST		2 x SPST 1 x SPDT
Contact Details, Independent Commons, Volt Free			2 x SPDT	
Contact Rating	10-230 Vac, 3 (1) A			
Dimensions (mm)	138 Wide x 88 High x 32 Deep			

The RT51-RF is an easy to use digital thermostat with LCD display.

The unit utilises secure digital wireless signals to communicate with a receiver unit mounted adjacent to the boiler or in the airing cupboard. This removes the need for any fixed wiring between the thermostat and other controls, reducing installation time and eliminating the risk of damaging decoration and furnishing, particularly important when upgrading existing systems, or at time of boiler change. Thermostats and receivers sold as sets are matched in the factory using a simple commissioning process, details of which can be found at the rear of this publication.

The RT51-RF is factory set for On/Off control normally used when controlling motorised valves.

Available in convenient boxed sets that include a single channel receiver. If the system is zoned and requires more than one thermostat, purchase thermostats as loose items and select a receiver unit with the appropriate number of channels from the table.

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Programmable Room Thermostat
TP4000-RF (24 Hour)

Easy to use programmable thermostat providing different temperatures at different times of the day; ideal for Combi boiler installations.

The TP4000-RF programmable room thermostat combines the functions of a timeswitch and room thermostat into an easy to use unit, which provides up to six time and temperature events per day.

This flexibility allows the operation of the heating system to be matched to the lifestyle of the user, providing different temperatures at different times of the day.

The TP4000-RF is a 24-hour room thermostat, where the demand is for the same programme each day. Temporary adjustments can be made to control temperature but the override is cancelled at the beginning of the next event. It also has an easy to use 'frost protection' setting feature.

The TP4000-RF is designed with modern times in mind.

TP4000-RF

RX1

- ***Large, easy to read display***
- ***24 hour programming***
- ***Easy to programme and operate***
- ***Battery powered***
- ***Compact design***
- ***Factory pre-set programmes***
- ***Built-in frost protection***
- ***Chrono-proportional or on/off***

Thermostat Features	**TP4000-RF**
Code No - Without Receiver	087N792000
Code No - Set with RX1 Receiver	087N792100
24 Programming	•
Temperature Range	Off, 5 - 30°C
LCD Display	•
On/Off Control	•
Selectable Fahrenheit or Centigrade Scaling	•
Transmitter Frequency	433.92 MHz
Transmitter Range	Typically 30 metres (1)
Power Supply	2 x AA/LR6/MN 1500 Alkaline Batteries
Dimensions (mm)	85 Wide x 86 High x 42 Deep

(1) Please ensure there are no large metal objects between thermostat and receiver, as these will interfere with radio signal.

Receiver Options	**RX1**	**RX2**	**RX2C**	**RX3**	**RX3B**
Order Codes	087N747600	087N747700	087N747900	087N747800	087N48400
Single Zone Receiver	•				
Two Zone Receiver		•	•		
Three Zone Receiver				•	•
Common Heat Demand Output					•
Power Supply (receivers)	230 Vac ±15%, 50/60 Hz				
Contact Details, Commons Linked Internally	1 x SPDT	1 x SPDT 1 x SPST		2 x SPST 1 x SPDT	2 x SPST 1 x SPDT
Contact Details, Independent Commons, Volt Free			2 x SPDT		
Contact Rating	10-230 Vac, 3 (1) A				
Dimensions (mm)	138 Wide x 88 High x 32 Deep				

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Programmable Room Thermostat
TP5000Si (24 Hour or 5/2 Day)

TP5000Si-RF

RX2

- ***Chrono-proportional or on/off***
- ***Easy to programme and operate***
- ***Up to 6 events per day***
- ***Thermostat mode and frost protection***
- ***Utilises secure digital wireless communication***
- ***Ideal solution for system upgrades***
- ***Set solutions include thermostat and receiver***
- ***Can be combined with other Danfoss wireless thermostats***
- ***Service interval function***

Wireless versions	**TP5000-RF Si**	**TP5000A-RF Si**
Code without receiver	087N791200	087N791300
Code for set c/w single channel receiver	087N791400	
Programmable operation	24 hour or 5/2 day	
Number of events per day	6, 4 or 2	
Temperature range	Off, 5-30°C	
Clock display	24 hour	
Factory pre-set programmes	Yes	
Room temperature override	Yes	Adjustable
Display time or temperature option	Yes	
Thermostat mode and frost protection	Yes	
Weekend into weekday override	Yes	
Control Type	Chrono-proportional or on/off control	
Power supply, thermostats	2 x AA/MN1500/LR6 alkaline batteries (1)	
Maximum ambient temperature	45°C	
Contact type and rating (hard-wired models)	10-230 Vac, 3(1)A	
Transmission frequency (RF models)	433.92 MHz	
Transmission range (RF models)	30 metres max. (2)	
Dimensions (mm)	110 wide x 88 high x 28 deep	

Notes:
(1) Memory is retained for 1 minute during battery change.
(2) Please ensure there are no large metal objects between thermostat and receiver as these will interfere with radio signal.
(3) Can be configured for remote temperature sensor, limit sensor, window contact or telephone activated switch contact.
(4) Remote sensor is supplied as an accessory, if remote sensor is required order TS2 sensor, code 087N681100.

Receivers (RF models)	**RX-1**	**RX-2**	**RX-2C**	**RX-3**
Code No.	087N747600	087N747700	087N747900	087N747800
Number of zones receiver covers	1	2	2	3
Power supply (receivers)	230 Vac, ±15%, 50/60 Hz			
Contact details	1-SPDT	1-SPDT, 1-SPST	2-SPDT	1-SPDT, 2-SPST
Contact rating	10-230 Vac, 3(1)A			
Dimensions (mm)	138 wide x 88 high x 32 deep			

A programmable thermostat which provides different temperatures at different times of the day; ideal for Combi boiler and floor heating installations.

The TP5000Si-RF is one of the easiest to use 5/2 day programmable thermostats on the market today. Providing up to 6 time and temperature events for each week-day, with a separate set of events for weekends, the TP5000Si-RF meets the lifestyle requirements of most households. The thermostat incorporates many useful features including a service interval function, factory set clock, frost setting and temporary temperature overrides.

Aesthetically attractive, with a slim design, the TP5000Si-RF utilises secure digital wireless signals to communicate with a receiver unit mounted adjacent to the boiler or in the airing cupboard. This removes the need for any fixed wiring between the thermostat and other controls, reducing installation time and eliminating the risk of damaging decoration and furnishing, particularly important when upgrading existing systems, or at time of boiler change. Thermostats and receivers sold as sets are matched in the factory using a simple commissioning process.

Chrono-proportional control is the standard setting for the TP5000Si-RF but advanced conventional ON/OFF control is an installer-set option. This modulating control mode uses a cycling pattern within which boiler on/off percentages are varied to satisfy heating requirements. Chrono-proportional cycling rates of 3, 6, 9 or 12 per hour can be selected.

Service Interval Function

The optional Service Interval Function incorporated into the TP5000Si-RF helps landlords meet the boiler servicing requirements of Gas Safety Regulation 36. The unit provides audible and visual warnings from 28 days before servicing is due and ultimately reduces the heating output should the due date pass. Full heating operation can only be restored by an authorised installer.

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Programmable Room Thermostat
TP7000-RF (7 Day, 5/2 Day or 24 Hour)

For situations where a higher flexibility of control is required.

The TP7000-RF provides full 7-day programming with up to six different time and temperatures each day, ideal for households with more complex lifestyles.

This thermostat incorporates many advanced features including optimum start control and 99 day holiday programming options. This is in addition to many user features including frost setting, timed temporary temperature overrides and customisable LCD display settings.

Aesthetically attractive, with a slim design, the TP7000-RF utilises secure digital wireless signals to communicate with a receiver unit mounted adjacent to the boiler or in the airing cupboard. This removes the need for any fixed wiring between the thermostat and other controls, reducing installation time and eliminating the risk of damaging decoration and furnishing, particularly important when upgrading existing systems, or at time of boiler change. Thermostats and receivers sold as sets are matched in the factory using a simple commissioning process.

Chrono-proportional control is the standard setting for the TP7000-RF but advanced conventional ON/OFF control is an installer-set option. This modulating control mode uses a cycling pattern within which boiler on/off percentages are varied to satisfy heating requirements. Chrono-proportional cycling rates of 3, 6, 9 or 12 per hour can be selected.

TP7000-RF

RX3

- ***True 7 day programming***
- ***7 day or 5/2 day operation***
- ***Up to 6 time and temperature changes per day***
- ***Built-in holiday function***
- ***Optimum Start Control***
- ***Chrono-proportional or On/Off Control***
- ***Convenient user overrides***
- ***Wallplate construction***

Wireless versions	**TP7000-RF**	**TP7000A-RF**
Code No. - wireless model, built-in sensor [2]	087N741000	
Code No. - wireless models, remote sensor		087N741100
Code No. - for set c/w RX-1 receiver (single channel)	087N741800	
Temperature range (°C or °F display)	Off, 5-30°C (41-86°F)	
Time and temperature events per day	Up to 6	
Room temperature override	•	
Display time or temperature	•	
Thermostat mode	•	
Extend function 1, 2 or 3 hours	•	
Holiday function, up to 99 days	•	
Control Type	Chrono-proportional or on/off control	
Optimum start control	•	
Voltage rating of contacts (hard-wired models)	10-250 Vac, 50/60 Hz	
Current rating of contacts (hard-wired models) [3]	3(1)A	
Switching action of contacts (hard-wired models)	1 SPDT	
Transmitter frequency (wireless models)	433.92 MHz	
Transmitter range (wireless models)	30 metres [4]	
Power supply (Memory is retained for 1 minute during battery change)	2 x AA/LR6/MN1500 Alkaline batteries [4]	
Maximum ambient temperature	45°C	
Dimensions (mm)	135 wide x 88 high x 28 deep	

(1) TP7000M has battery back-up based upon Nickel Metal Hydride cell. This takes 6 days to fully charge, with a minimum of 24 hours before back-up service is available.
(2) Requires RX receiver unit, please see table below.
(3) When switching low voltage, contacts must carry a minimum of 10mA
(4) Please ensure no large metal objects between thermostat and receiver, as these will interfere with radio signal

Receivers (RF models)	**RX-1**	**RX-2**	**RX-2C**	**RX-3**
Code No.	087N747600	087N747700	087N747900	087N747800
Number of zones receiver covers	1	2	2	3
Power supply (receivers)	230 Vac, ±15%, 50/60 Hz			
Contact details	1-SPDT	1-SPDT, 1-SPST	2-SPDT	1-SPDT, 2-SPST
Contact rating	10-230 Vac, 3(1)A			
Dimensions (mm)	138 wide x 88 high x 32 deep			

Accessories

TS2
Remote Air Sensor
087N681100

TS3
Remote Floor Sensor
087N678400

Table Stand
087N791900

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Hot Water Thermostats
CET B-RF and WP75-RF

CET B-RF

WP75-RF

- ***Dial setting and programmable versions***
- ***Utilises secure digital wireless communication***
- ***Ideal solution for system upgrades***
- ***Set solutions include thermostat and receiver***
- ***Can be combined with other Danfoss wireless thermostats***

Thermostat Features	**CET B-RF**	**WP75-RF**
Code No - Without Receiver	087N727700	087N685000
Code No - Set with RX1 Receiver	087N727800	
Dial-setting Thermostat with LCD	•	
Programmable Thermostat with LCD		•
5/2 Day or 7 Day Programming Options		•
Up to 3 Time and Temperature changes per Day		•
Temperature Range	Off, 40-65°C	Off, 35-65°C
Tank Mounting Temperature Sensor (1)	•	
1 Shot "Boost" Feature		•
Selectable Fahrenheit or Centigrade Scaling	•	
Transmitter Frequency	433.92 MHz	
Transmitter Range	Typically 30 metres (1)	
Power Supply	2 x AA/LR6/MN 1500 Alkaline Batteries	
Dimensions (width x height x depth) mm	85 x 86 x 51	135 x 88 x 43
(1) Please ensure there are no large metal objects between thermostat and receiver, as these will interfere with radio signal		
Dimensions (mm)	138 Wide x 88 High x 32 Deep	

Receivers (RF models)	**RX-1**	**RX-2**	**RX-2C**	**RX-3**
Code No.	087N747600	087N747700	087N747900	087N747800
Number of zones receiver covers	1	2	2	3
Power supply (receivers)	230 Vac, ±15%, 50/60 Hz			
Contact details	1-SPDT	1-SPDT, 1-SPST	2-SPDT	1-SPDT, 2-SPST
Contact rating	10-230 Vac, 3(1)A			
Dimensions (mm)	138 wide x 88 high x 32 deep			

The CET B-RF is a dial setting electronic cylinder thermostat which utilises a clamp-on sensor that is hard-wired to the thermostat control module which is normally mounted on an adjacent wall. The CET B-RF incorporates an LCD which during normal operation displays actual cylinder temperature and thermostat output status. This changes momentarily to display set temperature whenever the setting dial is moved. Time control is provided by conventional time control.

The WP75-RF is a 7-day programmable hot water thermostat that allows up to three different cylinder temperatures to be programmed throughout the day. Different programmes can be set for each day of the week. The WP75-RF utilises a clamp-on sensor that is hard-wired to the thermostat control module which is normally mounted on an adjacent wall. The thermostat incorporates many useful features including a one shot 'boost' feature that re-heats the cylinder, and then turns off. The unit also incorporates a useful hot water status indicator which gives an indication of how much hot water there is in the cylinder.

Wireless hot water thermostats are a new concept and are particularly suited to system boilers which no longer require the heating and hot water zone valves to be located in the airing cupboard. Instead they can be located adjacent to the boiler to reduce the amount of field wiring and associated disruption. Both CET B-RF and WP75-RF utilise secure digital wireless signals to communicate with receiver units that can be mounted up to 30 metres from the thermostat, doing away with the need for hard-wiring between the thermostats and other system components. Thermostats and receivers sold as sets are matched in the factory using a simple commissioning process, details of which can be found at the rear of this publication.

Combined with a wireless room thermostat, this type of control can significantly reduce the installation time and the risk of damage to furnishing and decoration associated with more traditional hard-wired solutions.

CET B-RF is available in a convenient boxed set that includes a single channel receiver. If the system is zoned and requires more than one thermostat, purchase thermostats as loose items and select a receiver unit with the appropriate number of channels.

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Combination Boiler Systems

TP5000 Si-RF
Programmable Room Thermostat

TP7000-RF
Programmable Room Thermostat
OR

RT51-RF
Digital Room Thermostat
OR

RET B-RF
Dial Setting Room Thermostat

Application

In line with the Building Regulations, a boiler interlock must be provided even in systems fitted with combination boilers. The normal way of achieving compliance is to fit a room thermostat in a reference room, normally the hall or living room. Combination boiler systems are ideally suited to wireless room thermostat control, allowing the installation to be completed without the need for time consuming wiring to the room thermostat location. In addition to saving time, such solutions also reduce the disruption caused to home-owners normally associated with installing hard-wired solutions. There is also the added benefit of eliminating the risk of damage to furnishing, carpets and decoration that may occur during the installation of conventional wired solutions.

Combination Boilers with Built-in Time Controls

For such systems choose either a simple dial-setting thermostat, type RET B-RF, or a digital display, type RT51-RF. The thermostat is located in the reference room and the thermostat receiver unit is mounted adjacent to the boiler. Wiring is limited to providing the RX receiver unit with power (normally looped out of the boiler mains terminals) plus two wires from the thermostat connections of the boiler to the output connections of the RX receiver. Contacts within the RX receiver are voltage free making the units compatible with all boiler types.

Combination Boilers without Built-in Time Controls

For Combination boilers without time control, or in situations where greater programming flexibility is demanded, a programmable room thermostat can be used. For simple 5/2 day operation select a TP5000Si-RF. If additional features including 7-day operation are required select a TP7000-RF model. The thermostat is located in the reference room and the thermostat receiver unit is mounted adjacent to the boiler. Wiring is limited to providing the RX receiver unit with power (normally looped out of the boiler mains terminals) plus two wires from the thermostat connections of the boiler to the output connections of the RX receiver. Contacts within the RX receiver are voltage free making the units compatible with all boiler types.

Pack Contents

Each set of controls for applications referred to above contain a wireless thermostat, (RETB-RF, RT51-RF, TP5000Si-RF or TP7000-RF), and a single channel RX1 receiver.

Installation Advice

Care must be taken to ensure that there are no large metal objects, such as domestic appliances or indeed the boiler case, sitting in the line between the thermostat and the receiver as these may block the wireless transmission from the thermostat. It is a sensible precaution to install the receiver, pair it to the thermostat (if bought as loose components) and test that the thermostat can communicate with the receiver from the intended installation location before fixing the thermostat to the wall. If communication is not possible, adjust the thermostat location until communication is established.

A detailed write-up of the 'pairing' process is given on page 27, 28 and 29 of this catalogue.

Combi Boiler Thermostat Sets: Wireless Programmable Room and Receiver			
Description [1] [2]	**Order No**	**Room Thermostat**	**Wireless Receiver Unit**
Set with Setting Dial Thermostat	087N727600	RET B-RF	RX1
Set with Digital Thermostat	087N729900	RT51-RF	RX1
Set with 5/2 Day Programming Options	087N791400	TP5000Si-RF	RX1
Set with 7 Day Programming Option	087N741800	TP7000-RF	RX1
(1) Sets comprise of thermostat and receiver unit only *(2) For description of individual products refer to pages 8 - 13*			

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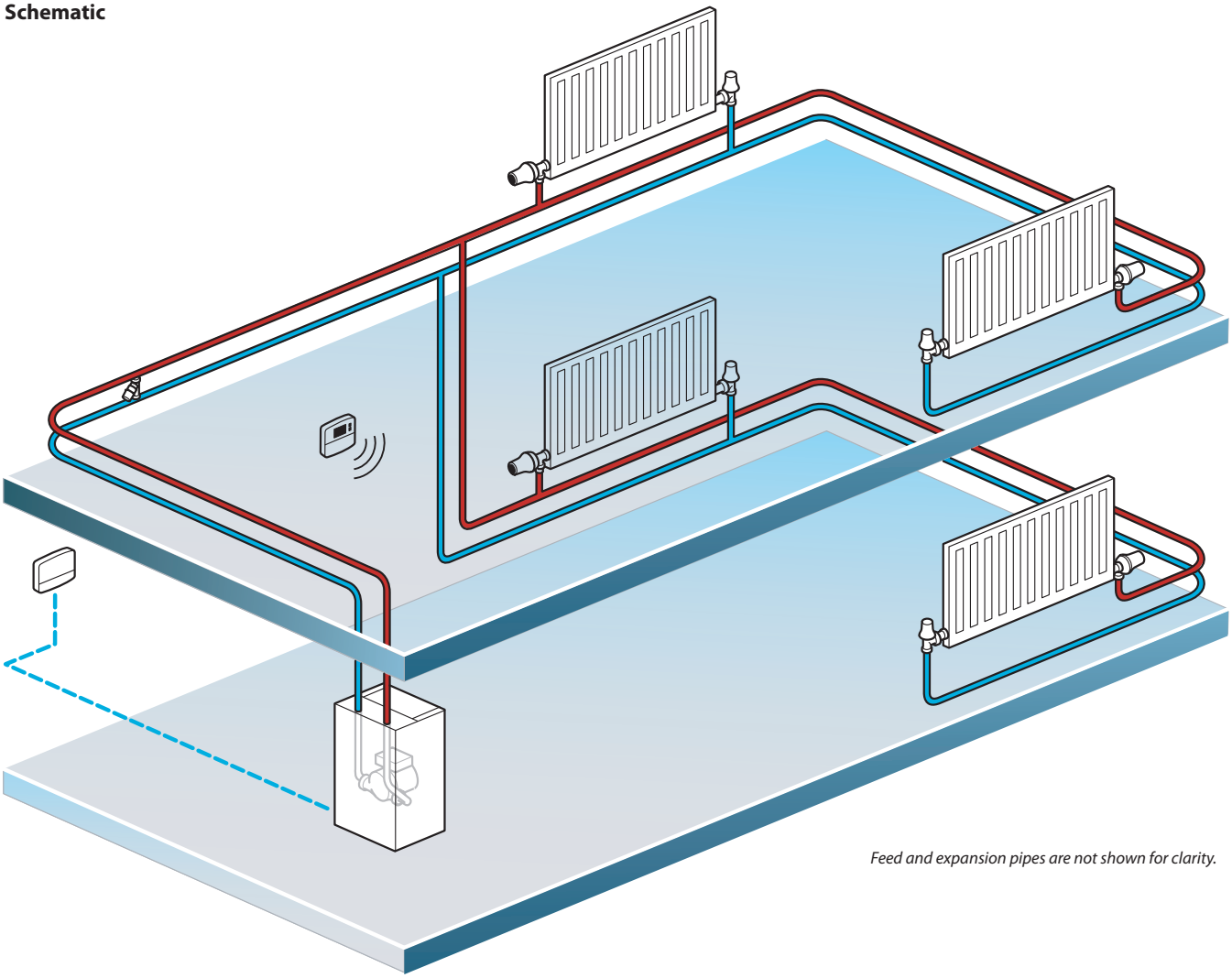
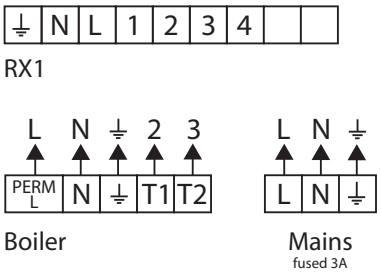
Schematic



Feed and expansion pipes are not shown for clarity.

Wiring Diagram



RX Channel Assignment	
Channel 1	Heating

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Mid Position Valve Systems
With 2-channel programmer and wireless dial setting

CS1 Sensor

CET B-RF Dial Setting Hot Water Thermostat

RET B-RF Dial Setting Room Thermostat

FP715Si Programmer

WC4B Wiring Centre

Application

In line with the Building Regulations, a control system must provide time and temperature control of both heating and hot-water services. In addition a boiler interlock must be provided to turn off the boiler when no heat demand is present. Traditionally this has been achieved using a conventional programmer, room thermostat and cylinder thermostat, hard-wired to motorised zone valves or a mid-position valve.

In boiler replacement situations, where system boilers are increasingly used, it is often convenient to locate mid-position valves adjacent to the boiler. Using wireless technology, both cylinder and room thermostat are able to communicate with a wireless receiver unit mounted adjacent to the mid-position valve and boiler. This totally eliminates the need for any hard-wiring between the thermostats and other system components. Not only does this reduce installation time, it also reduces the disruption and possible damage associated with normal hard-wired solutions.

Space Heating Controls

Where the customer wishes to retain a conventional programmer and dial-setting thermostats, as opposed to a programmable thermostat, temperature control of heating is achieved using a wireless dial setting thermostat, type RET B-RF. The room thermostat communicates with the heating channel of an RX2C wireless receiver. Time control of the heating is provided by the heating channel of a conventional hard-wired FP715Si programmer mounted adjacent to the receiver unit. Together the RX2C and the FP715Si control the heating operation of the mid-position valve that in turn provides the boiler interlock.

Hot Water Controls

Temperature control is achieved using a wireless dial-setting hot water thermostat, type CET B-RF. This thermostat communicates with the hot water channel of the RX2C. Time control of the hot water is provided by the hot water channel of a conventional hard-wired FP715Si programmer mounted adjacent to the receiver unit. Together the RX2C and the FP715Si control the hot water operation of the mid-position valve that in turn provides the boiler interlock. The thermostat is battery driven and requires no external power supply. Wiring to the thermostat is restricted to a short two-core cable between the wall mounted programming unit and the thermostat sensor which is clamped to the cylinder wall.

Pack Contents

The pack for this application includes an RET B-RF wireless dial setting room thermostat, a CET B-RF wireless hot water thermostat, an RX2C wireless receiver, an FP715Si hard-wired programmer, one 22mm mid-position valve and a WC4B wiring centre.

Installation Advice

Care must be taken to ensure that there are no large metal objects, such as domestic appliances or indeed the boiler case, sitting in the line between the thermostats and the receiver as these may block the wireless transmission from the thermostats. It is a sensible precaution to install the receiver, pair it to the thermostat, (if bought as loose components) and test that the thermostat can communicate to the receiver from the intended installation location before fixing the thermostat to the wall. If communication is not possible, adjust the thermostat location until communication is established.

Important Note: Thermostats and receivers listed on this page are not factory paired.

A detailed write-up of the 'pairing' process is given on page 27, 28 and 29 of this catalogue.

3 Port Valve Pack: Wireless Dial-setting Room and Hot Water Thermostats with Hard-wired Programmer							
Decription(1)	**Order No**	**Room Thermostat**	**Hot Water Thermostat**	**Receiver**	**Wiring Centre**	**3 Port Mid Position** (2)	**Programmer**
Pack with 24 hour, 5/2 day or 7 day programming options	087N6500V3	RET B-RF	CET B-RF	RX2C	WC4B	1 x HS3	FP715Si
(1) For a description of the individual products please refer to pages 8-13 *(2) All valves are 22mm size*							

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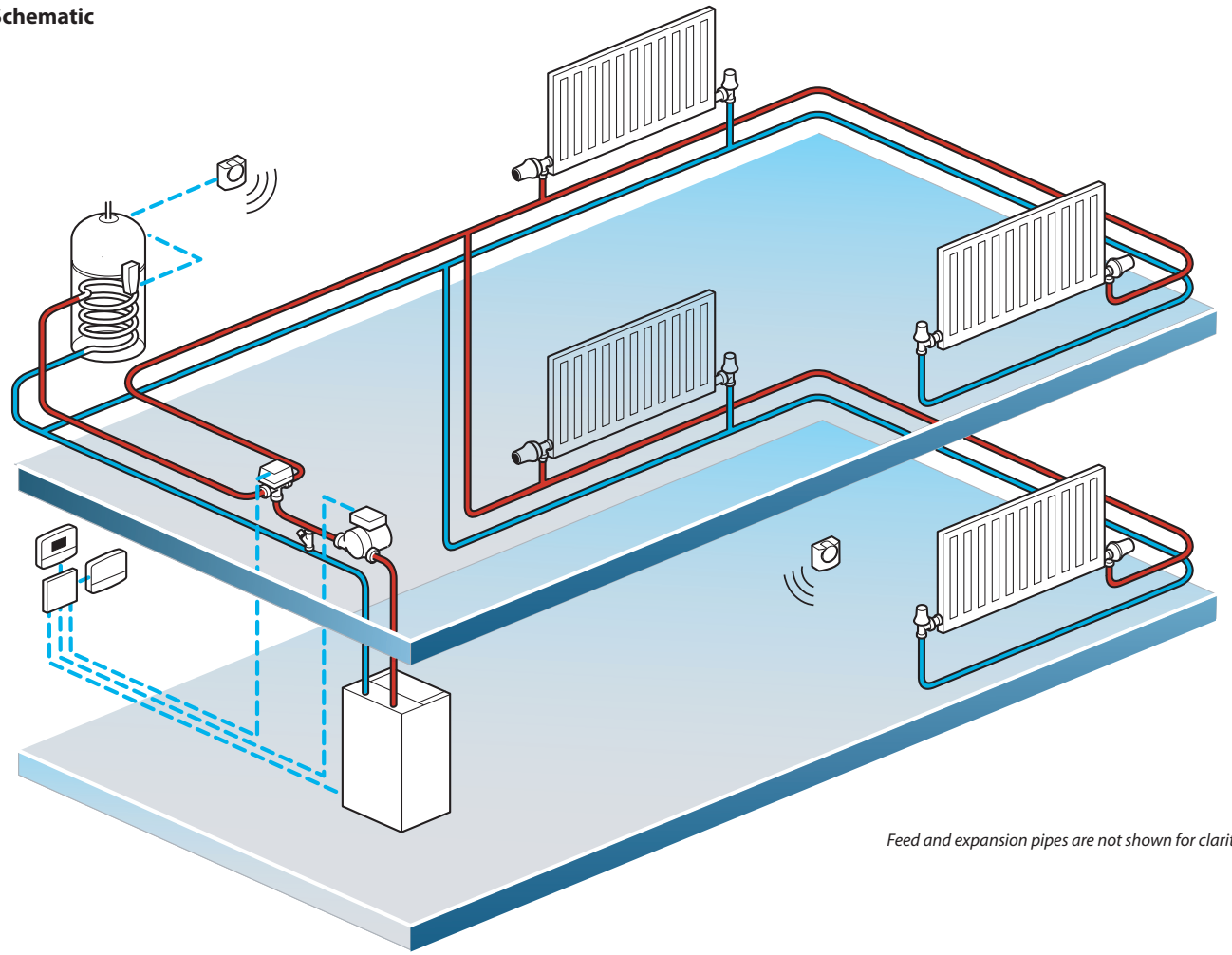
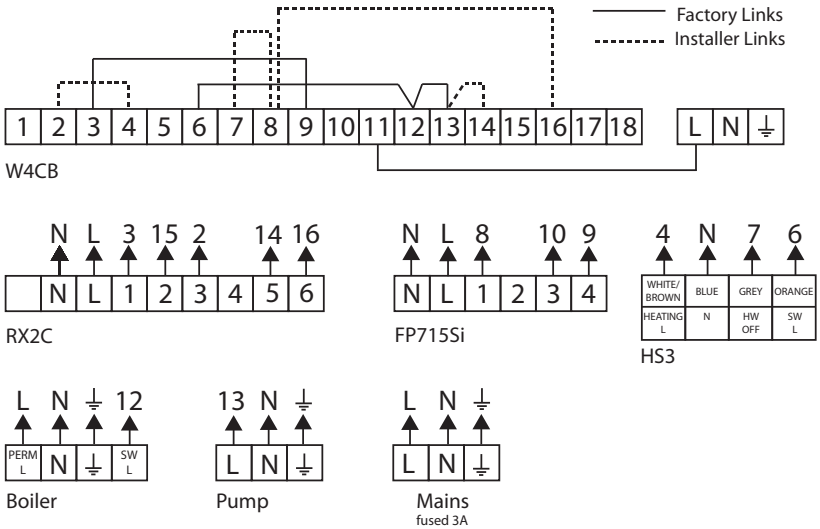
room thermostat and hot water thermostat

Schematic



Feed and expansion pipes are not shown for clarity.

Wiring Diagram



RX Channel Assignment			
Channel 1	Heating	**Channel 2**	Hot Water

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Mid Position Valve Systems
With programmable heating and hot water thermosta

TP5000 Si-RF
Programmable Room Thermostat
OR

TP7000-RF
Programmable Room Thermostat

CS1 Sensor

FP715Si Programmer

WC4B Wiring Centre

Application

In line with the Building Regulations, a control system must provide time and temperature control of both heating and hot water services. In addition a boiler interlock must be provided to turn off the boiler when no heat demand is present. Traditionally this has been achieved using a conventional programmer, room thermostat and cylinder thermostat, hard-wired to a mid-position valve.

In boiler replacement situations, where system boilers are increasingly used, it is often convenient to locate the motorised valve adjacent to the boiler. Using wireless technology, both cylinder and room thermostat are able to communicate with a wireless receiver unit mounted adjacent to the motorised valve and boiler. This totally eliminates the need for any hard-wiring between the thermostats and other system components. Not only does this reduce installation time, it also reduces the disruption and possible damage associated with normal hard-wired solutions.

Space Heating Controls

Time and temperature control of heating is achieved using a wireless programmable room thermostat. The programmable room thermostat communicates with the heating channel of an RX2C wireless receiver which in turn controls the heating demand operation of the mid-position valve and the boiler interlock. For normal 5/2 day operating requirements select a pack which contains TP5000Si-RF. If 7-day operation is required select a pack which contains TP7000-RF.

Hot Water Controls

Time and temperature control is achieved using a wireless programmable hot-water thermostat, type WP75-RF. This thermostat communicates with the hot water channel of the RX2C which in turn controls the hot water demand operation of the mid-position valve and the boiler interlock. The thermostat is battery driven and requires no external power supply.

Wiring to the thermostat is restricted to a short two-core cable between the wall mounted programming unit and the thermostat sensor which is clamped to the cylinder wall.

Pack Contents

All packs for the application listed on this page include a wireless room thermostat (TP5000Si-RF or TP7000-RF), a WP75-RF wireless hot water thermostat, an RX2C wireless receiver and a 22mm mid-position valve and a wiring centre.

Installation Advice

Care must be taken to ensure that there are no large metal objects, such as domestic appliances or indeed the boiler case, sitting in the line between the thermostats and the receiver as these may block the wireless transmission from the thermostats. It is a sensible precaution to install the receiver, pair it to the thermostat and test that the thermostat can communicate to the receiver from the intended installation location before fixing the thermostat to the wall. If communication is not possible, adjust the thermostat location until communication is established.

Important Note: Thermostats and receivers listed on this page are not factory paired.

A detailed write-up of the 'pairing' process is given on page 27, 28 and 29 of this catalogue.

Mid Position
Motorised Valve

3 Port Valve Pack: Wireless Programmable Heating and Hot Water Thermostats						
Description[1]	**Order No**	**Room Thermostat**	**Hot Water Thermostat**	**Receiver**	**Wiring Centre**	**3 Port Mid Position** [2]
Pack with 7 day programming options	087N742100	TP7000-RF	WP75-RF	RX2C	WC4B	No Valves
Pack with 7 day programming options	087N742200	TP7000-RF	WP75-RF	RX2C	WC4B	1 x HS3
Pack with 5/2 day programming options	087N742400	TP5000Si-RF	WP75-RF	RX2C	WC4B	1 x HS3
(1) For a description of the individual products please refer to pages 8-13 *(2) All valves are 22mm size*						

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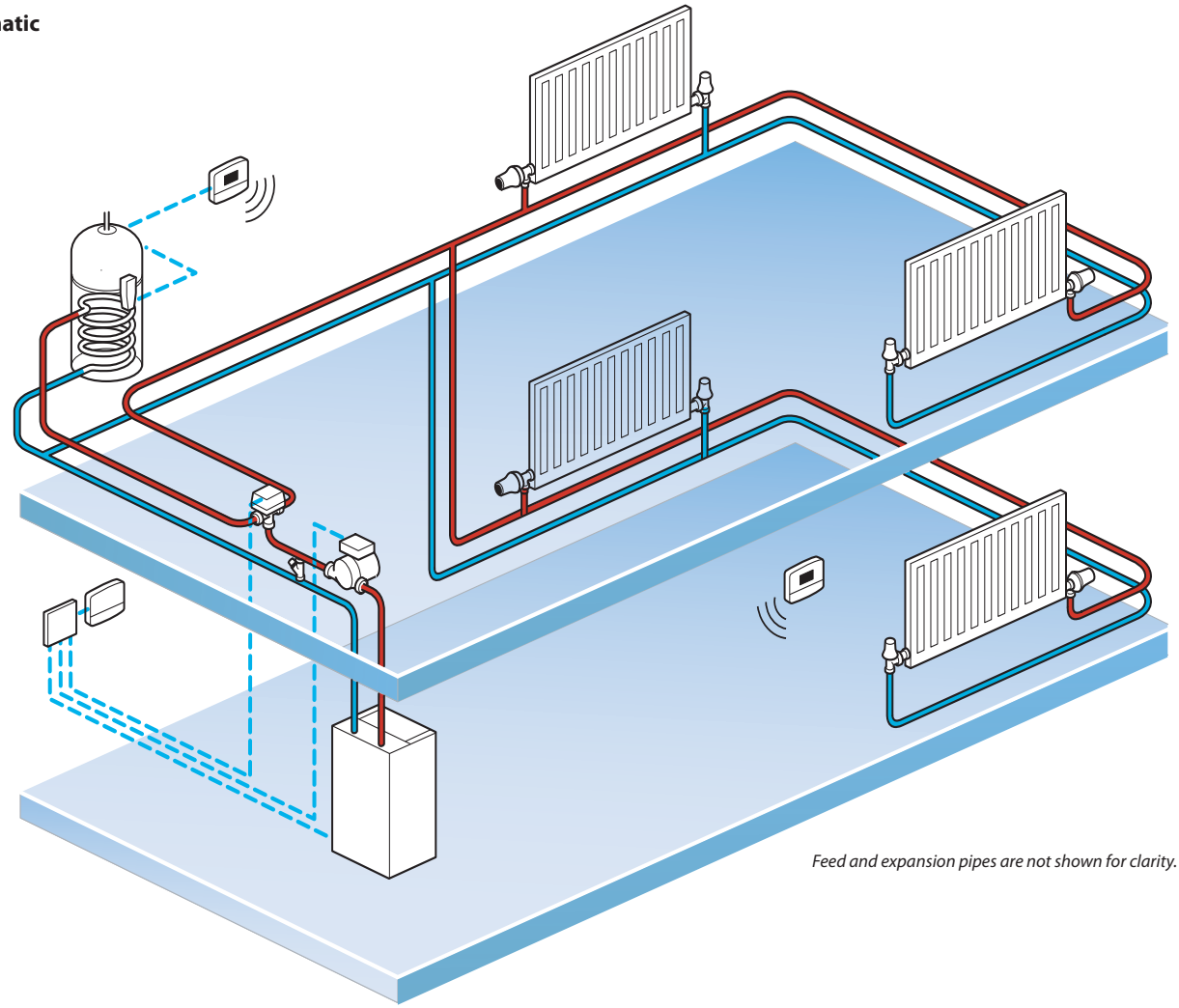
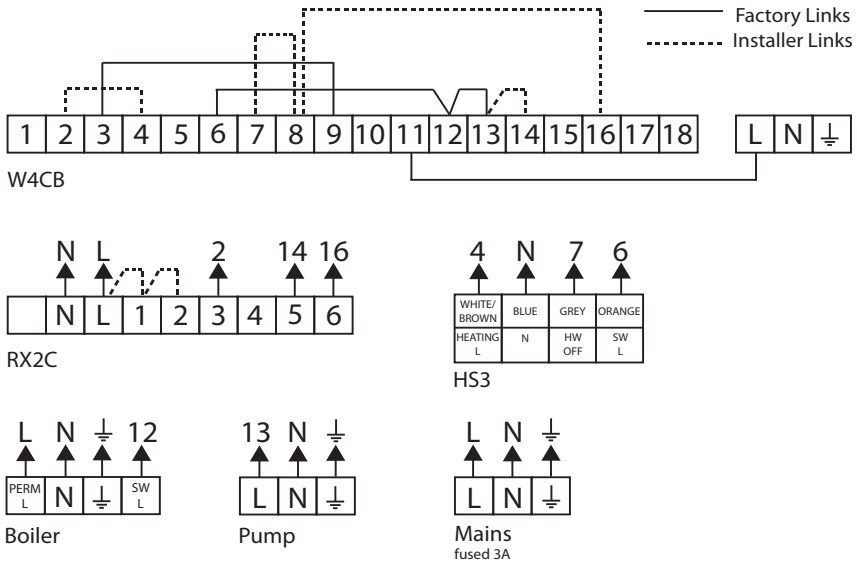
Schematic



Feed and expansion pipes are not shown for clarity.

Wiring Diagram



RX Channel Assignment			
Channel 1	Heating	**Channel 2**	Hot Water

2 Port Valve Systems
With 2-channel programmer and wireless dial setting

CS1 Sensor

CET B-RF Dial Setting Hot Water Thermostat

RET B-RF Dial Setting Room Thermostat

FP715Si Programmer

WC4B Wiring Centre

Application

In line with the Building Regulations, a control system must provide time and temperature control of both heating and hot water services. In addition a boiler interlock must be provided to turn off the boiler when no heat demand is present. Traditionally this has been achieved using a conventional programmer, room thermostat and cylinder thermostat, hard-wired to motorised zone valves.

In boiler replacement situations, where system boilers are increasingly used, it is often convenient to locate motorised valves adjacent to the boiler. Using wireless technology, both cylinder and room thermostat are able to communicate with a wireless receiver unit mounted adjacent to the motorised valves and boiler. This totally eliminates the need for any hard-wiring between the thermostats and other system components. Not only does this reduce installation time, it also reduces the disruption and possible damage associated with normal hard-wired solutions

Space Heating Controls

Where the customer wishes to retain a conventional programmer and dial-setting thermostats, as opposed to a programmable thermostat, temperature control of heating is achieved using a wireless dial setting thermostat, type RET B-RF. The room thermostat communicates with the heating channel of an RX2C wireless receiver. Time control of the heating is provided by the heating channel of a conventional hard-wired FP715Si programmer mounted adjacent to the receiver unit. Together the RX2C and the FP715Si control the heating zone valve that in turn provides the boiler interlock.

Hot Water Controls

Temperature control is achieved using a wireless dial-setting hot water thermostat, type CET B-RF. This thermostat communicates with the hot water channel of the RX2C. Time control of the hot water is provided by the hot water channel of a conventional hard-wired FP715Si programmer mounted adjacent to the receiver unit. Together the RX2C and the FP715Si control the hot water zone valve that in turn provides the boiler interlock.

The thermostat is battery driven and requires no external power supply. Wiring to the thermostat is restricted to a short two-core cable between the wall mounted programming unit and the thermostat sensor which is clamped to the cylinder wall.

Pack Contents

The pack for this application includes an RET B-RF wireless dial setting room thermostat, a CET B-RF wireless hot-water thermostat, an RX2C wireless receiver, an FP715Si hard-wired programmer, two 22mm two-port zone valves and a WC4B wiring centre.

Installation Advice

Care must be taken to ensure that there are no large metal objects, such as domestic appliances or indeed the boiler case, sitting in the line between the thermostats and the receiver as these may block the wireless transmission from the thermostats. It is a sensible precaution to install the receiver, pair it to the thermostat and test that the thermostat can communicate to the receiver from the intended installation location before fixing the thermostat to the wall. If communication is not possible, adjust the thermostat location until communication is established.

Important Note: Thermostats and receivers listed on this page are not factory paired.

A detailed write-up of the 'pairing' process is given on page 27, 28 and 29 of this catalogue.

2 Port Motorised Valve

2 Port Valve Pack: Wireless Dial-setting Room and Hot Water Thermostats with Hard-wired Programmer							
Description[1]	**Order No**	**Room Thermostat**	**Hot Water Thermostat**	**Receiver**	**Wiring Centre**	**2 Port Zone Valve** [2]	**Programmer**
Pack with 24 hour, 5/2 day or 7 day programming options	087N6500V4	RET B-RF	CET B-RF	RX2C	WC4B	2 x HP22	FP715Si
(1) For a description of the individual products please refer to page 8-13 *(2) All valves are 22mm size*							

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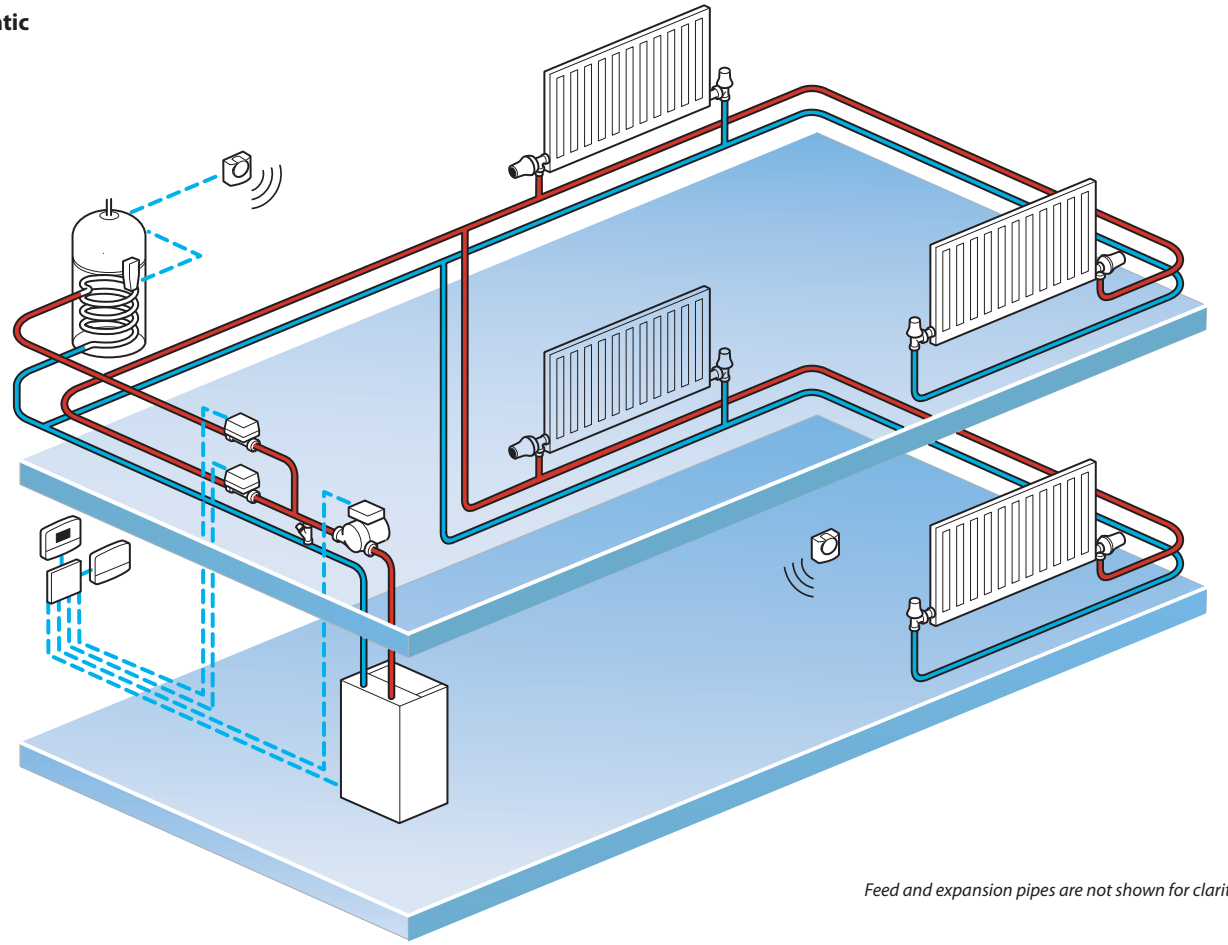
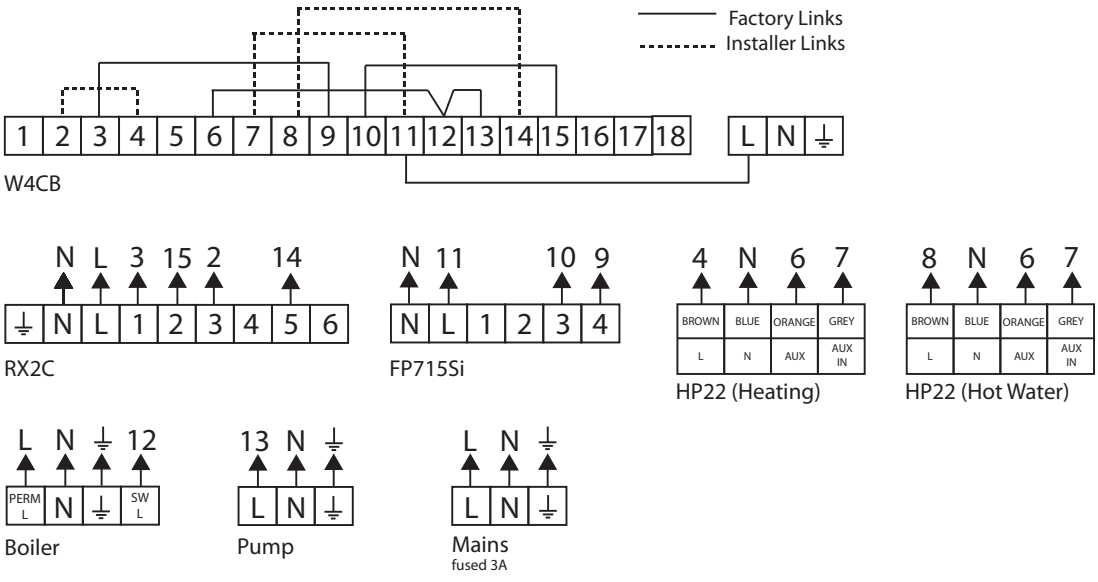
room thermostat and hot water thermostat

Schematic



Feed and expansion pipes are not shown for clarity.

Wiring Diagram



RX Channel Assignment			
Channel 1	Heating	**Channel 2**	Hot Water

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2 Port Valve Systems
With programmable heating and hot water thermosta

TP5000 Si-RF
Programmable Room Thermostat

TP7000-RF
Programmable Room Thermostat

CS1 Sensor

WP75-RF Hot Water
Programmable Thermostat

WC4B Wiring Centre

Application

In line with the Building Regulations, a control system must provide time and temperature control of both heating and hot-water services. In addition a boiler interlock must be provided to turn off the boiler when no heat demand is present. Traditionally this has been achieved using a conventional programmer, room thermostat and cylinder thermostat, hard-wired to motorised zone valves.

In boiler replacement situations, where system boilers are increasingly used, it is often convenient to locate motorised valves adjacent to the boiler. Using wireless technology, both cylinder and room thermostat are able to communicate with a wireless receiver unit mounted adjacent to the motorised valves and boiler. This totally eliminates the need for any hard-wiring between the thermostats and other system components. Not only does this reduce installation time, it also reduces the disruption and possible damage associated with normal hard-wired solutions.

Space Heating Controls

Time and temperature control of heating is achieved using a wireless programmable room thermostat. The programmable room thermostat communicates with the heating channel of an RX2C wireless receiver which in turn controls the operation of the heating zone valve and the boiler interlock. For normal 5/2 day operating requirements select a pack which contains TP5000Si-RF. If 7-day operation is required select a pack which contains TP7000-RF.

Hot Water Controls

Time and temperature control is achieved using a wireless programmable hot-water thermostat, type WP75-RF. This thermostat communicates with the hot water channel of the RX2C which in turn controls the operation of the motorised valve and the boiler interlock. The thermostat is battery driven and requires no external power supply. Wiring to the thermostat is restricted to a short two-core cable between the wall mounted programming unit and the thermostat sensor which is clamped to the cylinder wall.

Pack Contents

All packs for the application listed on this page include a wireless room thermostat (TP5000Si-RF or TP7000-RF), a WP75-RF wireless hot water thermostat, an RX2C wireless receiver, two 22mm two-port zone valves and a WC4B wiring centre.

Installation Advice

Care must be taken to ensure that there are no large metal objects, such as domestic appliances or indeed the boiler case, sitting in the line between the thermostats and the receiver as these may block the wireless transmission from the thermostats. It is a sensible precaution to install the receiver, pair it to the thermostat and test that the thermostat can communicate with the receiver from the intended installation location before fixing the thermostat to the wall. If communication is not possible, adjust the thermostat location until communication is established.

Important Note: Thermostats and receivers listed on this page are not factory paired.

A detailed write-up of the 'pairing' process is given on page 27, 28 and 29 of this catalogue.

2 Port
Motorised Valve

2 Port Valve Pack: Wireless Programmable Heating and Hot Water Thermostats						
Description[1]	**Order No**	**Room Thermostat**	**Hot Water Thermostat**	**Receiver**	**Wiring Centre**	**2 Port Zone Valves** [2]
Pack with 7 day programming options	087N742100	TP7000-RF	WP75-RF	RX2C	WC4B	No Valves
Pack with 7 day programming options	087N742300	TP7000-RF	WP75-RF	RX2C	WC4B	2 x HP22
Pack with 5/2 day programming options	087N742500	TP5000Si-RF	WP75-RF	RX2C	WC4B	2 x HP22

(1) For a description of the individual products please refer to pages 8-13
(2) All valves are 22mm size

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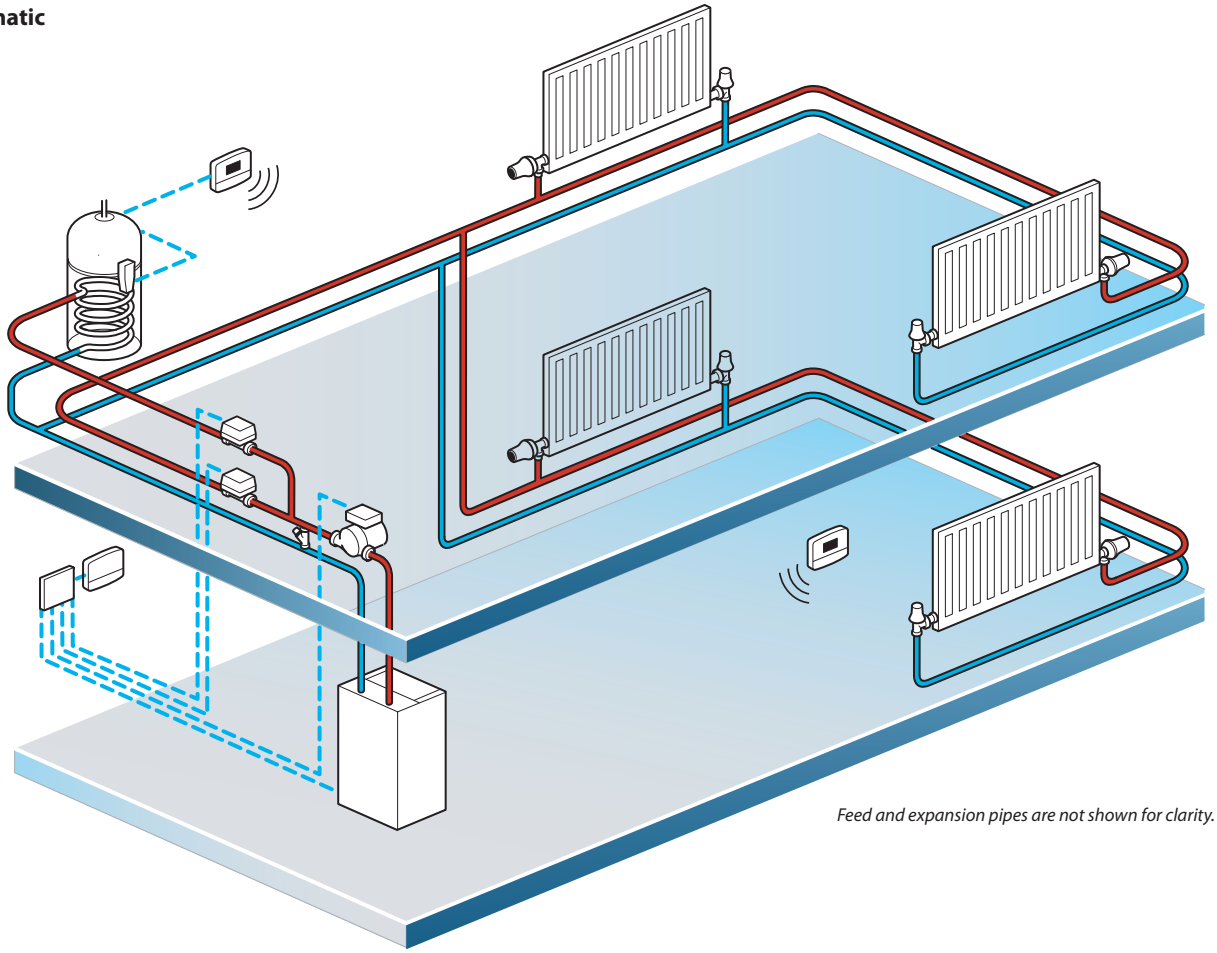
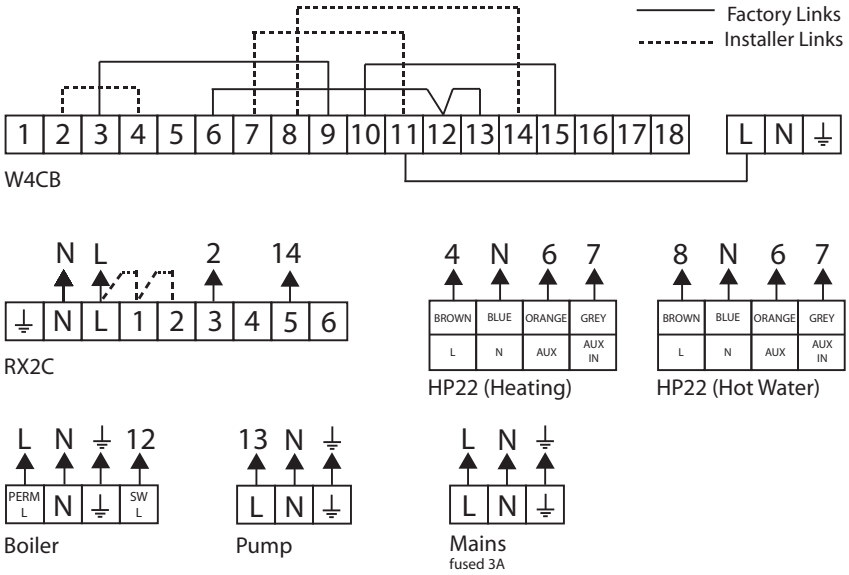
Schematic



Feed and expansion pipes are not shown for clarity.

Wiring Diagram



RX Channel Assignment			
Channel 1	Heating	**Channel 2**	Hot Water

2 Port Valve Systems
With 2 channel programmer, wireless room and hot w

RET B-RF Dial Setting Room Thermostat

FP715Si Programmer

RX1 Receiver

WC4B Wiring Centre

2 Port Motorised Valve

Application

In line with the Building Regulations, a control system must provide time and temperature control of both heating and hot-water services. In addition a boiler interlock must be provided to turn off the boiler when no heat demand is present. Traditionally this has been achieved using a conventional programmer, room thermostat and cylinder thermostat, hard-wired to motorised zone valves. If an un-vented hot water storage vessel is installed, the motorised valve controlling the flow of water to the primary of the unit is supplied as part of the un-vented unit package and must be mounted in accordance with the manufacturers recommendations. The hot water thermostat is also integrated into the unit.

Space Heating Controls

Where the customer wishes to retain a conventional programmer and dial-setting thermostats, as opposed to a programmable thermostat, temperature control of heating is achieved using a wireless dial setting thermostat, type RET B-RF. The room thermostat communicates with the heating channel of an RX1 wireless receiver. Time control of the heating is provided by the heating channel of a conventional hard-wired FP715Si programmer mounted adjacent to the receiver unit. Together the RX1 and the FP715Si control the heating zone valve that in turn provides the boiler interlock.

Hot Water Controls

Temperature control is provided by the un-vented hot water vessel's built-in thermostat. Time control of the hot water is provided by the hot water channel of the conventional hard-wired FP715Si 2-channel programmer.

Together the built-in thermostat and the FP715Si control the hot water zone valve that is supplied as part of the unit. This in turn provides the boiler interlock. Wiring is required between the un-vented hot water unit and the programmer.

Pack Contents

The pack for this application includes an RET B-RF wireless dial setting room thermostat, an RX1 wireless receiver, an FP715Si hard-wired programmer, one 22mm two-port zone valve and a WC4B wiring centre.

Installation Advice

Care must be taken to ensure that there are no large metal objects, such as domestic appliances or indeed the boiler case, sitting in the line between the thermostats and the receiver as these may block the wireless transmission from the thermostats.

It is a sensible precaution to install the receiver, pair it to the thermostat and test that the thermostat can communicate to the receiver from the intended installation location before fixing the thermostat to the wall.

If communication is not possible, adjust the thermostat location until communication is established.

Important Note: Thermostats and receivers listed on this page are not factory paired.

A detailed write-up of the 'pairing' process is given on page 27, 28 and 29 of this catalogue.

2 Port Valve Pack: Wireless Dial-setting Room and Hot Water Thermostats with Hard-wired Programmer

Description[1]	Order No	Room Thermostat	Hot Water Thermostat	Receiver	Wiring Centre	2 Port Zone Valve [2][3]	Programmer
Pack with 24 hour, 5/2 day or 7 day programming options	087N6500V5	RET B-RF	(3)	RX1	WC4B	1 x HP22	FP715Si

(1) For a description of the individual products please refer to pages 8-13
(2) Heating valve is 22mm
(3) 2 Port valve and cylinder thermostat on unvented HW cylinder are part of unvented package and not included in the Controls Pack

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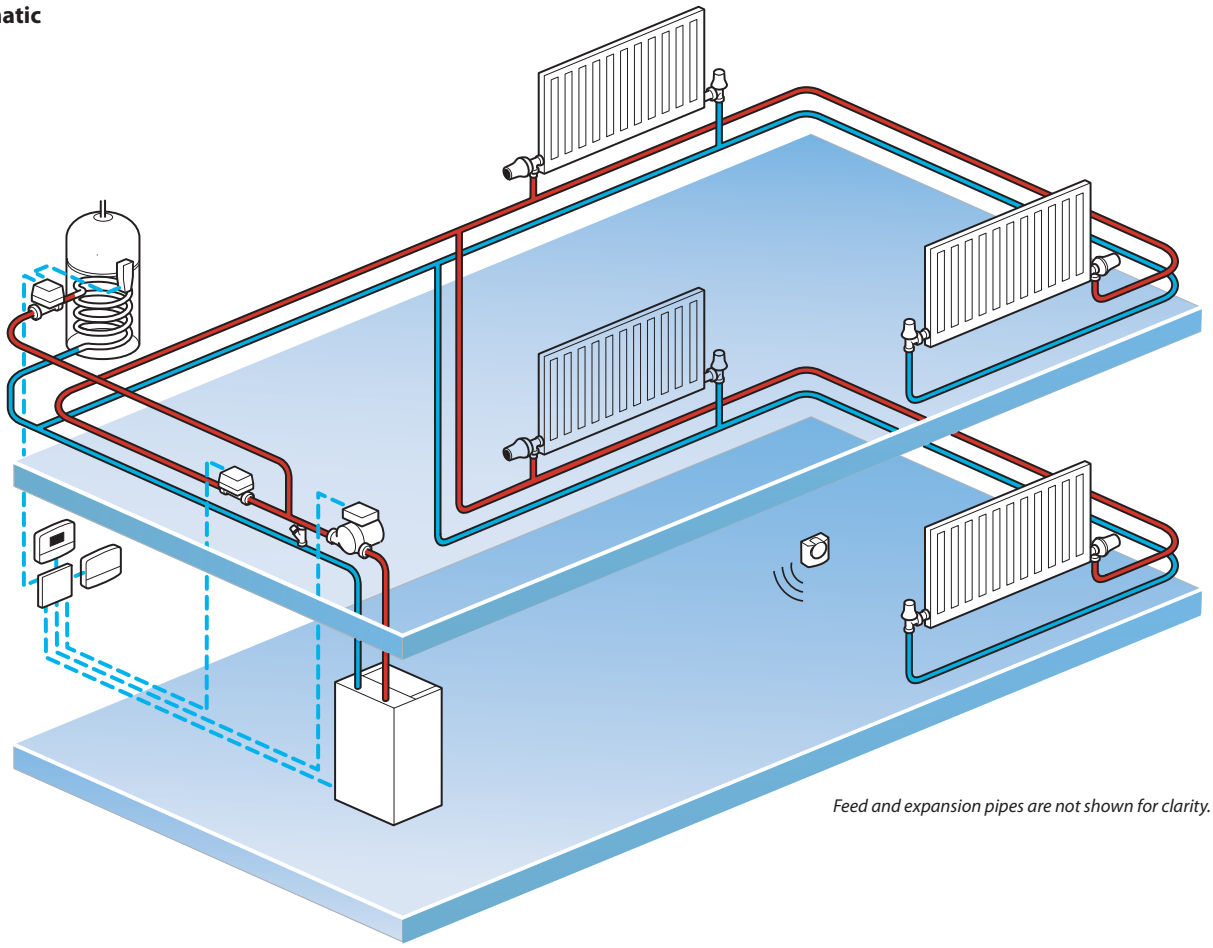
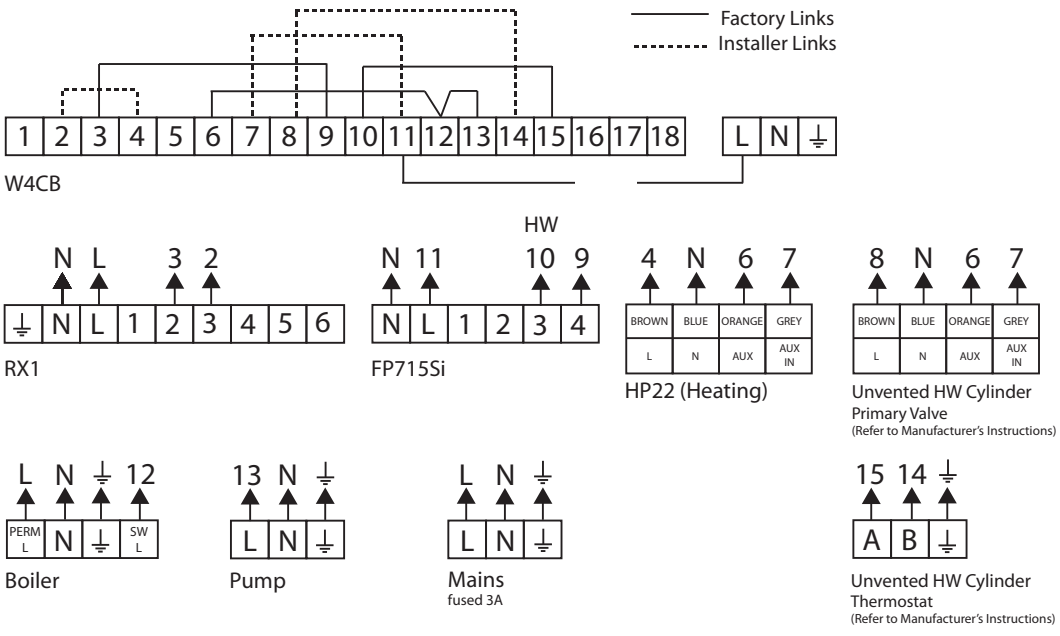
ater thermostats for unvented hot water systems

Schematic



Feed and expansion pipes are not shown for clarity.

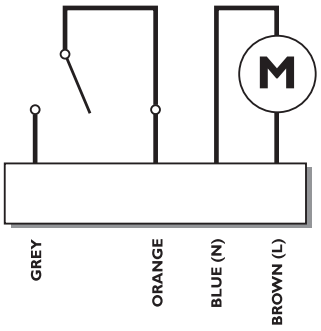
Wiring Diagram



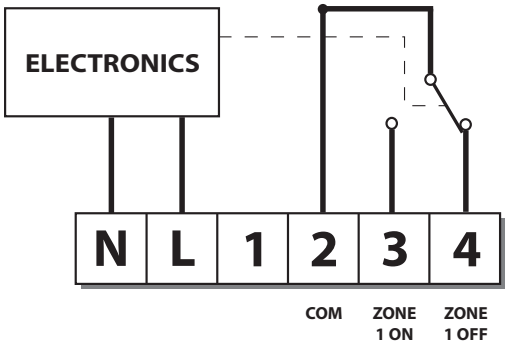
RX Channel Assignment	
Channel 1	Heating

Additional Information
Wiring Diagrams

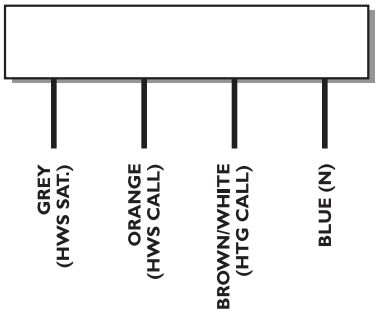
HP22



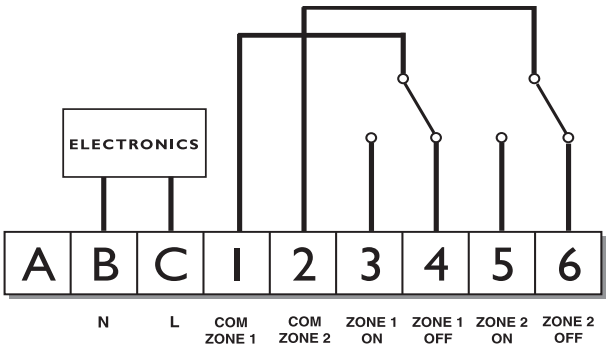
RX1



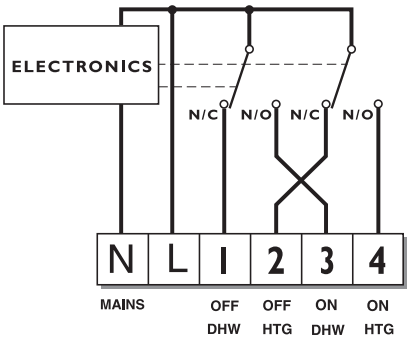
HS3



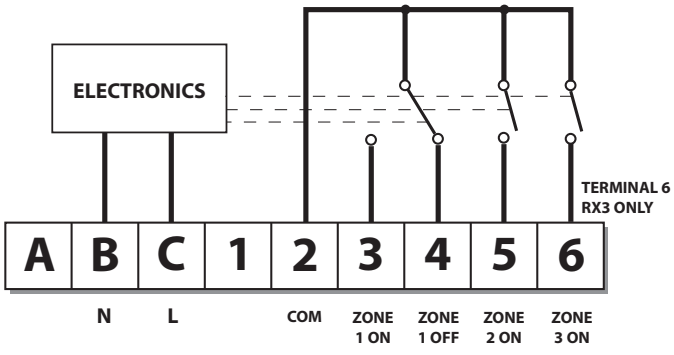
RX2C



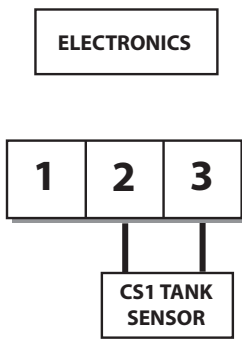
WP75-RF



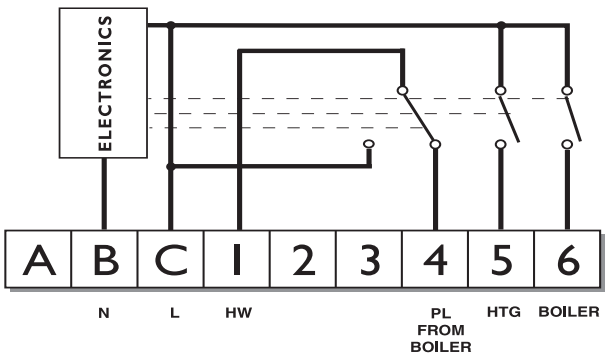
RX2 and RX3



CET B-RF



RX3B



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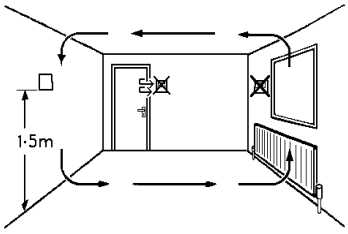
Room Thermostats
Room thermostats should be mounted in a typical room, often referred to as the reference room. It should be remembered that in a normal single zone heating system that the room thermostat will shut-off the whole of the heating system when it is satisfied. Locations with secondary heat sources such as gas fires should be avoided if reasonable whole house comfort levels are to be maintained.

Having chosen the room for the thermostat, ensure that the thermostat is not located on a cold outside wall or in a position where it might be unduly affected by draughts or by heat gain from electrical appliances or any other heat source including the sun.

Thermostats should normally be mounted at a height of about 1.5 metres above the floor. However, if the building occupants are for example wheelchair bound, then the thermostats height should be adjusted to sitting height.

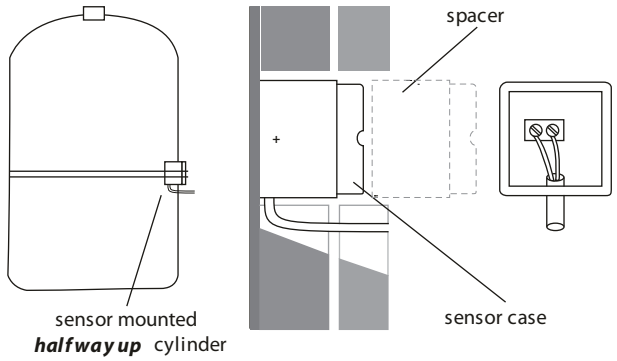


Location of Wireless Room Thermostats
Generally the same rules highlighted above apply, however, additional care needs to be taken to ensure that the wireless room thermostat is able to communicate with it's receiver module.

The line of sight range of Danfoss wireless thermostats is in excess of 30m, however, this range is reduced by the number of walls, floors and ceilings that the low power transmissions have to pass through before arriving at the receiver unit. It is not possible to put a figure on the range reduction per wall etc, as this will depend entirely on the construction of the wall. For example a partition wall will offer significantly less resistance to radio energy than would a reinforced concrete structure with steel reinforcement. Other large metal objects such as a fridge and boiler cases can also impede the reception if they sit between the thermostat and the receiver unit.

Hot Water Thermostats
All Danfoss wireless hot water thermostats comprise a wall mounting setting unit that includes the wireless transmitter and battery power supply, plus a remote surface mounting sensor that is supplied with a clamping band to attach it to the cylinder wall.

Sensor Unit
The location of this remote sensor should follow the same rules as for a standard electric thermostat, in other words about ***half way up*** the cylinder wall. Insulation material should be carefully removed and the cylinder wall cleaned. The heat conducting paste supplied with the thermostat should be applied to the cylinder wall. A two-core flexible cable should be wired into the remote sensor and the sensor fixed to the cylinder wall using the clamping spring provided. Wiring from the sensor must be terminated in the wall plate of the setting unit.



For insulation thicker than 25mm (and up to 55mm) use the extra cover supplied as a spacer to ensure that the sensor is held in firm contact with the cylinder wall.

Setting Unit
The setting unit should be fixed to the wall adjacent to the cylinder, care should be taken to ensure that the cylinder does not sit in the line between the setting unit location and the RX receiver unit as it will most likely block the wireless transmissions.

Please note that the hot water thermostat is battery powered and does not require an external electrical supply.

Receiver Options
All boxed sets come complete with the appropriate receiver. If additional zones are required purchase thermostats as loose items and select a receiver unit with the appropriate number of channels from the data table shown on pages 6-7. All Controls Packs include a receiver unit appropriate to the pack application. Please note that the RX3B receiver is a special 2-channel receiver with a common heat demand relay.

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Additional Information
Installation Tips

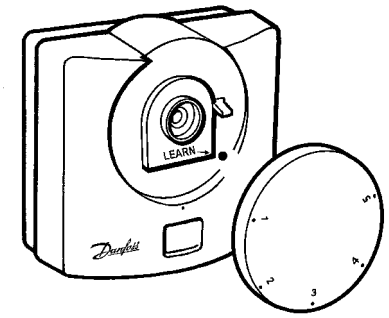
Good Practice Advice
To avoid the potential for communication problems as a result of range, obstructions or large metal objects the following steps should be followed:

- Before mounting the RX receiver unit ensure that the boiler case or other large domestic appliances do not sit in line between it and the proposed thermostat positions.
- The receiver should be mounted and wired to the valve(s) or boiler that it is intended to control.
- The thermostats should be paired to the receiver channel sold as loose components and in control packs that they are intended to communicate to (please refer to the section below on 'thermostat pairing'). This process should be carried out with the thermostats being held in the hand adjacent to the RX receiver unit.
- Once paired the thermostat's ability to communicate with the receiver should be tested whilst standing adjacent to the receiver. This can be done by increasing the thermostat set point to simulate a heat demand and by reducing the set point to simulate a satisfied demand. On a heat demand the appropriate channel of the receiver should switch on. A satisfied demand should switch the channel off.
- Having established that the 'thermostat pairing' has been correctly carried out, the thermostat should be taken to it's intended installation position and the above test repeated. If communication is successful, the thermostat/setting unit can now be mounted to the wall.

Thermostat Pairing
(Loose thermostats and control packs only)
All Danfoss wireless thermostats are assigned a unique number during manufacturing. This number is used in the packet of information transmitted by the thermostat and identifies the thermostat that is transmitting. Receivers and thermostats have to be paired on site as part of the commissioning process; this process writes the thermostat unique ID number into the receiver memory which is retained even if power is removed. Until a receiver is paired to a thermostat it will not react to any incoming signal. Once paired it will only react to the signal transmitted by the thermostat having the same unique ID number held in the receiver memory. This prevents neighbouring thermostats or other wireless devices on the same frequency from activating the receiver.

Pairing RET B-RF and CET B-RF
The following procedure should be followed to pair these products to RX receivers:

Turn the dial clockwise to the maximum setting and remove the setting dial.

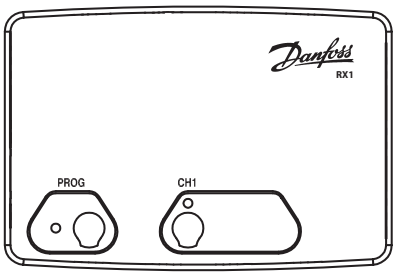


Do not refit the dial until after the pairing process has been completed.

This is important as any movement of the thermostat setting spindle cancels the "Learn" transmission.

Press the "Learn" button. This will force the thermostat to transmit it's ID code for five minutes.

Move to the RX receiver and press the channel button of the channel to which you wish to assign the thermostat. Then press the PROGRAMME button on the RX receiver.



Important: *the convention is to use channel 1 for heating and channel 2 for hot water. All wiring diagrams are based on this convention.*

The green LED adjacent to the PROG button will flash to confirm that the channel has been assigned as requested.

The pairing process for this thermostat is now complete and the setting dial can be refitted in the maximum position and adjusted to the required set-point.

If the installation has more than one wireless thermostat it is important to ensure that the "Learn" transmission of the thermostat that has just been paired to it's receiver is cancelled before moving on to "Pair" the next thermostat and receiver or receiver channel. To cancel a "Learn" transmission simply move the thermostat setting dial until the LCD display changes.

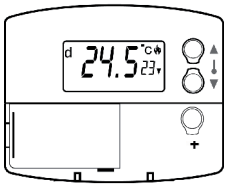
Pairing the RT51-RF, TP5000Si-RF, TP7000-RF and WP75-RF
The following procedure should be followed to pair these products to RX receivers:

Drop the setting cover to reveal the programming buttons.

Press the following buttons to force the thermostat into 'learn' mode.

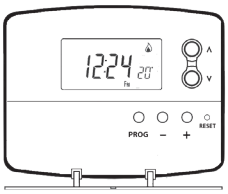
RT51-RF

+ button and ▼



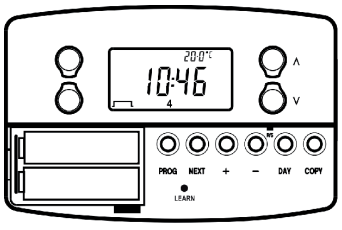
TP5000Si-RF

+ button and ▼



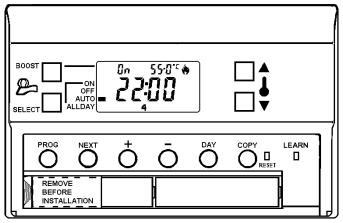
TP7000-RF

'Learn' button

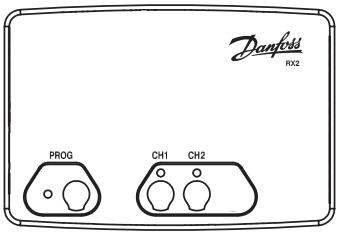


WP75-RF

'Learn' button



Do not touch any other buttons on the thermostat until advised to do so as this will cancel the 'Learn' transmission from the thermostat.



Move to the RX receiver and press the channel button of the channel to which you wish to assign the thermostat. Then press the **PROGRAMME** button on the RX receiver.

Important: the convention is to use channel 1 for heating and channel 2 for hot water. All wiring diagrams are based on this convention.

The green LED adjacent to the **PROGRAMME** button will flash to confirm that the channel has been assigned as requested.

Press either the ▲ or ▼ button on the thermostat, this returns the thermostat to normal operation.

The 'pairing' process is now complete for this thermostat.

If the installation has more than one wireless thermostat it is important to ensure that the "Learn" transmission of the thermostat that has just been paired to it's receiver is cancelled before moving on to "Pair" the next thermostat and receiver or receiver channel. To cancel a "Learn" transmission simply press either ▲ or ▼ buttons on the thermostat.

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Order Form

Product Range	Type	Part No.	Quantity
Domestic Product Selection Guide	Catalogue	028	
Wireless Control Packs	Catalogue	662	
Underfloor Heating Product & System Guide	Catalogue	438	
RA2000 Commercial Radiator Thermostats	Catalogue	410	
Commercial Product Selection Guide	Catalogue	026	
Radiator Thermostats			
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RAS-D² Domestic Revolver Radiator Thermostats, incl. push-fit versions	Sales Leaflet*	336	
RA2000 Commercial Radiator Sensors	Datasheet	VDVBE122	
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RA-N Commercial Valve Bodies	Datasheet	VD51G802	
RLV-D Domestic Lockshield Valves, including push-fit versions	Datasheet	VD35E202	
RLV Commercial Lockshield Valves	Datasheet	VD35D102	
H Pieces and Sensors	Datasheet	VD35C102	
Bathroom Solutions - RA-URX Towel Rail	Sales Leaflet	580	
Bathroom Solutions - RA-URX Towel Rail	Datasheet	VDUVV202	
Replacement Sensors RA-V & RA-VL	Datasheet	VDULY102	
Time Controls			
MK18 Time Controls - TS715 Si, CP715 Si & FP715 Si	Sales Leaflet	334	
MK18 Time Controls, Compatibility Guide	Sales Leaflet	196	
FP975 Replacement Time Controls	Datasheet	208	
GP Time Controls - 102, 102E7, 103 & 103E7	Sales Leaflet	582	
Set Range - SET1E, SET2E, SET3E & SET3M	Sales Leaflet	188	
MK3 Programmers - 3020P, 3060 & 4033	Datasheet	040	
Commercial Time Controls - MK8	Sales Leaflet	606	
Electric Thermostats			
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TP4000 Programmable Room Thermostats	Sales Leaflet*	238	
TP5000 Si Programmable Room Thermostats	Sales Leaflet*	296	
TP7000 Programmable Room Thermostats	Sales Leaflet*	594	
HC6000 Heat/Cool Thermostats	Sales Leaflet*	596	
TP9000 Programmable Thermostat with Hot Water Time Control	Sales Leaflet*	692	
WP75RF Programmable Hot Water Thermostat	Sales Leaflet*	282	
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FH-BU Wireless Zone Control	Datasheet	622	
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FHF-F Floor Heating Manifold	Datasheet	VDUDO112	
Motorised Valves and Other Controls			
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Whatever the nature of the fault or defect, i.e. manufacturing or installer, Danfoss will give a full credit for the product on a one-for-one basis.

All 'in warranty' returns are fully tested to original manufacturing specification. Reports are available within 10 working days.

The warranty expiry details are clearly marked on all products. This warranty does not cover the associated costs of replacing the product in the field with the exception of for DeviMats and DeviCable.

Customer Returns Procedure:

- Customer requests a RMA number from Customer Services - Tel: 0845 1217 502
- Customer confirms details in writing to Customer Services and returns products to Danfoss Randall Ltd, Ampthill Road, Bedford MK42 9ER
- Products are checked and allocated individual identification.
- All products within warranty are tested and reports are generated.

Full details on the warranty and returns policy are available on request.

No Quibble

Returns Policy

on all products in the range.

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