

TP5000 Si Range

*Electronic 5/2 day programmable room thermostat
Mains, Battery and RF versions*



Certification Mark

GB Installation and User Instructions

Danfoss



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Installation Instructions



Please Note:

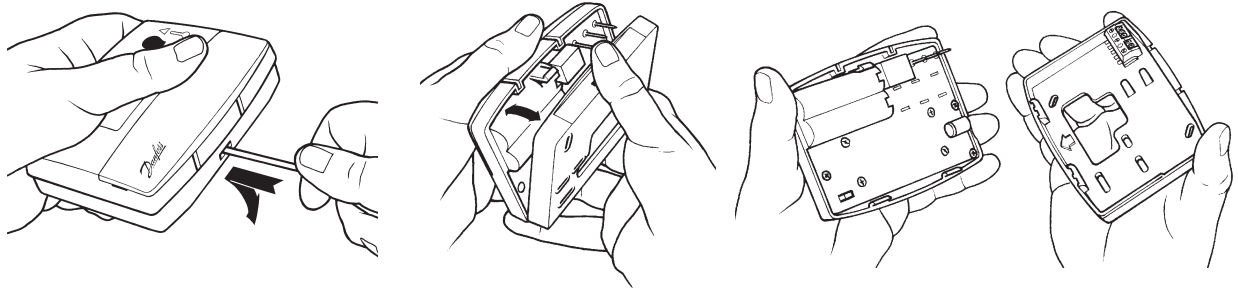
This product should only be installed by a qualified electrician or competent heating installer and should be in accordance with the current edition of the IEE wiring regulations.

Product Specification

Thermostat features	TP5000 Si	TP5000-RF Si	TP5000M Si	TP5000M 24 Si
Power supply	2 x AA/MN1500/LR alkaline cells		230V, ±15%, 50Hz	24V, ±15%, 50Hz
Memory back-up	Retained for life of product			
Temperature Range Sensing	5-30°C			
Factory set calendar clock	Automatic summer/winter time change			
Switching action of output relay	3(1)A, 10-230V	N/A	3(1)A, 10-230V, Type 1B	
Transmission frequency (RF models)	N/A	433.92MHz	N/A	N/A
Transmission range (RF models)	N/A	30m max.	N/A	N/A
Remote sensor inputs (A models only)	Can be set by installer for remote temperature sensor, limit sensor, window contact or telephone activated switch contacts			
Dimensions (mm)	110 wide, 88 high, 28 deep			
Design standard	EN60730-2-9 (EN300220 for RF)			
Rated impulse voltage	2.5kV			
Ball hardness test	75°C			
Control pollution situation	Degree 2			
Temperature accuracy	±1°C			
Time accuracy	±1 minute per month			

Important note RF products: Ensure that there are no large metal objects, such as boiler cases or other large appliances, in line of sight between the transmitter and receiver as these will prevent communication between thermostat and receiver.

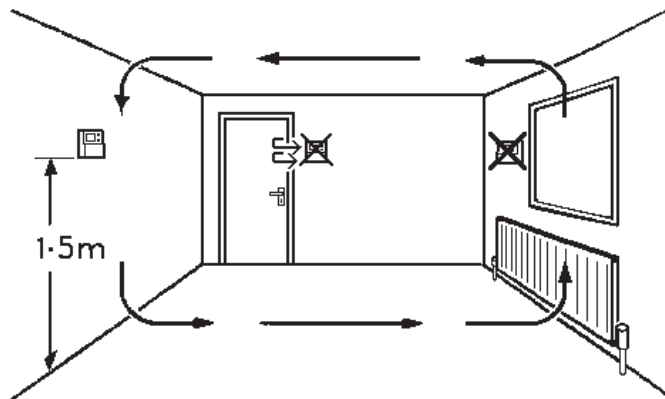
- ❑ First, remove the wallplate from the back of the unit.



- ❑ From the top left hand corner of the wallplate, there must be clearances of at least 15mm to the right, 15mm to the left, 30mm above and 100mm below in order to mount the plug-in module.

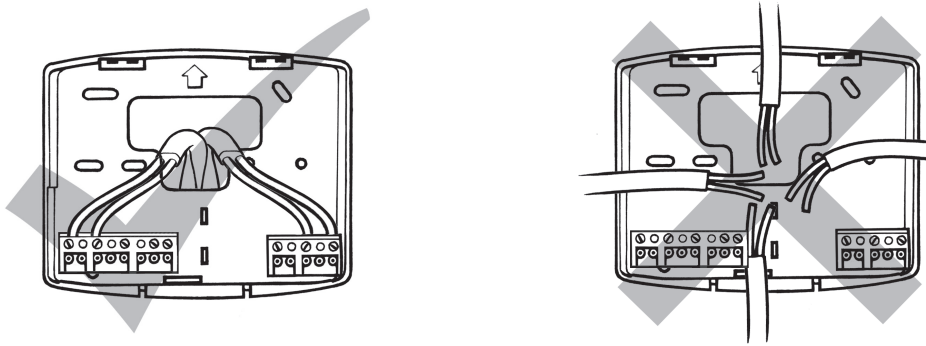
❑ **Thermostat and Remote Room Sensor:**

Fix at a height of approximately 1.5m from the floor, away from draughts or heat sources such as radiators, open fires or direct sunlight.



- ❑ Prior to mounting the unit the 2 DIL switches on the rear of the unit have to be moved to the required position. The factory presets are shown below.

Sw. No.	OFF	ON
1	Keyboard disabled	Keyboard enabled
2	Reset disabled	Reset enabled



Battery Installation

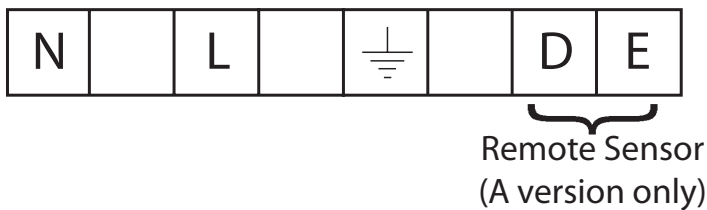
When installing the batteries in the TP5000 Si and TP5000 Si RF please ensure that the correct polarity is observed as per the markings on the inside of the battery compartment.

IMPORTANT: After installing the batteries press and release the **RESET** button to start the unit. The display may appear blank until this is done. Once the button is released the display will appear. All date, time, programming and override settings are maintained for the life of the product.

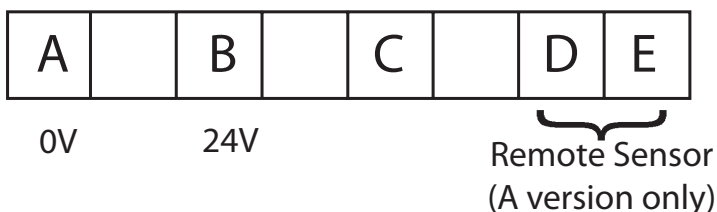
Wiring

Power Supply Connections

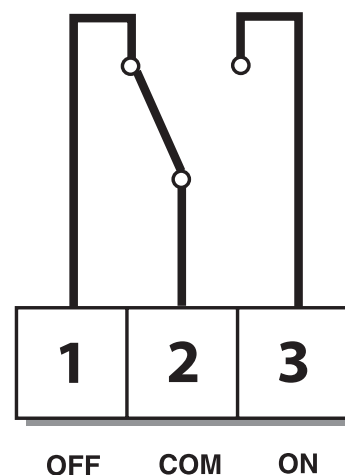
M 230V Models



M 24V Models



Output Connections, all hard wired models



Some existing thermostats will have a Neutral and/or Earth wire connected. These are not required by the battery powered versions of the TP5000 Si and must NOT be connected to any battery powered TP5000 Si terminals. Instead they should be made electrically safe and coiled in the recess at the back of the TP5000 Si.

Models with remote sensor inputs

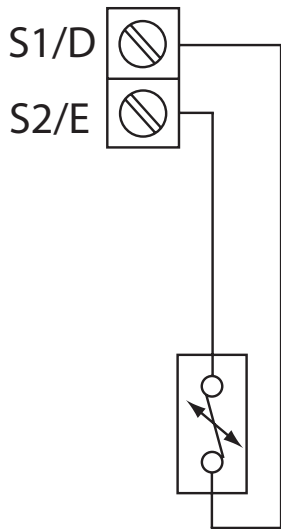
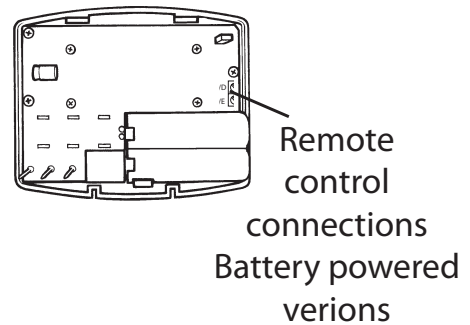
The TP5000A Si, TP5000A-RF Si and TP5000MA Si incorporate an input which can be used to connect one of the following:

- 1) remote room temperature sensor (sold as accessory).
- 2) limit sensor, for example, floor temperature sensor (sold as accessory).
- 3) window contacts, card reader contacts or teleswitch contacts.

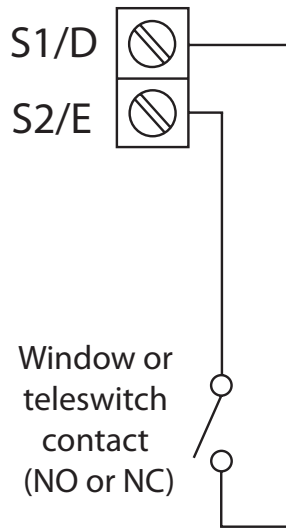
See **Installer Advanced Programming Options** for set-up instructions.

Models with remote sensor inputs

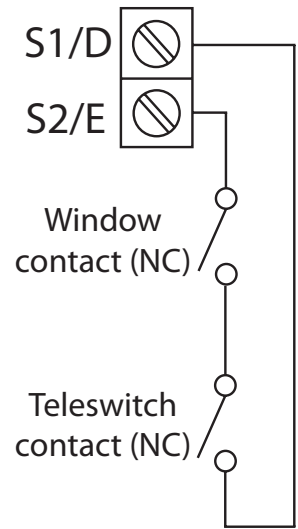
Terminal block for remote control/sensing is located on the circuit board above the battery compartment.



Configured for remote room sensor or limit sensor



Configured for window contact or other contact such as teleswitch



Configured for window contact and other contact such as teleswitch

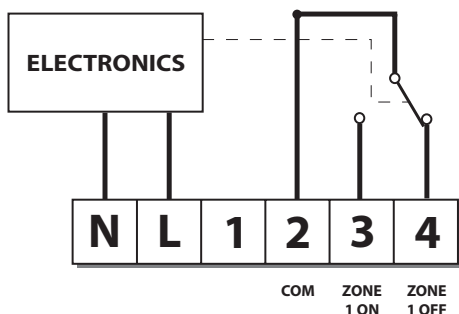
Note:

Battery powered versions use S1 and S2.
Mains powered versions use D and E.

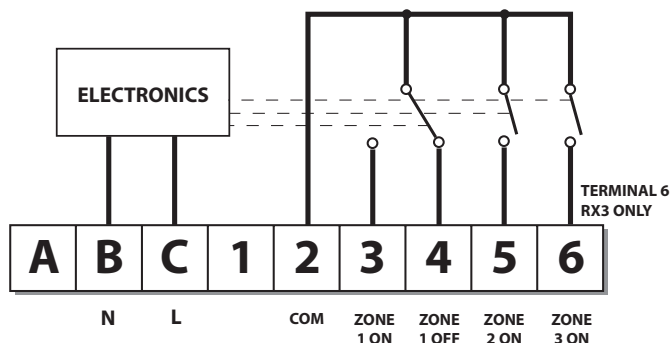
RX Receiver Wiring (RF models only)



RX1



RX2 & RX3



- 1) For mains voltage operated systems link terminal 2 to mains live supply.
- 2) Power supply to unit must not be switched by timeswitch.

IMPORTANT

To ensure that the factory programmes are set and the micro-computer is operating correctly it is essential that you press and hold the RESET button before you begin any commissioning or programming.

Commissioning (RF models only)

If the thermostat and the receiver have been supplied together in a combined pack, the units have been paired in the factory and no commissioning is required (RX1 only).

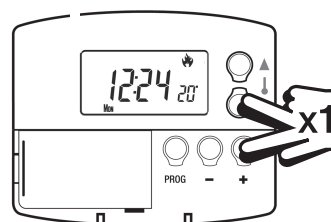
To make the RX receiver learn the thermostat's signal, follow steps 1-5 below.

Step 1

TP5000-RF Si - Reset the unit by pressing the recessed reset button.

Step 2

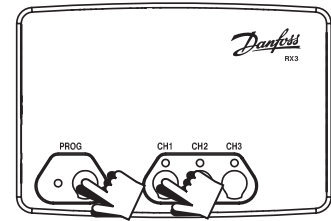
Press and hold **V and +** buttons for 3 seconds (TP5000 RF Si now transmits unique signal continuously for 3 minutes).





Step 3

RX1 - Press and hold buttons **PROG** and **CH1** for 3 seconds until green light flashes once.



Step 4

RX2 (if applicable)

Stat 1 - perform steps 1-3 and 5.

Stat 2 -perform steps 1-2 and then press **PROG** and **CH2** on **RX2**.

RX3 (if applicable)

Stat 1 - perform steps 1-3 and 5.

Stat 2 - perform steps 1-2 and then press **PROG** and **CH2** on **RX3** then **step 5**.

Stat 3 - perform steps 1-2 and then press **PROG** and **CH3** on **RX3**.

Step 5

TP5000Si-RF - Press **V** or **Λ** to select temperature - the unit will revert back to operating mode.

Installer advanced programming options

TP5000 Si incorporates a number of advanced features which can be set by the user. These are accessed via a User Advanced Programming Mode, please refer to **User Advanced Programming** in the user instructions for details (see page 25).

Installer advanced programming options

TP5000 Si incorporates an additional number of advanced features which can be set by the installer to improve the operating efficiency of the system and where required, to change the user functionality of the product. These are accessed via an Installer Advanced Programming Mode. These settings are optional and need only be made if there is a demand for the enhanced functions.

Service Interval Timer

Instructions on how to access this feature are available from our customer support desk. Please note these are only issued to boni-fide heating installers.

Entering Installer Advanced Programming Mode

To access the Installer Advanced Programming Mode follow the steps below:

a) Press and hold **V** and **PROG** for 3 seconds to enter User Advanced Programming, the display will change to figure opposite.



b) Press and hold **V**, **Λ** and **PROG** for 5 seconds to enter Installer Advanced Programming, the display will change to figure opposite.



c) Use + and - keys to scroll backwards and forwards between options then **V** and **Λ** keys to change the option settings. The flashing digit on the right hand of the display indicates the number of the selected option. The large characters display the option value selected.


d) To return to **RUN**, press and hold **PROG** until the display returns to previous **RUN** mde.


Option 30 - Set upper limit of temperature range	
This allows the upper limit of the thermostat setting range to be electronically limited. Press + until Option 30 is displayed, use V and Λ to select required setting.	
Setting	40 - 5°C (Factory setting is 30°C)





Option 31 - Set lower limit of temperature range	
This allows the lower limit of the thermostat setting range to be electronically limited. Press + until Option 31 is displayed, use V and Λ to select required setting.	
Setting	5 - 40°C (Factory setting is 5°C)



Option 32 - Enable Off at lower limit	
This enables an OFF function to be selected if a set point below the lower limit is selected. Press + until Option 32 is displayed, use V and Λ to select required setting.	
	
Setting 0	Disabled
Setting 1	Enabled (factory setting)

Option 33 - Enable On at upper limit	
This enables an ON function to be selected if a set point above the upper limit is selected. Press + until Option 33 is displayed, use V and Λ to select required setting.	
	
Setting 0	Disabled (factory setting)
Setting 1	Enabled

Option 34 - Select On/Off or Chrono-proportional	
This allows the thermostat to be set to run in On/Off mode or for a chrono-proportional cycle rate to be selected. Press + until Option 34 is displayed, use V and Λ to select required setting.	
	
0	On/Off
3	3 cycles per hour
6	6 cycles per hour (factory setting)
9	9 cycles per hour
12	12 cycles per hour

Option 35 - Set integration time (Option 34 set to 3, 6, 9 or 12) (seek advice prior to adjusting)	
This adjusts the integration time of the PI algorithm to increase control accuracy. It is only active if option 34 has been set to Chrono 3, 6, 9 or 12. It should only be adjusted after seeking advice from the manufacturer. Press + until Option 35 is displayed, use V and Λ to select required setting.	
	
2.5	Integration time set to 2.5% (factory setting)
5	Integration time set to 5%
10	Integration time set to 10%