

SALUS

CONTROLS PLC

Digital Room Thermostat RT305TX



RXBC605



RXST625



RXWBC605



RXVBC605



RXRT505

The RT305TX can be used with any of these receivers



RT305TX

RT305TX



RT305TX

RT305TX

PRODUCT COMPLIANCE

This product complies with the essential requirements of the following EC Directives:

- Electro-Magnetic Compatibility directive 2004/108/EC
- Low Voltage Directive 2006/95/EEC
- EC Marking directive 93/68/EEC

SAFETY INFORMATION

These instructions are applicable to the Salus Controls model stated on the front cover of this manual only, and must not be used with any other make or model. These instructions are intended to apply in the United Kingdom only, and should be followed along with any other statutory obligations.

When fitting batteries don't mix old and new batteries together. Do not use rechargeable batteries.

Please leave these instructions with the end user where they should be kept in a safe place for future reference.

INTRODUCTION

An RF thermostat is a transmitter that allows control of a heating system with no physical connection between the thermostat and the boiler. This digital thermostat is used to switch the heating system in your home on and off as needed. It works by sensing the air temperature and switching on the heating when the air temperature falls below the thermostat setting, and switching it off once the set temperature has been reached. The RT305TX from Salus Controls is a stylish and accurate digital thermostat with a large, easy to read Liquid Crystal Display (LCD).



This thermostat can replace most common residential thermostats and is designed to be used with electric, gas or oil heating control systems. Unlike ordinary single unit design thermostats, this is a new type of thermostat separating the operational functions into two units.

The Receiver is used for wiring connections and heat on/off control. The thermostat provides the user interface and temperature sensing /control. The two units are linked together by a Radio Frequency (RF) signal.

Features

- Frost protection
- Large, easy to read LCD with blue backlight
- Burner on symbol
- User friendly

INSTALLATION

Please read the important safety information at the start of this manual before you begin to install the device. The RT305TX can be used in any convenient location by using the included stand, or can be easily installed in a fixed position using the industry standard back plate supplied with the unit – this is used purely for mounting purposes, as no wiring is needed for the RT305TX. The back plate can be mounted directly to the wall surface.

The ideal position to locate the RT305TX thermostat is about 1.5m above floor level. It should be mounted in a location where the thermostat is accessible, reasonably lit and free from extremes of temperature and draughts. Do not mount the thermostat on an outside wall, above a radiator or in a location where it may be subjected to direct sunlight. To ensure trouble free operation of the Radio Frequency (RF) signal, always ensure that the programmable thermostat is mounted away from any possible sources of interference (such as radios, TV sets, computers, etc.), and is not mounted on or in close proximity to large metal objects. Installing the RT305TX in enclosed areas such as cellars and basements is not recommended.

AFTER INSTALLATION

The following table shows the settings of the RT305TX digital thermostat after Power on, or after RESET is pressed:

Function	Status After Reset or Power On
Operation Mode	Normal mode
Room Temperature	22.0 °C, updated within 5 seconds
Set Point Temperature	Default factory setting
Frost Protection indicator	Off
Heat indicator	Off
Low-Battery Warning indicator	Off, updated within 5 seconds
Output Relay	Off

After Power on, the thermostat will operate in **Normal** mode (Normal mode is when the thermostat is displaying the room temperature):





- The set point temperature is reset to the default setting
- The room temperature display is updated within 5 seconds
- The control process starts

USER INTERFACE AND CONTROLS

The status and operation of the RT305TX is clearly shown on the large backlit Liquid Crystal Display (LCD). This display allows the user a clear indication of the current room temperature, and the status of the heating system. There are few user controls for the RT305TX, making this thermostat very easy to operate. These controls are shown below, along with a description of each of their functions.



USER CONTROL FUNCTION SUMMARY

Key / Operation	Symbol	Functions
UP key		Increases the selected setting
DOWN key		Decreases the selected setting
BACKLIGHT / FROST key		Manually turns on the LCD backlight or hold for 3s to activate/deactivate frost protection, or >3s to enter sync mode
RESET button		Resets the programmable thermostat to default (original factory) settings

OPERATION

The RT305TX is configured and adjusted by the use of a minimal number of user controls, and an intuitive user interface.

The backlit Liquid Crystal Display (LCD) gives a highly visible, easily readable indication of the programmable thermostat status.



REVIEWING SET POINT TEMPERATURE

You can change the set point temperature very easily while you are reviewing the set point temperature. Press the UP or DOWN keys repeatedly to change the temperature setting. The set point temperature will flash to indicate that it can be changed:



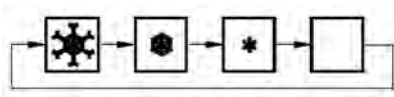
The temperature will be changed in 0.5°C steps per key press. The RT305TX will return to Normal mode if no keys are pressed for more than four seconds. Set point temperature cannot be changed if Frost Protection mode is enabled.

FROST PROTECTION

To enable the Frost Protection mode, press and hold the BACKLIGHT / FROST button for three seconds. Once Frost Protection is enabled, the set point temperature is automatically set to 5°C to provide protection from the risk of freezing.



Whenever Frost Protection is activated, the Frost Protection indicator will flash in the sequence shown below:



To turn off Frost Protection mode, press and hold the BACKLIGHT / FROST button for three seconds. Please be aware that the Frost Protection mode operates as an additional protection feature but should not be used in place of a correctly installed frost thermostat, which is required to override all other controls in the system. The backlight will remain illuminated for approximately 5 seconds.

SETTING UP RF COMMUNICATION WITH YOUR RECEIVER

RXRT505(ONLY)



Receiver

After you have switched the above receiver on, the thermostat will automatically pair. When the red LED stops flashing, the unit has successfully paired.

If you have difficulty in pairing the thermostat, we recommend changing the address codes in the thermostat and the receiver.



DIP Switches

To adjust the RF address code of the receiver, simply push up one or more of the 5 DIP switch levers on the DIP switch bank located on the back of the receiver (the levers are numbered 1 to 5 from bottom to top, as shown in the picture left), and then make a note of the setting of each switch:



Jumper Caps

To adjust the RF address code of the thermostat, remove one or more of the jumper caps located on the back of the unit (labelled 1,2,3,4 and 5, and shown in the picture left) so that the jumper settings match the settings made on the receiver:

For full instructions on pairing the RXRT505 see page 7 of the receiver manual.

RXVBC605, RXWBC605, RXBC605 & RXST625)

To enter learning mode press and hold **FROST** key for 6 sec and the thermostat will show SY9 (see below) once the thermostat is in learning mode press and hold the sync button on the receiver (see receiver manual for info) wait for the red LED on receiver to stop flashing then press any key to cancel and return to the main screen.



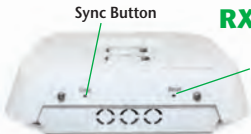
LOCATION OF SYNC BUTTONS ON RECEIVERS



RXBC605

Sync Button

For full instructions on pairing the RXBC605 see the receiver manual.



Sync Button

RXST625

Press reset
button first

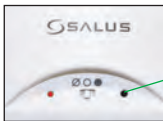
For full instructions on pairing the RXST625 see page 9 of the receiver manual.



RXVBC605

Sync Button

For full instructions on pairing the RXVBC605 see page 16 of the receiver manual.



RXWBC605

Sync Button

For full instructions on pairing the RXWBC605 see page 23 of the receiver manual.

TESTING THE RF TRANSMISSION


1. Press the UP button on the thermostat until the set point temperature is higher than room temperature by a few degrees.
2. Wait for a few seconds. The Burner on (heat call) indicator should appear on the bottom left of the LCD on the thermostat.
3. Check the green LED on the receiver unit - it should be lit.
4. Press the DOWN button to adjust the set point temperature to be lower than room temperature.
5. Wait for a few seconds, and the Burner on (heat call) indicator should disappear and the green LED should switch off.
6. If at step 3 the green LED is not illuminated, press the RESET button on the thermostat and try to place the thermostat closer to the Receiver.
7. Repeat steps 1 to 5.

OTHER FUNCTIONS AND CONTROLS

Backlight

The backlight of the RT305TX is switched on automatically whenever any of the keys are pressed. The backlight will remain illuminated for approximately 5 seconds after the last key press, except if you are changing the set point temperature – in this case, the backlight will remain illuminated throughout the setting change process. The backlight will not illuminate if the RT305TX battery is low.

Battery Status

The RT305TX checks the battery voltage frequently during normal operation. If the battery voltage is sensed as being low (this is normally when the battery voltage falls to a level of around 2.6V), the low battery indicator  will be displayed on the screen. Although the programmable thermostat will continue to operate normally at this stage, you should replace the batteries as soon as possible to prevent any possible operating problems.

Sleep Mode

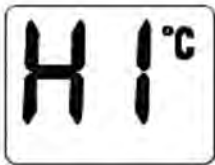
By pressing both the UP and DOWN keys together, the RT305TX will enter SLEEP mode. In this mode, all the RT305TX functions will be paused to save battery power. While in SLEEP mode:

- The LCD display will be blank
- All output from the thermostat will be turned off immediately.

Press any key to wake up the RT305TX and cancel SLEEP mode.

TEMPERATURES OUTSIDE THE OPERATING RANGE

Temperatures below 10 °C are displayed without the leading '0'. Temperatures exceeding the measurable range will be indicated by 'HI' for temperatures above the upper limit, and 'LO' for temperatures below the lower limit, as shown in the images below:



ENERGY TIP

One way to set and use your room thermostat is to find the lowest temperature setting that you are comfortable with, and then leave it set at this temperature. You can do this by setting the room thermostat to a low temperature, (for example 17 °C) and then increasing the setting by one degree each day until you are comfortable with the room temperature you won't have to adjust the thermostat further, as adjustment above this setting will waste energy - a 1 °C increase in temperature is equal to 3% of your heating costs.

MAINTENANCE

The RT305TX electronic thermostat requires no special maintenance. Periodically, the outer casing can be wiped clean using a dry cloth (please DO NOT use solvents, polishes, detergents or abrasive cleaners, as these can damage the thermostat). There are no user serviceable parts within the unit; any servicing or repairs should only be carried out by Salus Controls or their appointed agents. Should the RT305TX electronic thermostat fail to function correctly, check:

- The batteries are the correct type, fitted correctly and are not exhausted - fit new batteries if in doubt.
- Heating system is switched on.
- The receiver is switched on
- If the RT305TX is still not functioning correctly, press the reset button.

WARRANTY

Salus Controls warrants that this product will be free from any defect in materials or workmanship, and shall perform in accordance with its specification, for a period of two years from the date of purchase. Salus Controls sole liability for breach of this warranty will be (at its option) to repair or replace the defective product.

PRODUCT SPECIFICATION

Model:	RT305TX
Type:	Digital thermostat, designed for RF heating applications.
Frequency	868 MHz

Temperature

Scale:	Celsius
Range:	5 °C to 35 °C
Resolution:	0.5 °C
Tolerance:	Less than ± 0.5 °C at 25 °C
Display Range:	5.0 °C to 45.0 °C
Display Resolution:	0.5 °C

Frost Protection

Setting:	5 °C
Setpoint Temperature Range:	5 °C to 35 °C

Thermostat

Power Source:	2 x AA alkaline batteries (don't use rechargeable batteries)
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Environment

Operating Temperature:	0 °C to + 40 °C
Storage Temperature:	- 20 °C to + 60 °C

RT305TX Warranty

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Customer Name:

Customer Address:

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Post Code: Tel No:

Email:

Engineers Company:

Tel No:

Email:

Intallation Date:

Engineers Name:

Engineers Signature:



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