TLX RFP

What is a room thermostat?

A room thermostat simply switches the heating system on and off as necessary. It works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached.

Turning a room thermostat to a higher setting will not make the room heat up any faster. How quickly the room heats up depends on the design of the heating system, for example, the size of boiler and radiators.

Neither does the setting affect how quickly the room cools down. Turning a room thermostat to a lower setting will result in the room being controlled at a lower temperature, and saves energy.

The heating system will not work if a time switch or programmer has switched it off.

The way to set and use your room thermostat is to find the lowest temperature setting that you are comfortable with, and then leave it alone to do its job. The best way to do this is to set the room thermostat to a low temperature – say $18^{\circ}C$ – and then turn it up by one degree each day until you are comfortable with the temperature. You won't have to adjust the thermostat further. Any adjustment above this setting will waste energy and cost you more money.

If your heating system is a boiler with radiators, there will usually be only one room thermostat to control the whole house. But you can have different temperatures in individual rooms by installing thermostatic radiator valves (TRVs) on individual radiators. If you don't have TRVs, you should choose a temperature that is reasonable for the whole house. If you do have TRVs, you can choose a slightly higher setting to make sure that even the coldest room is comfortable, then prevent any overheating in other rooms by adjusting the TRVs.
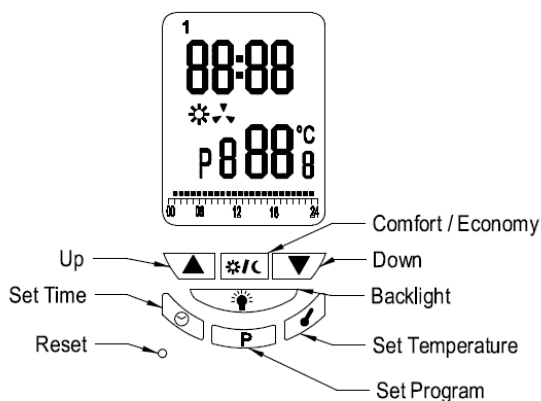
Room thermostats need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture. Nearby electric fires, televisions, wall or table lamps may prevent the thermostat from working properly.

This thermostat can replace most common residential thermostats. It is designed to be used with electric, gas or oil heating or cooling control systems.
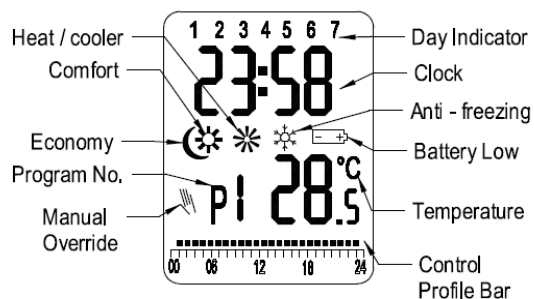
Unlike most common single design thermostats, the TLX RFP(v) separates the thermostat function into two units. The receiver makes the hard wired connection to the pump, boiler, motorised valve etc, whilst the transmitter (thermostat) cam be situated in any room to read and control the temperature and transmit the information to the RF receiver.
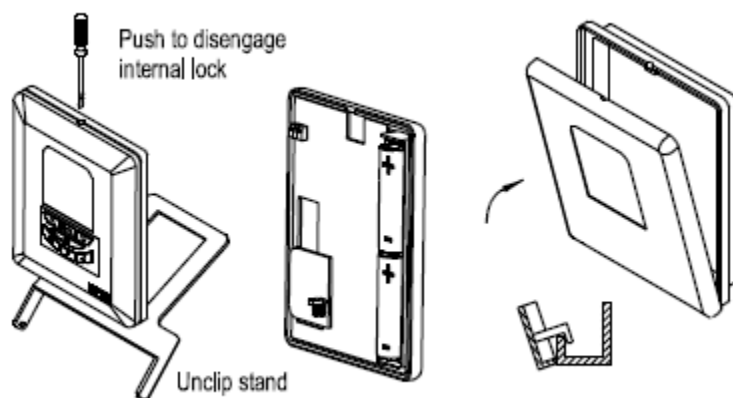
Control layout

LCD

Heat / cooler
Comfort
Economy
Program No.
Manual Override

Day Indicator
Clock
Anti - freezing
Battery Low
Temperature
Control Profile Bar

Thermostat

Push to disengage internal lock

Unclip stand
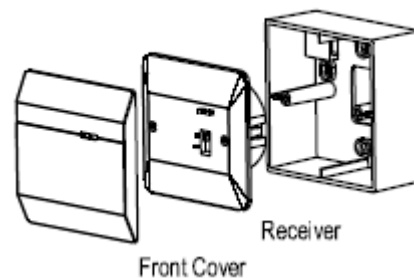
RF Range 30Metres
Real time clock with day of week display
Control profile display
Simplified programming procedure
Temporary 'set' temperature override
 User selectable differential (span)
User selectable Heater/Cooler modes
 Low battery level indicator
Uses 2 x AA alkaline batteries
 EL backlight

LCD Shows 'need to know' information only
Room temperature display
Simplified temperature adjustment
Frost protection

Receiver

Receiver
Front Cover

Linked to thermostat by RF
 Switch rating 230V 16A Resistive
Mains powered
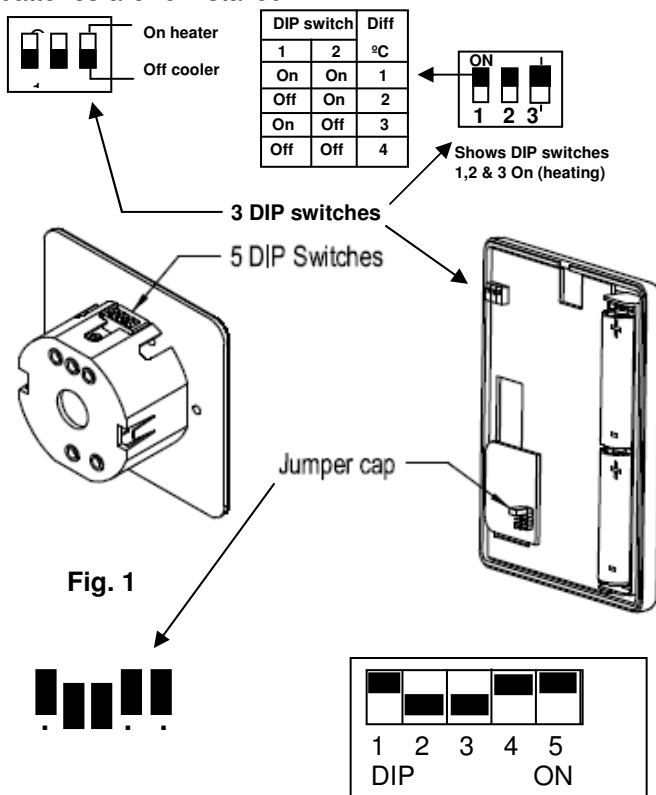 Two LED indicators

Inserting batteries

Using a small screwdriver or similar probe, push down through the hole in the top of the thermostat until some resistance is felt, then pull forward to split the front of the thermostat from the backplate.

Insert 2 X AA batteries into the thermostat, observing correct polarity. When the power is applied for the first time, the display must show,Time, Day, Room temperature, P1 and a Sun symbol. If not, press reset button until the above display appears.

Heater/Cooler selection

Mounted on the left hand side and above centre of the thermostat PCB are three DIP switches, these are used to control the differential and the heat/cool system.

The switches must be set before the batteries are installed. For Heating, switch number 3 must be in the ON position. For Cooling, switch number 3 must be in the OFF position. To change from heater to cooler and vice versa, the batteries must be removed, and the display cancelled, the reset button must be pressed when the batteries are re-installed.

| DIP switch | | Diff |
1	2	ºC
On	On	1
Off	On	2
On	Off	3
Off	Off	4

Shows DIP switches 1,2 & 3 On (heating)

3 DIP switches

5 DIP Switches

Jumper cap

Fig. 1

Differential setting

Differential is the difference between the unit switching OFF and switching back ON again. For example, with a 1ºC differential, if the 'stat Switches OFF at 20ºC, it will drop back 1ºC and then switch back ON again.

RF Address code setting (See Fig. 1)

Switch off power to the receiver and remove batteries from thermostat.
To set the address code, remove at least two of the 'jumpers' on the thermostat pcb. (park the 'jumpers' on one of the jumper legs). Where a 'jumper' is removed, the corresponding DIP switch on the receiver must be moved to the OFF position. Replace batteries into the receiver and press the reset button. Switch on the power to the receiver. Set the thermostat to demand heat. The rotating icon will appear on the display to indicate heating demand and the green light will illuminate on the receiver. On initial set up, it may take up to two minutes for this to appear. In a cooling application, it may take up to four minutes for the icon to appear initially.

SETTING CONTROL TEMPERATURE

1. Press the ✔ button to display the set temperature.
2. Press the ☼/☾ button to toggle between economy and comfort modes.
3. Press the ▲ or ▼ buttons to change the set temperature by 0.5ºC increments.
4. Press ✔ again to save the set temperature.
5. The unit will return to normal operating mode if no key is pressed for 10 seconds.
6. The default setting for comfort mode is 21ºC for heater, and 23ºC for cooler
    The economy mode is 18ºC for heater, and 26ºC for cooler.

The blacked out portion above the numbers indicates when the thermostat is in '**Comfort**' mode and the clear spaces indicate **'Economy**' mode.
Having set the day number/numbers, press '**P**' , and a 'P' number will flash at the bottom of the display. Again using the buttons with the triangles, step through to the pre-set programmes to select one of these if they are suitable for your requirements.

USER DEFINED PROFILES

Press 'P' and a number will flash at the top of the screen. If using the **24 Hr** set up, then using either of the keys showing a triangle on it▲ or ▼ keep pressing it until all of the numbers **1,2,3,4,5,6 & 7** are displayed, then follow setting up procedure as below.

 If you are using the **5/2 day** set up, press **P** for the flashing number at the top of the screen, then using either of the keys showing a triangle on it keep pressing it

until all of the numbers **1,2,3,4, & 5** are showing, then follow the setting up procedure as below. press **P** for the flashing number at the top of the screen, then using either of the keys showing a triangle on it keep pressing it until all of the numbers **6 & 7** are showing, then follow the setting up procedure as below.

Please note if using the 5/2 day set up, then you need to select one program for the 5 days and a different one for the remaining 2 days.

If using any of the factory pre-set programmes 1,2,3,4,5 or 6, only the Comfort and Economy temperatures can be altered. The ON/OFF times remain as pre-set.

If you want to put in your own programme, keep pressing the triangle button until you reach programme 7, 8, or 9. Press 'P' again.

The display should now show, the day/days number the number '0' and your programme number, plus a sun or moon icon. Press 'P' again and a flashing cursor appears in the bottom left hand corner of the display. The 0 equals the time between midnight and one o'clock, 1 equals the time between one and two o'clock etc. This time will change as you move along the timeline.

SETTING UP
When setting up your own programme for the first time, there will be a black square above each of the hours along the timeline at the bottom of the screen. Using the button with the **SUN/MOON** icon (top middle button), scroll along removing Black squares till you get to the point where you want your first heating time **ON**. Then using the upward pointing triangle, continue to scroll along till you get to the point where you want the heating to switch **OFF**. Using the **SUN/MOON** icon button, again scroll along till you get to the point where you want the heating to come back **ON**, and then use the upward pointing triangle to scroll to the switch **OFF** point. Repeat this process for Switch **ON** Switch **OFF** times. Each Black square gives an hour of Comfort heating.

Next press the button with the clock symbol, the day number will flash and the time will be displayed. Using either of the triangle buttons,set the current day of the week. Monday = day 1,Tuesday = day 2 etc.
Press the clock symbol again, the HOURS will flash. Set this using either of the triangle buttons. When the hours have been set, press the clock symbol again and the minutes will flash. Again using either triangle buttons, set the minutes. When you have done this, press the clock symbol to exit the time setting.

Press the button showing the 'THERMOMETER' (right hand side of the 'P' button) If a crescent moon symbol appears, press the **SUN/MOON** button until a SUN symbol appears. This is your COMFORT temperature,

the temperature you want to sit in and relax. Again use the triangle buttons to set this temperature to say 20°C

Press the **SUN/MOON** button again, a crescent moon appears, this is the ECONOMY temperature setting. This is the temperature you don't want your house to fall below. Use the triangle buttons to set this temperature, typically around 15deg C, but you choose your own temperature settings. (Economy setting typically 6°C below Comfort setting, this is to prevent your heating from coming on if the room temp drops a couple of degrees below Comfort temp).

If you find your room is too warm and you're in COMFORT mode, press the **SUN/MOON** button, this will toggle from COMFORT to ECONOMY and switch your heating off. Obviously if you are too cold in an ECONOMY setting, toggle it to the COMFORT setting.

If too cold in a COMFORT setting, use the thermometer button to raise the temperature to something a little higher. (Remember the SUN symbol must be showing when raising the COMFORT temperature).

Temporary Override
During normal operation, pressing ☼/☾ will toggle the set temperature between Economy and Comfort settings. During override, the current operating mode icon and the ✋ hand icon will be displayed.

Override the SET temperature
   1. During normal operation, press ▲ or ▼ to change set temperature. The new temperature and the ✋hand icon will be displayed. Both the ☼ and the ☾ will be turned off.
   2. Press any button except ▲ or ▼ to end setting and return to normal operation
   3. The unit will return to normal operating mode after 10 secs. If no buttons are pressed.

Frost protection mode.
   1. Press ▲ and ▼ simultaneously to activate frost protection mode (heater mode only). The ❄ and ✋ icons will be displayed and the ☼ and ☾ icons will be turned off.
   2. Pressing any button will end the frost protection mode.
   3. The pre-set temperature for frost protection is 7ºC

Backlight
Press the middle button (light bulb icon) to illuminate the backlight.The light will will turn off again after 10 secs.
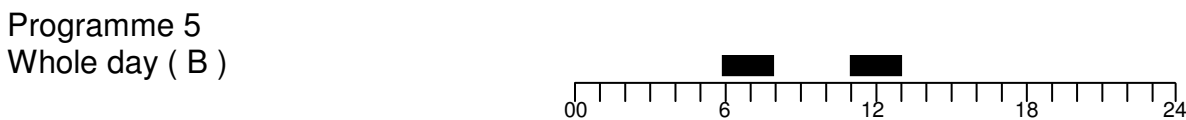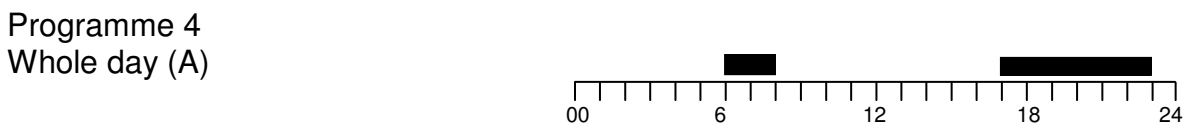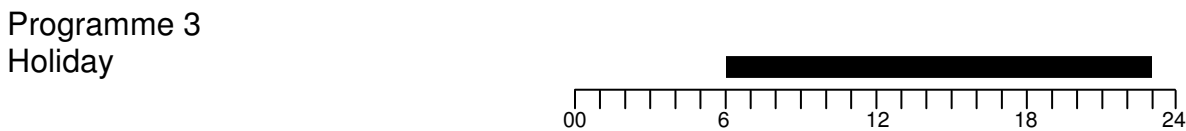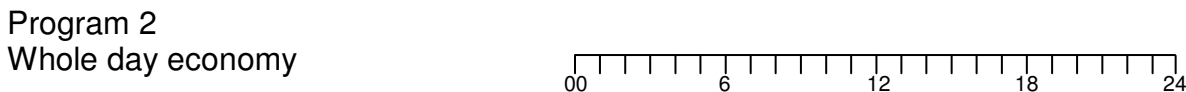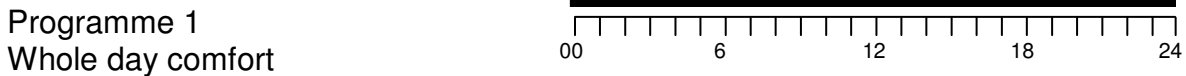
Battery replacement
The batteries should be replaced when the battery icon appears in the display. N.B.always press the reset button after installing the batteries.

SPECIFICATION

Power source (Thermostat)	2 AA (LR 6 Batteries)
Switch rating (Receiver) resistive. 3 Amp inductive.	250v ~ 16 amp
Clock accuracy per month	+/- 60 seconds
Temperature measurement resolution	0 – 40 ºC, 0.5ºC
Temperature accuracy	+/- 1ºC at 20ºC
Temperature control 0.5ºC increments	7ºC to 30ºC in
Temperature differential (adjustable)	1, 2, 3 or 4ºC
Min. air conditioner off time	3 minutes
Operating temperature	0 - 40ºC
Storage temperature	-10 - 60ºC
Size 23.5mm	116 x 100 x
Weight	220g

Programme number and Profile

Programme number
programme profile

Programme 1
Whole day comfort

Program 2
Whole day economy

Programme 3
Holiday

Programme 4
Whole day (A)

Programme 5
Whole day (B)

Programme 6
Half-day work

█████   Block shows time period in
COMFORT mode. Remainder is in ECONOMY
mode

Easy set guide

Press '**P**' on the 'stat. You will see a number flashing on top of the
display. This is the '**DAY**' number. At this point you select which system
you want to use. Either **24 Hr**. (each day the same), **or 5/2 day**. If using the **24 Hr** set up, then
using either of the keys showing a triangle on it keep pressing it until all of the numbers **1,2,3,4,5,6
& 7** are displayed, then follow setting up procedure as below. If you are using the **5/2 day** set up,
press **P** for the flashing number at the top of the screen, then using either of the keys showing a
triangle on it keep pressing it until all of the numbers **1,2,3,4, & 5** are showing, then follow the
setting up procedure as below. press **P** for the flashing number at the top of the screen, then using
either of the keys showing a triangle on it keep pressing it until all of the numbers **6 & 7** are
showing, then follow the setting up procedure as below.

***Please note if using the 5/2 day set up, then you need to select one program for the 5 days
and a different one for the remaining 2 days.***

You are now going to select your programme. There are 9 programmes in the thermostat.
Programmes 1 - 6 are pre-set in the factory and cannot be altered, except for temperatures.
Please refer to your instruction manual where it shows **PROGRAM NUMBER & PROGRAM
PROFILE**.

The numbers along the bottom of the program profile, represent the 24 hours in the day.

The blacked out portion above the numbers indicates when the thermostat is in '**Comfort**' mode
and the clear spaces indicate **'Economy**' mode.

Having set the day number/numbers, press '**P**' , and a 'P' number will flash at the bottom of the
display. Again using the buttons with the triangles, step through to the pre-set programmes to
select one of these if they are suitable for your requirements.

If you want to put in your own programme, keep pressing the triangle button until you reach
programme 7, 8, or 9. Press 'P' again.

The display should now show, the day/days number the number '0' and your
programme number, plus a sun or moon sign and a flashing cursor in the bottom left hand corner
of the display. The 0 equals the time between midnight and one o'clock, 1 equals the time between
one and two o'clock etc.

When setting up your own programme for the first time, there will be a black square above each of
the hours along the timeline at the bottom of the screen. Using the button with the SUN/MOON
icon (top middle button), scroll along removing Black squares till you get to the point where you
want your first heating time ON. Then using the upward pointing triangle, continue to scroll along till
you get to the point where you want the heating to switch off. Using the SUN/MOON icon button,
again scroll along till you get to the point where you want the heating to come back on, and then
use the upward pointing triangle to scroll to the switch off point. Repeat this process for Switch on
Switch off times. Each Black square gives an hour of Comfort heating

***Pressing the 'SUN/MOON' button will place a black box down if there isn't one there, or will
remove one if there is.***

N.B. If using the 5/2 day option on personal programmes , the 5 day settings have to be made on programme 7,8 or 9, then the 2 day settings have to be made on one of the remaining two programmes.
Next press the button with the clock symbol, the day number will flash and the time will be displayed. Using either of the triangle buttons,set the current day of the week. Monday = day 1,Tuesday = day 2 etc.
Press the clock symbol again, the HOURS will flash. Set this using either of the triangle buttons. When the hours have been set, press the clock symbol again and the minutes will flash. Again using either triangle buttons, set the minutes. When you have done this, press the clock symbol to exit the time setting.

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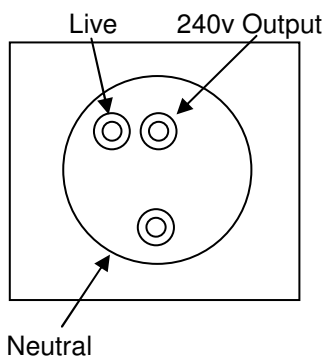
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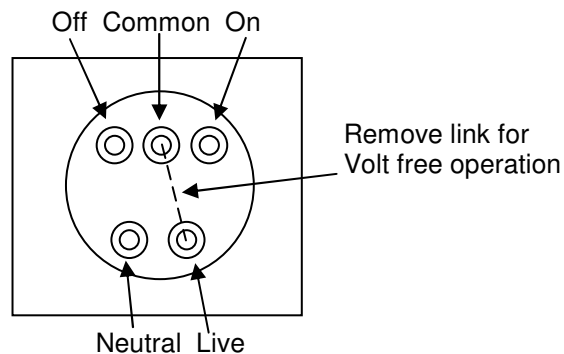
FOR RFP & RFP(V) ONLY Setting jumpers and DIP switches. Remove at least two jumpers from thermostat and set the appropriate number of DIP switches. See diag.


```
 1  2  3  4  5
DIP         ON
```

DIP switch to 'ON' position if jumper is present

Live   240v Output

Off Common On

Remove link for
Volt free operation

Neutral

Neutral Live

TLX RFP   Receivers   TLX RFP(V)

Please note, when setting up the system, ensure that the batteries are NOT in the thermostat and that the receiver is not powered up.