RDTP-TW



EPH CONTROLS

Mains Powered RF Thermostat

Installation and Operation Guide

Table of contents

RDTP-TW Mains Powered Programmable RF Thermostat	
Installation Instructions	5
Factory Default Settings	6
Frost Protection	6
Specifications	7
How your programmable thermostat works	8
Mounting & Installation	9
Important notes	12
RDTP-TW Mains Powered Programmable RF Thermostat	
Operating Instructions	13
LCD Symbol Description	14
Button Description	15
Wiring	16
Auto Mode	17
Temperature Override	17
Permanent Override	18
On/Off Function	18
Adjusting the Target Temperature	19
Locking and unlocking the thermostat	19
Making a Hub / Branch receiver	20

Connecting a RDTP-TW Hub to a GW04^{V2} (Continued Operating Instructions)	21
Menu	22
P01 Programming	23
Factory Programming modes	23
Programming modes	25
Adjust the Program setting in 5/2 Day mode	26
Copy Function	27
P02 Setting the date, time and programming mode	28
P03 Connecting a RDTP-TW Branch to a RDTP-TW Hub	29
P04 Operating mode (Normal / Optimum Start / TPI)	31
P05 Setting High & Low Limits	38
P06 Hysteresis	39
P07 Calibrate	40
P08 Frost Protection	41
P09 AFS - Air / Floor Sensor	42
P10 FHL - Floor High Limit	44
P11 Holiday Function	45
P12 Blacklight	46

RDTP-TW Mains Powered Programmable RF Thermostat - Menu (Continued) contents

P13 PIN Lock	47
P15 Temperature Selection Range	50
P16 Resetting the Thermostat	51
Exit	52
RDTP-TW Mains Powered Programmable RF Thermostat	
Installer menu - OpenTherm® Instructions	53
P17 Setting DHW Temperature	54
P18 OpenTherm® Information	55
P19 DHOP	56
P20 Set OpenTherm® Parameters	56
Exit	58
System Architecture	59
Controlling an OpenTherm® Boiler with multiple RDTP-TW's	62



Mains Powered Programmable RF Thermostat

Installation Instructions

Factory Default Settings

Temperature indicator:	˚C
Keypad lock:	Off
Backlight:	Auto
Operating mode:	Normal
High and low Limits:	OFF
Hysteresis:	0.4˚C
Setback temperature:	0˚C
AFS - Air / Floor / Sensor:	01 Internal Air Sensor
FHL - Floor High Limit:	26˚C
Temperature Selection Range:	Htg (Heating Parameters)

Frost Protection 5˚C

Frost protection is built into this thermostat.

It has a factory default of 5°C and is adjustable from 5...15°C.

When frost protection is activated the thermostat will switch on the boiler when the temperature drops below the setpoint.

This symbol ❄ will show on the screen when frost protection is active.

Frost protection is only active in OFF and Holiday mode.

Specifications

Power supply / Input:	230Vac	
Power consumption:	<1W	
Declared impulse voltage:	4000V	
Temperature range:	5…35˚C	
Ambient temperature:	0…45˚C	
Ambient admissible humidity:	5-95% RH	
Dimensions:	91 x 91 x 40mm	
Internal temperature sensor:	NTC 100K	
Backlight:	White	
IP rating:	IP20	
Pollution degree:	2	
Temperature range:	Heating	5 … 35˚C
	Hot Water	5 … 90˚C
Hysteresis (Switching differential):	Heating	0 … 1˚C (0.1°C increments)
	Hot Water	0 … 20˚C (0.5°C increments)
Automatic action:	1C	

How your programmable thermostat works

When the thermostat is in the AUTO mode, it will operate according to the times and temperatures that have been programmed. The user can select from 6 different programs per day - each with a time and a temperature.

There is no OFF time, only a higher and a lower temperature.

If the user wants the thermostat to be OFF at a certain time, set the temperature for this time to be low. The thermostat will turn ON if the room temperature is lower than the setpoint for the current period.

Example: If P1 is set to be 21˚C at 6am, and if P2 is set to be 10˚C at 8am, the thermostat will look for the temperature to be 21˚C between 6am and 8am.

Mounting & Installation

Caution!

- Installation and connection should only be carried out by a qualified person.
- Only qualified electricians or authorised service staff are permitted to open the thermostat.
- If the thermostat is used in a way not specified by the manufacturer, its safety may be impaired.
- Prior to setting the thermostat, it is necessary to complete all required settings described in this section.
- Before commencing installation, the thermostat must be first disconnected from the mains.
- This product is an independently mounted control.

This thermostat can be mounted to a 1 gang recessed back box.

Mounting & Installation continued

1) Remove the thermostat from its packaging.

2) Choose a mounting location so that the thermostat can measure the room temperature as accurately as possible.

   - Mount the thermostat 1.5 meters above the floor level.

   - Prevent direct exposure to sunlight or other heating / cooling sources.

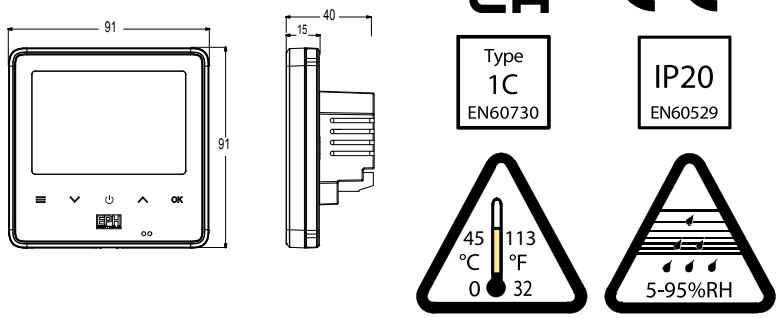
3) Use a phillips screwdriver to loosen the screw on the bottom of the thermostat and remove the front housing from the blackplate as per diagram on page 11.

4) Wire the thermostat according to the wiring diagram on page 16.

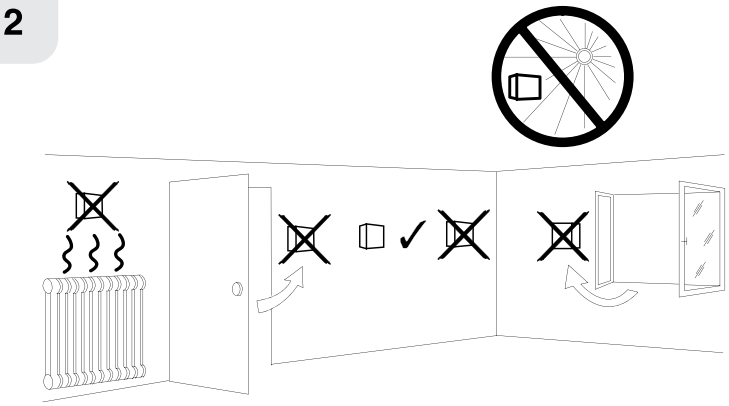
5) Screw the rear wiring box to the recessed back box.

6) Attach the front housing to the backplate and tighten the screw on the bottom of the thermostat.

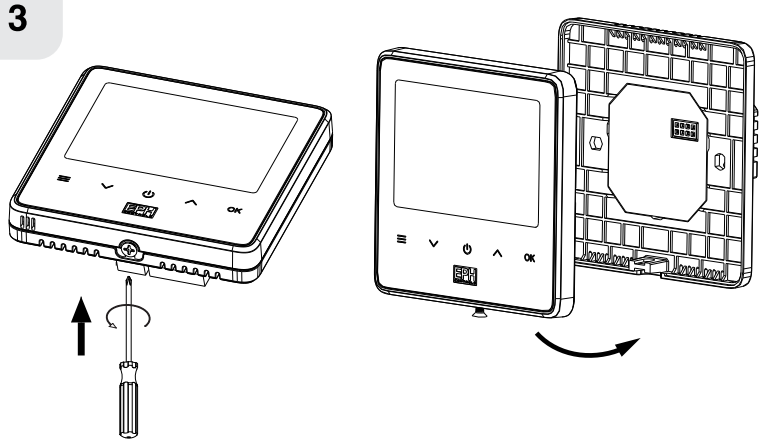
1


91
91
40
15
UK CA
CE
Type 1C EN60730
IP20 EN60529
45 °C 113 °F
0 32
5-95%RH

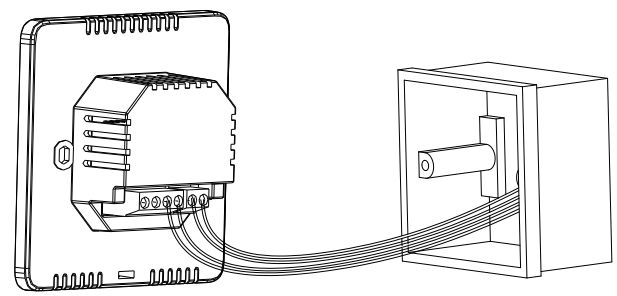
2



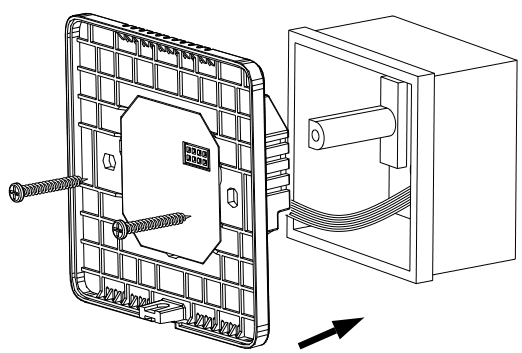
3



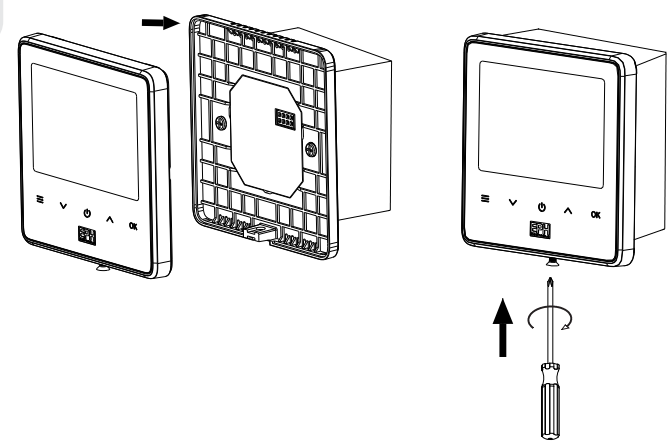
4



5



6



Important Notes

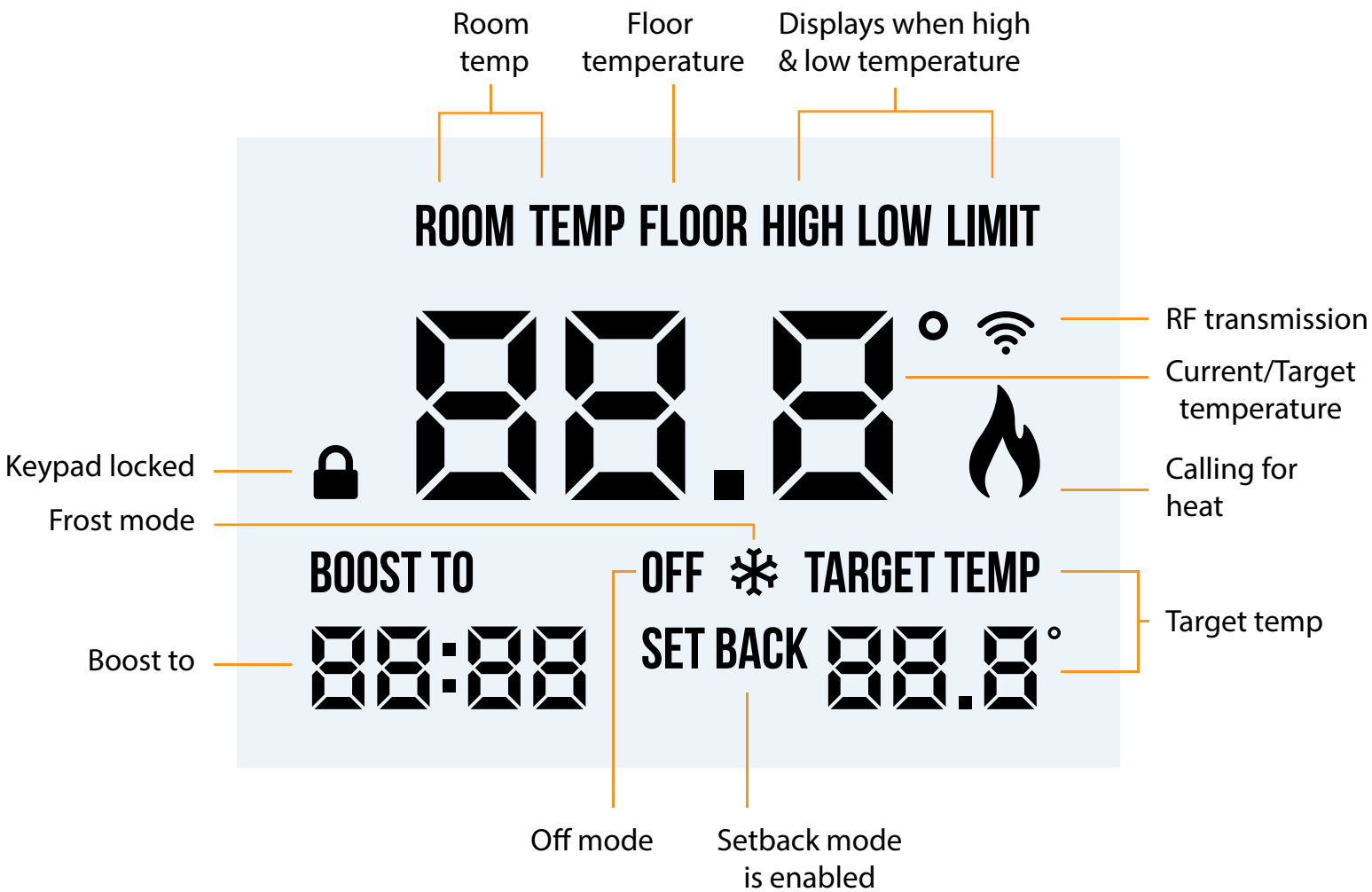
- If 'OVERRIDE' appears on your thermostat screen, please see page 17.
- When installing the GW04v2 with a RDTP-TW, the thermostat must be made into a Hub see page 20
- If installing multiple RDTP-TW, 1 x RDTW-TW must be made into the Hub before you can pair a branch thermostat. see page 20
- If lock symbol appears on your thermostat screen, please see page 19 for unlocking instructions.



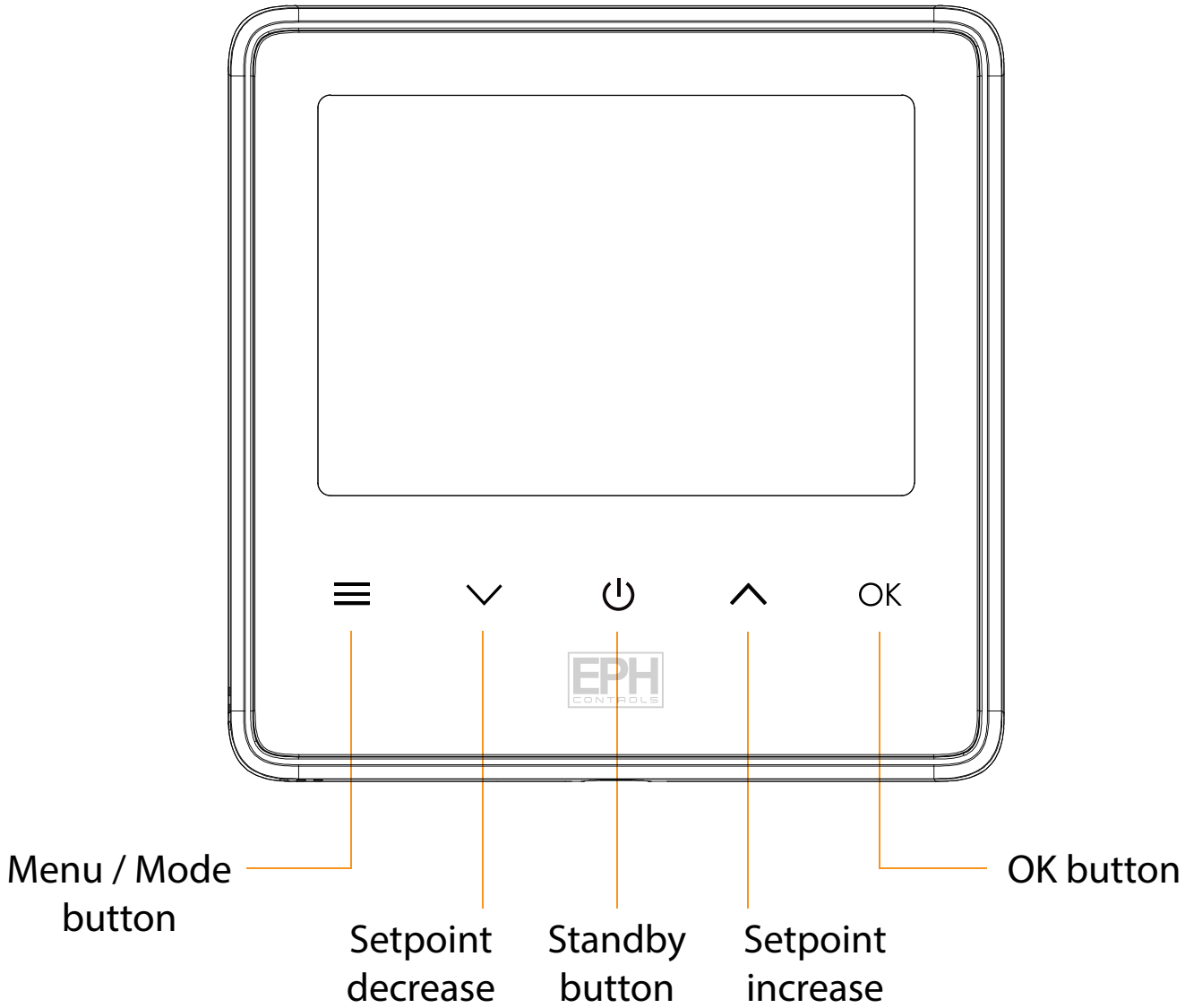
Mains Powered Programmable RF Thermostat

Operating Instructions

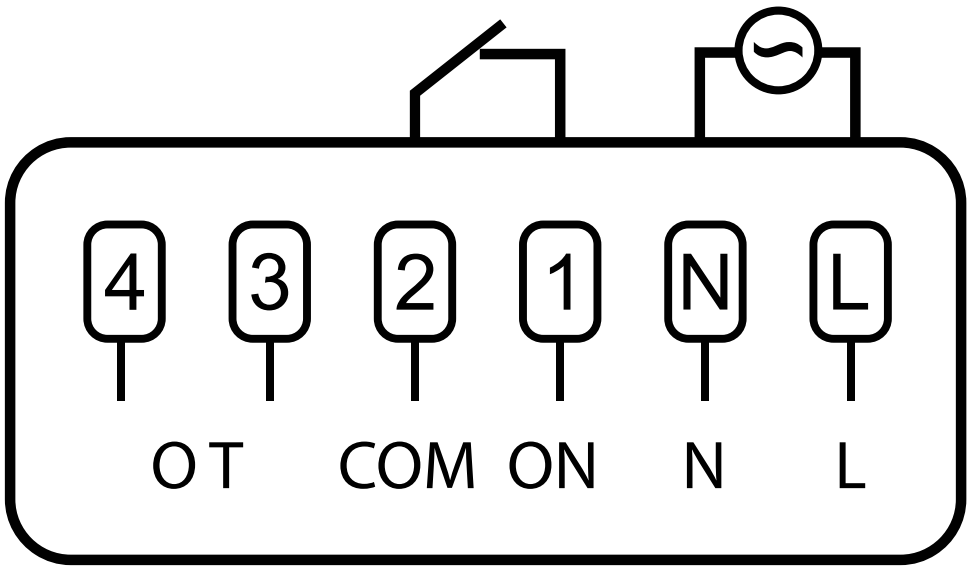
LCD Display


Room temp
Floor temperature
Displays when high & low temperature
ROOM TEMP FLOOR HIGH LOW LIMIT
RF transmission
Current/Target temperature
Calling for heat
Keypad locked
Frost mode
BOOST TO
OFF
TARGET TEMP
Target temp
Boost to
SET BACK
Off mode
Setback mode is enabled

Buttons


OK
Menu / Mode button
Setpoint decrease
Standby button
Setpoint increase
OK button

Wiring



Terminal Connections

L	Live In
N	Neutral In
1	ON - N/O Normally open connection
2	COM - Common connection
3 & 4	OpenTherm® connections

Note: NTC10K Plug temperature sensor and NTC Housing can be bought separately as an accessory.

Auto Mode

When the thermostat is in the AUTO mode it will automatically change the temperature throughout the day according to the schedule set by the user in the programming menu.

If the room temperature falls below the setpoint it will activate the heating.

Note: Program 6 is set to 10°C by default. If the temperature drops below 10°C overnight the heating will activate. To avoid this, adjust Program 6 to a lower temperature.

Temporary Override

When in AUTO mode, press ^ or v to adjust the temperature setpoint. 'OVERRIDE' will appear on the screen.

Press OK or after 5 seconds the thermostat will operate to this temperature, until the next switching time.

To cancel temporary override, press ☰ to return to the automatic mode.

Permanent Override

Press [≡] to enter the manual mode (Permanent Override).

'MAN' will appear on the screen.

Press [∧] or [∨] to adjust the temperature setpoint.

Press [OK] or after 5 seconds the thermostat will operate in this permanent override.

To cancel permanent override, press [⏻] to return to the automatic mode.

On / Off Function

Press [⏻] to turn the thermostat On or Off. When OFF is displayed on the screen the thermostat and zone will be set to OFF.

Note: If the zone is in the constant OFF mode all other functions are disabled.

Adjusting the Target Temperature

Press [^] to increase the target temperature from 5-35˚C.

Press [OK] or wait 5 seconds. The target temperature is now saved.

Press [v] to decrease the target temperature from 5-35˚C.

Press [OK] or wait 5 seconds. The target temperature is now saved.

Locking the Keypad

To lock the thermostat, press and hold [v] and [^] for 10 seconds.

🔒 will appear on the screen. The buttons are now disabled.

To unlock the thermostat, press and hold [v] and [^] for 10 seconds.

🔒 will disappear from the screen. The buttons are now enabled.

Making a Hub / Branch thermostat

This function allows the user to change a thermostat from a Branch to a Hub thermostat to allow the thermostat connect to a GW04-LAN.

br = Branch thermostat

hUb = Hub thermostat

Press and hold ⏻ & OK for 3 seconds.

'br' will appear solid on the screen.

Use ^ to change between br and hUb.

Press OK to save and return to main operation.

Note: The GW04^{V2} can only be connected when an RDTP-TW is made into a Hub thermostat.

Connecting a RDTP-TW Hub to a GW04^{V2}

This function allows the user to connect a RDTP-TW Hub to a GW04^{V2} Gateway

Note: This menu is only available when the RDTP-TW is made into a Hub thermostat. (See page 20)

1. On the RDTP-TW Hub:

Press and hold [☰] for 5 seconds.

'P01 & Prog' will appear on the screen.

Press [^] until **'P03 & RF'** appears on the screen.

Press [OK] to select.

2. On the GW04^{V2}:

Press and hold RF connect button until the white RF LED begins to flash.

3. On the RDTP-TW Hub:

Wait for **'r01'** to appear solid.

Press [OK] to confirm the thermostat is connected.

4. On the GW04^{V2}:

When successful the white RF LED will appear solid.

Menu

This menu allows the user to adjust additional functions.

To access the menu, press and hold ☰ for 5 seconds.

When in the installer menu, press ^ or v to navigate and press OK to select. Use ☰ to go back a step.

P01: Programming Mode

P02: Setting the Time & date

P03: RF Connection

P04: Operating Mode

P05: Hi Lo (limiting the thermostat)

P06: Hysteresis (differential)

P07: Calibration

P08: Frost Protection

P09: AFS

P10: FHL

P11: Holiday Mode

P12: Backlight

P13: PIN

P15: Temperature Selection Range

P16: Reset

Exit: Exit from menu

P01 Programming

Factory Program Setting 5/2d

5/2 Day						
	P1	P2	P3	P4	P5	P6
Mon-Fri	06:30	08:00	12:00	14:00	17:30	22:00
	21°C	10°C	10°C	10°C	21°C	10°C
Sat-Sun	08:00	10:00	12:00	14:00	17:30	23:00
	21°C	10°C	10°C	10°C	21°C	10°C

7 Day						
	P1	P2	P3	P4	P5	P6
Mon-Fri	06:30	08:00	12:00	14:00	17:30	22:00
	21°C	10°C	10°C	10°C	21°C	10°C
Sat-Sun	08:00	10:00	12:00	14:00	17:30	23:00
	21°C	10°C	10°C	10°C	21°C	10°C

24 Hour						
	P1	P2	P3	P4	P5	P6
Everyday	06:30	08:00	12:00	14:00	17:30	22:00
	21°C	10°C	10°C	10°C	21°C	10°C

P01 Programming continued

Hot Water Program Setting

Note: These settings only apply when CyL parameters are selected, please see page 49

5/2 Day						
	P1	P2	P3	P4	P5	P6
Mon-Fri	06:30	08:00	12:00	14:00	17:30	19:00
	ON	OFF	OFF	OFF	ON	OFF
Sat-Sun	08:00	10:00	12:00	14:00	17:30	19:00
	ON	OFF	OFF	OFF	ON	OFF
7 Day						
	P1	P2	P3	P4	P5	P6
Mon-Fri	06:30	08:00	12:00	14:00	17:30	19:00
	ON	OFF	OFF	OFF	ON	OFF
Sat-Sun	08:00	10:00	12:00	14:00	17:30	19:00
	ON	OFF	OFF	OFF	ON	OFF
24 Hour						
	P1	P2	P3	P4	P5	P6
Everyday	06:30	08:00	12:00	14:00	17:30	19:00
	ON	OFF	OFF	OFF	ON	OFF

Programming Modes

The RDTP-TW Room Thermostat has the following programming modes available:

5/2 Day mode	Programing Monday to Friday as one block and Saturday and Sunday as a 2nd block. Each block can have 6 different times and temperatures.
7 Day mode	Programming all 7 days individually with different times and temperatures.
24 Hour mode	Programming all 7 days as one block with the same time and temperatures.

If 7 D mode is selected, you can program each day of the week with 6 individual times and temperatures.

If 24H mode is selected, you can only program each day of the week with the same 6 times and temperatures.

See page 26 to select 5/2D, 7d or 24hr mode.

Adjust the program setting in 5/2 Day mode

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press OK to select.

Programming for Monday to Friday is now selected.

Press ^ or v to adjust the P1 time. Press OK.

Press ^ or v to adjust the P1 temp. Press OK.

Repeat this process to adjust P2 to P6 times & temperatures. Press OK.

Programming for Saturday to Sunday is now selected.

Press ^ or v to adjust the P1 time. Press OK.

Press ^ or v to adjust the P1 temp. Press OK.

Repeat this process to adjust P2 to P6 times & temperatures.

Press ☰ to return to automatic mode.

While in PROG Mode pressing ⏻ will jump from P1 - P2 etc without changing the temperature.

While in PROG Mode holding ⏻ for 3 seconds will jump to the next day (block of days).

Copy Function

Copy function may only be used if the thermostat is in the 7d mode.

Press and hold ☰ for 5 seconds.

'**P01 & Prog**' will appear on the screen.

Press OK to select.

Select the day of the week you want to copy from.

Hold ☰ for 3 seconds.

The day of the week that you have selected will be shown with '**COPY**'.

The next day will begin to flash on the top of the screen.

Press ^ to copy the times and temperatures to that day.

Press v to skip a day.

You can copy to multiple days by using ^.

Press OK when copying has been completed.

P02 Setting the date, time & programming mode

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press ^ until **'P02 & tInE'** appears on the screen.

Press OK to select.

Press ^ or v to adjust the year. Press OK.

Press ^ or v to adjust the month. Press OK.

Press ^ or v to adjust the day. Press OK.

Press ^ or v to adjust the hour. Press OK.

Press ^ or v to adjust the minute. Press OK.

Press ^ or v to adjust from 5/2d to 7d or 24h mode. Press OK.

Press ^ or v to turn DST (Day Light Saving time) On or Off.

Press ☰ to return to normal operation.

P03 Connecting a RDTP-TW Branch to a RDTP-TW Hub

This function allows the user to connect a RDTP-TW Branch to an RDTP-TW Hub

Making the RDTP-TW a Hub / Branch thermostat

Hold ⏻ & OK for 3 seconds. **'br'** will appear solid on the screen.

Use ^ to change between br and hUb.

Press OK to save and return to main operation.

To connect a RDTP-TW Branch to an RDTP-TW Hub

1. On the RDTP-TW Hub:

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press ^ until **'P03 & rF'** appears on the screen.

Press OK to select.

2. On the RDTP-TW Branch:

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen. (continued, next page)

P03 Connecting a RDTP-TW Branch to a RDTP-TW Hub continued

Press [^] until **'P03 & rF'** appears on the screen.

Press [OK] to select.

Wait for **'r01'** to appear solid.

Press [OK] to confirm the thermostat is connected.

The user can now move to the next RDTP-TW Branch and repeat the process. when the connection is complete press [≡] to return to normal operation.

Note: When connecting other zones to the RDTP-TW Hub thermostat , 'r02' , 'r03' ... 'r10' will appear on the thermostat screen.

P04 Operating Mode (Normal / Optimum Start / TPI)

There are three settings for selection, Normal, Optimum Start or TPI mode. The default setting is Normal.

Press and hold ☰ for 5 seconds.

'**P01 & Prog**' will appear on the screen.

Press ^ until '**P04 & nOr**' appears on the screen.

Press OK to select.

Use v and ^ to select between:

nOr (Normal mode)

oS (Optimum Start)

tPi (Time Proportional Integral mode)

Press OK to confirm the mode.

Press ☰ to return to normal operation.

P04 Operating Mode continued

Nor (Normal Mode)

When the thermostat is in Normal mode, the thermostat will try to reach the target temperature at the program time.

Example: Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 06:30am and the room temperature will start to increase.

OS (Optimum Start Mode)

When the thermostat is in Optimum Start mode, the thermostat will try to reach the target temperature by the start time of the next program. This is done by setting the Ti (time interval) on the thermostat in this menu to 10, 15, 20, 25 or 30. This will allow the thermostat 10, 15, 20, 25 or 30 minutes to increase the room temperature by 1°C.

Ti can be set when OS is selected in the installer menu.  20

To achieve the target temperature when the program starts, the thermostat will read:

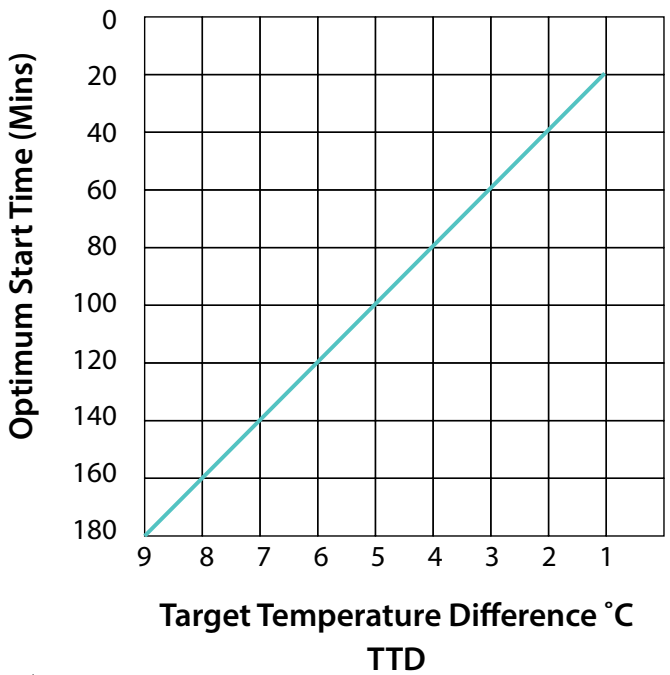
1. The Room Temperature (RT)
2. The Setpoint Temperature (ST)
3. The Target Temperature Difference (TTD) is the difference between the setpoint temperature and the room temperature .

The time (in minutes) that it will take to overcome (TTD) is called Optimum Start Time (OST) and its maximum value is 3 hours = 180 mins. This is subtracted from the start time.

As the temperature increases the thermostat will recalculate the OST if the temperature is increasing too quickly.

OS (Optimum Start Mode) continued

Optimum Start Control Graph with Ti = 20



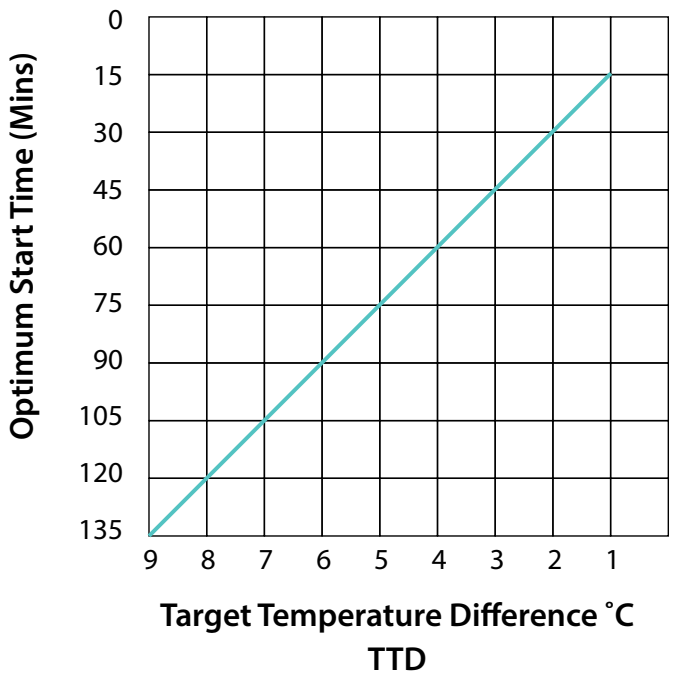
Example when Ti = 20

Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 05:30am to reach 21°C for 06:30am @ Ti=20.

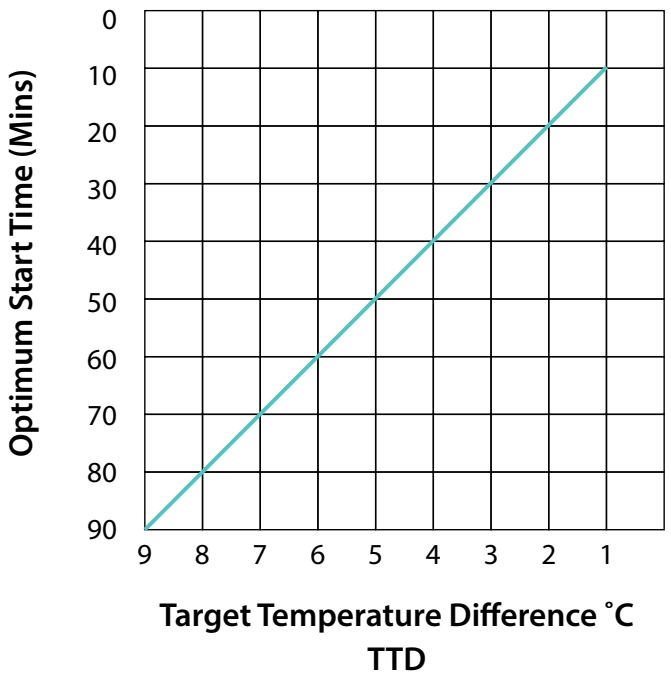
Example when Ti = 10

Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 06:00am to reach 21°C for 06:30am @ Ti=10.

Optimum Start Control Graph with Ti = 15



Optimum Start Control Graph with Ti = 10



Time Proportional Integral Mode (TPI)

When the thermostat is in TPI mode and the temperature is rising in the zone and falls into the Proportional Bandwidth section, TPI will start to affect the thermostats operation. The thermostat will turn on and off as it gains heat so that it doesn't overshoot the target by too much. It will also turn on if the temperature is falling so it doesn't undershoot the target which will leave the user with a more comfortable level of heat.

There are 2 settings that will affect the thermostats operation.

1. The number of heating cycles per hour.
2. The Proportional Bandwidth.

1. CyC – Number of Heating Cycles per hour  6 Cycles

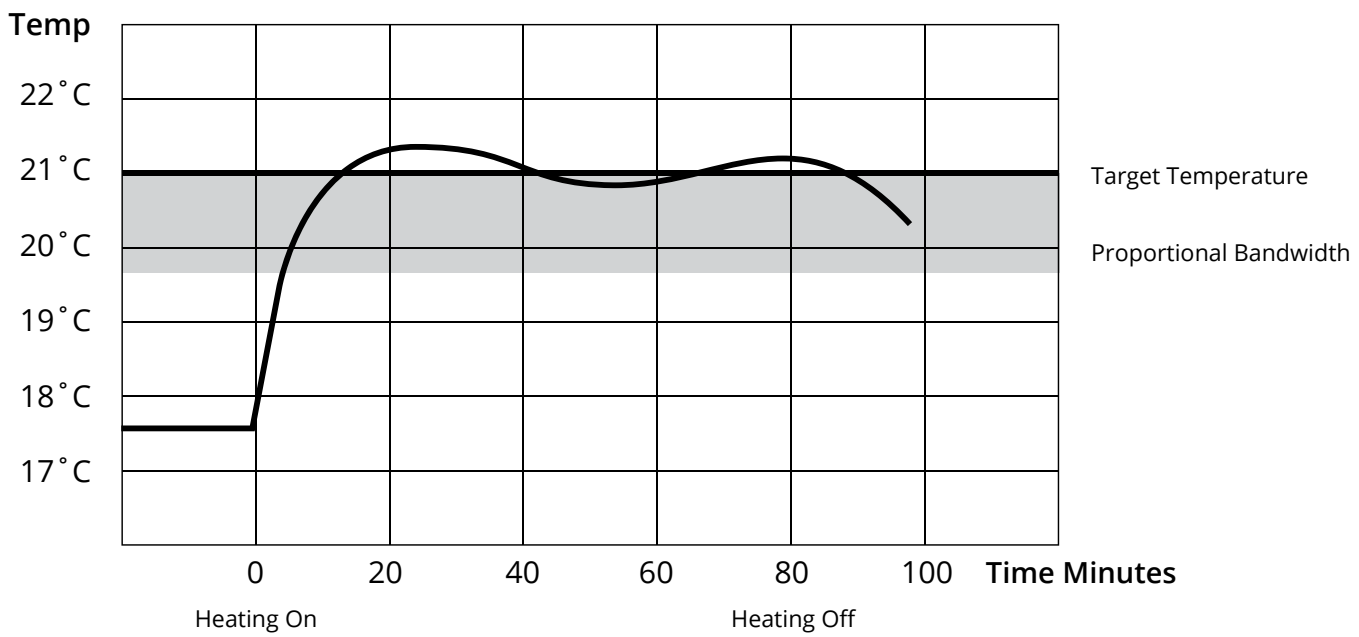
This value will decide how often the thermostat will cycle the heating on and off when trying to achieve the target temperature. You can select 2, 3, 6 or 12.

P04 Operating Mode continued

2. Pb - Proportional Bandwidth 2°C

This value refers to the temperature below the target at which the thermostat will start to operate in TPI control. You can set this temperature from 1.5°C to 3.0°C in 0.1°C increments.

Graph (36.1): TPI Control



Example: Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 06:30am and the room temperature will start to increase then but will switch itself off before it reaches temperature and allow the room temperature to increase naturally – this cycle may begin again if the thermostat isn't reaching temperature.

Time Proportional Integral Mode (TPI)

Once TPI mode is selected, '**CYC**' and '**06**' will appear on the screen.

Use ⌄ and ⌃ to select from 2, 3, 6 or 12.

Press OK to confirm.

'**P Band**' and '**2.0**' will appear on the screen.

Use ⌄ and ⌃ to select from 1.5 to 3.0.

Press OK to confirm.

Press ⏻ to return to normal operation.

P05 Setting High & Low Limits OFF

This menu allows the installer to change the minimum & maximum temperatures that the thermostat can be set to between 5...35°C.

Press and hold ☰ for 5 seconds.

'**P01 & Prog**' will appear on the screen.

Press ^ until '**P05 & HI LO**' appears on the screen.

Press OK to select.

Use v and ^ to select '**ON**'.

Press OK to select.

'**HIGH LIMIT**' will appear on the screen, the temperature will begin to flash.

Use v and ^ to select the high limit for the thermostat.

Press OK to confirm.

'**LOW LIMIT**' will appear on the screen, the temperature will begin to flash.

Use v and ^ to select the low limit for the thermostat.

Press OK to confirm.

Press ☰ to return to normal operation.

'**LIMIT**' will appear on the screen.

P06 Hysteresis HOn 0.4°C HOFF 0°C

This menu allows the installer to change the switching differential of the thermostat when the temperature is rising and falling.

If '**HOn**' is set at 0.4˚C and the setpoint is 20˚C, then the thermostat will switch on when the temperature drops below 19.6˚C.

If '**HOFF**' is set at 0.2˚C and the setpoint is 20˚C, then the thermostat will switch off when the temperature reaches 20.2˚C.

Press and hold ☰ for 5 seconds.

'**P01 & Prog**' will appear on the screen.

Press ∧ until '**P06 & HOn**' appears on the screen.

Press OK and the '**HOn**' temperature will begin to flash.

Use ∨ and ∧ to select the '**HOn**' temperature.

Press OK and the '**HOFF**' temperature will begin to flash.

Use ∨ and ∧ to select the '**HOFF**' temperature.

Press OK to confirm.

Press ☰ to return to normal operation.

P07 Calibrate

This menu allows the installer to calibrate the temperature of the thermostat.

Press and hold ☰ for 5 seconds.

'**P01 & Prog**' will appear on the screen.

Press ^ until '**P07 & CAL**' appears on the screen.

Press OK to select.

'**CAL**' and the actual temperature will appear on the screen.

Press v and ^ to calibrate the temperature.

Press OK to confirm.

Press ☰ to return to normal operation.

P08 Frost Protection  5°C

This function allows the user to activate or deactivate frost protection.

Frost protection can be set from 5…15°C.

When frost protection is activated, the thermostat will switch on the boiler when the temperature drops below the setpoint.

Frost protection is only active in OFF mode and Holiday mode.

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press ^ until '**P08 & Fr**' appears on the screen.

Press OK to select. **'ON'** will flash on the screen.

You now have two choices:

1. Press OK to confirm frost protection,
   Press ^ to select the frost protection temperature between 5…15°C.
   Press OK to confirm and you will return to the menu.

2. Press ^ to turn the frost protection OFF.
   Press OK to confirm and you will return to the menu.
   Press ☰ to return to the home screen.

P09 AFS - Air / Floor Sensor  (01 Internal air sensor)

This function allows the user to select between 5 different temperature sensor options. **Note:** NTC10K-Plug is required when using external temp sensor or external high limit senor.

01 Internal air sensor
This option allows the user to record the room temperature using the internal sensor. This is the default option.

02 External air sensor
This option allows the user to record the temperature of an adjacent room.

03 Floor sensor
This option allows the user to record the temperature of the floor using the external sensor only. This will prevent the floor from overheating.
(NTC10K Ferrule temperature sensor required).

04 Internal air sensor with hight limit sensor
This option allows the user to record the room temperature with the internal sensor while having the external sensor record the floor temperature to prevent overheating.

05 External air sensor with an external hight limit sensor
This option allows the user to record the room temperature with external sensor 1 while having external sensor 2 record the floor temperature to prevent overheating.

Air / Floor Sensor		
Options	**Temp Sensor (White connector)**	**High Limit (Red connector)**
01	N/A	N/A
02	Yes	No
03	No	Yes
04	No	Yes
05	Yes	Yes

Press [^] until **'P09 & AFS'** appears on the screen.

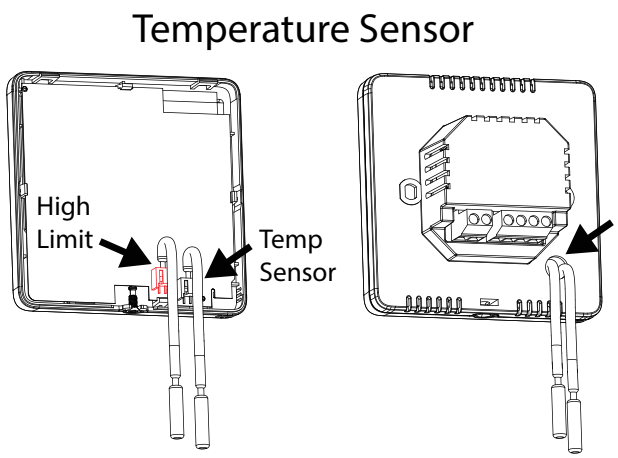
Press [OK] to select. **'01'** will flash on the screen.

Use [^] and [v] to select 01, 02, 03, 04 or 05.

Press [OK] to confirm.

Press [≡] to return to normal operation.

Note: The high limit and temperature sensors should be routed through the cable entry in the rear housing.



P10 FHL - Floor High Limit  26.0°C

This function allows the user to select the high limit temperature of the external sensor. Selectable temperature range 5°C – 45°C.

Temperature Sensor 03 must be selected,

See Page 42 P09 AFS.

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press ^ until **'P10 & FHL'** appears on the screen.

Press OK to select.

The high limit temperature will flash on the screen.

Use ^ and v to choose the desired high limit temperature.

Press OK to confirm.

Press ☰ to return to normal operation.

P11 Holiday Function

This function allows the user to switch the thermostat off for a certain period of time.

Press and hold ☰ for 5 seconds. **'P01 & Prog'** will appear on the screen.

Press ^ until **'P11 & HOL'** appears on the screen.

'**HOLIDAY FROM**' will appear on screen.

Press ^ or v to select the year. Press OK.

Press ^ or v to select the month. Press OK.

Press ^ or v to select the day. Press OK.

Press ^ or v to select the hour. Press OK.

'**HOLIDAY TO**' will appear on screen.

Press ^ or v to select the year. Press OK.

Press ^ or v to select the month. Press OK.

Press ^ or v to select the day. Press OK.

Press ^ or v to select the hour. Press OK.

Press ☰ to return to the home screen.

The thermostat will now return to the mode it was in before the Holiday settings were entered. To cancel Holiday mode, press OK once.

P12 Backlight AUTO

There are two settings for selection.

'AUt' The backlight is on for 10 seconds when any button is pressed.

'OFF' The backlight is permanently off.

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press ^ until **'P12 & bL'** appears on the screen.

Press OK to select.

'AUt' will appear on the screen.

Use ^ and v to change the mode between AUTO and OFF.

Press OK to confirm selection.

Press ☰ to return to normal operation.

P13 PIN Lock OFF

This function allows the user to put a PIN lock on the thermostat.

Set Up the PIN

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press ^ until **'P13 & PIn'** appears on the screen.

Press OK to select.

'Off' will appear on the screen

Use ^ to change to On.

'0000' will flash on the screen.

Use ^ and v to enter to set value from 0 to 9 for the first digit.

Press OK to move to the next PIN digit.

When the last digit of the PIN is set, press OK.

It is necessary to verify the PIN, **'vErI'** will appear on the screen

Re enter the PIN code again.

Press OK.

P13 PIN Lock continued

The PIN is now verified, and the PIN lock is activated.
If the verification PIN is entered incorrectly the user is brought back to the menu. When the PIN lock is active, the 🔒 will appear on the screen.
When the thermostat is PIN locked, pressing any button will take the user to the PIN unlock screen.

To Unlock the PIN

Press any button, '**UnL**' appears on the screen. '**0000**' will flash on screen.

Use [^] and [v] to set the value from 0 to 9 for the first digit.

Press [OK] to move to the next PIN digit.

When the last digit of the PIN is set.

Press [OK] . The PIN is now unlocked.

If a PIN has been unlocked on the thermostat, it will automatically reactivate if there is no button pressed for 2 minutes.

To Deactivate the PIN

When the PIN is unlocked (see instructions on Page 32)

Access PIN in the installer menu.

Press OK , **'ON'** will appear on the screen.

Press ∨ select **'OFF'**.

Press OK . **'0000'** will flash on the screen. Enter the PIN.

Press OK .

The PIN is now disabled.

P15 Temperature Selection Range

This function allows the user to choose between different temperature ranges for various thermostat applications.

Press and hold ☰ for 5 seconds.

'P01 & Prog' will appear on the screen.

Press ^ until **'P15 & Htg'** appears on the screen.

Press OK to select.

'Htg' will flash on the screen.

Press v to select **'CyL'**.

Press OK to confirm.

The thermostat will restart and hot water parameters will now be applied.

P16 Resetting the Thermostat

To reset the thermostat to factory settings.

Press and hold ☰ for 5 seconds.

'**P01 & Prog**' will appear on the screen.

Press ^ until '**P16 & rSt**' appears on the screen.

Press OK to select.

'**NO**' will flash on the screen.

Press ^.

'**YES**' will flash on the screen.

Press OK to confirm.

The thermostat will restart and revert to its factory settings.

Exit: Exit from Menu

This menu allows the installer to return to the main interface.

It is also possible to exit the installer menu by pressing ☰ whilst in the menu.

Installer menu OpenTherm® Instructions

P 17: Setting DHW temperature

P 18: OpenTherm® Information

P 19: DHOP

P 20: Set OpenTherm® Parameters

Exit

P17 Setting DHW temperature

This function allows the installer to change the DHW temperature of the boiler.

The temperature can be set in 0.5°C increments by pressing ^ and v.

Press ☰ to select the desired temperature.

This menu is only available when the thermostat is connected to OpenTherm® and DHOP is ON **(P19 OT installer menu)**.

Note: P17 - P20 is only available when the receiver is connected to an OpenTherm® appliance.

P18 OpenTherm® Information

This function allows the installer to view information received from the OpenTherm® boiler. It may take a few seconds to load information relating to each parameter. The information that can be shown from the boiler is outlined in the table below.

Displayed on screen	Description	Remark
tSEt	Target water temp	
tFLO	Outlet water temp	
trEt	Return water temp	
tdH	DHW temperature	This is only visible if DHOP is On (P08 OT Installer menu)
tFLU	Flue gas temperature	Dependent on boiler
tESt	Outdoor temperature	Dependent on boiler
nOdU	Modulation percentage	
FLOr	Water flow	This is only visible if DHOP is On (P08 OT Installer menu)
PrES	Water pressure	Dependent on boiler

P19 DHOP

This function allows the installer to activate or deactivate DHW target temperature control from the thermostat. This menu is only available when the thermostat is connected to OpenTherm®

P20 Set OpenTherm® Parameters

This function allows the installer to configure the OpenTherm® parameters.

To access the menu please enter the password **“08”** by pressing ^ and v.

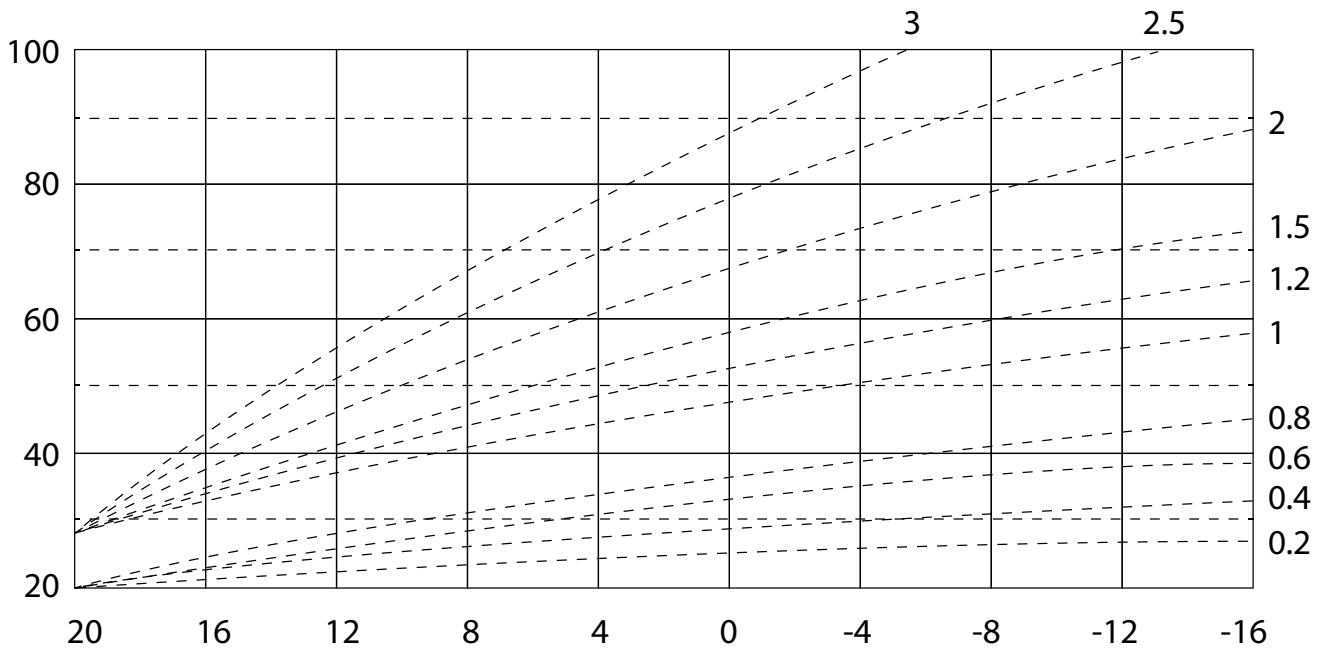
Press OK to confirm.

The parameters that can be set are outlined in the table on the next page 56.

P20 Set OpenTherm® Parameters continued

Param	Description	Range	Default
HHCH t-1	Maximum setpoint heating	45 - 85˚C	85˚C
LLCH t-2	Minimum setpoint heating	10 - HHCH˚C	45˚C
CLI t-3	This allows user to select different climatic curves for weather compensation. This only applies to Boilers with an outside sensor connected.	0.2 - 3.0	1.2
InFL t-4	Influence of room sensor on modulation of the boiler. Recommended value is 10.	0 - 20	10
HHbO t-5	This is the target setpoint for your CH flow temperature. Note: this value must be within the range of HHCH and LLCH.	HHCH Max >=ID57 >=LLCH Min	85˚C
Exit	Press OK button to turn back to main interface.		

Climatic Curve



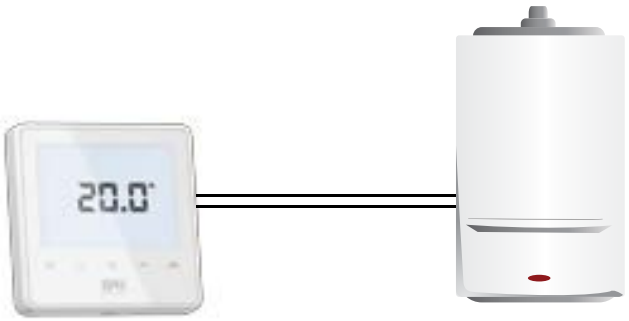
Exit

This function allows the installer to return to the main interface.

It is also possible to exit the installer menu by pressing ☰ whilst in the installer menu.

System architecture

Example A RDTP-TW controlling OT Boiler



RDTP-TW **Hub** Thermostat OpenTherm® Boiler

This function allows the installer to confirm if the thermostat is receiving OpenTherm® information from the boiler.

Press and hold [≡] for 5 seconds.

'**P01 & Prog**' will appear on the screen.

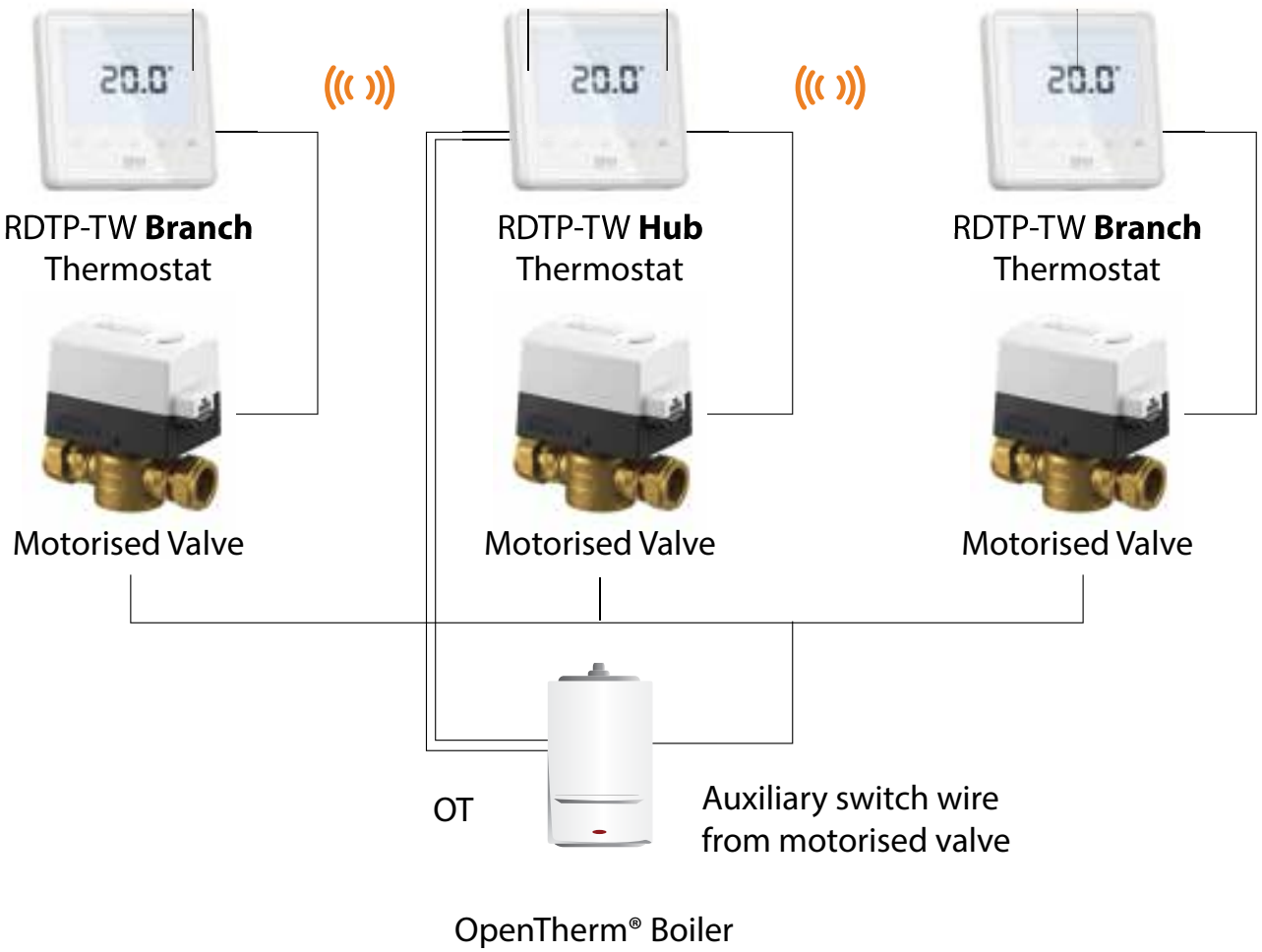
Press [^] until '**P18 & InFO**' appears on the screen. Press [OK] to select.

If **'P01 to P16'** is visible and **'P17'** does not appear on the screen, the thermostat is not communicating via OpenTherm®.

Note: To control an appliance with OpenTherm® run a dedicated two core cable from the OpenTherm® connection on the RDTP-TW Hub to the OpenTherm®connection on the appliance.

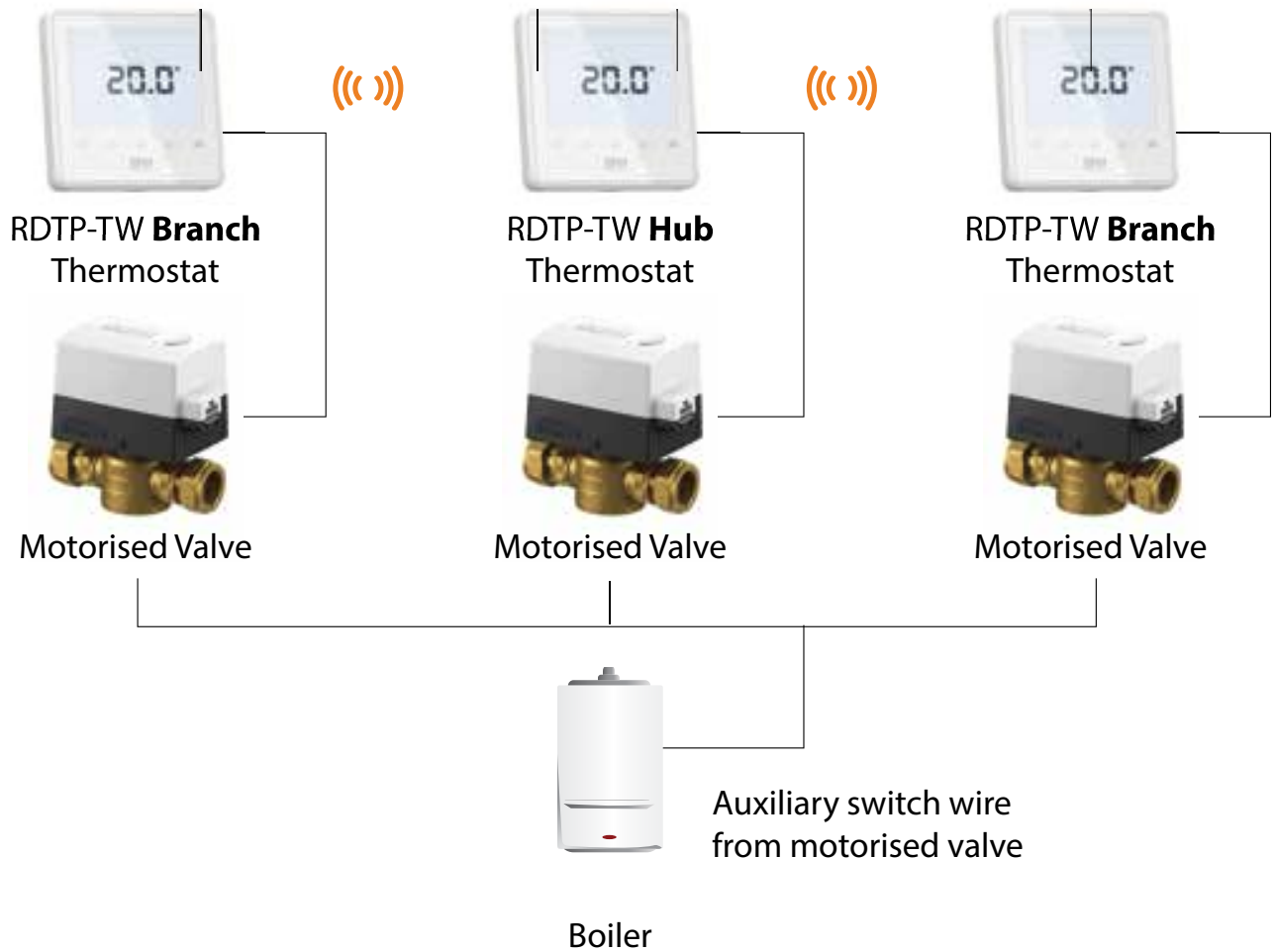
System architecture continued

Example B Multiple RDTP-TW controlling OT Boiler



Note: A maximum of 10 RDTP-TW's can be used in the system.

Example C Multiple RDTP-TW controlling a standard Boiler



Note: A maximum of 10 RDTP-TW's can be used in the system.

Controlling an OpenTherm® Boiler with multiple RDTP-TW's

It is possible to have up to 10 RDTP-TW thermostats controlling one OpenTherm® boiler. To do this it is necessary to make one of the RDTP-TW thermostats into a Hub thermostat. This Hub thermostat will receive data from all of the RDTP-TW Branch thermostats and relay this information to the boiler via OpenTherm®.

Note: The Hub thermostat should have a wired OpenTherm® connection to the boiler. When installing multiple thermostats - see important on page 29 & 30.

Note: A Hub thermostat can connect to a GW04^{V2} Wi-Fi Gateway.

Notes

EPH Controls IE

technical@ephcontrols.com

www.ephcontrols.com/contact-us

+353 21 471 8440

Cork, T12 F753

EPH Controls UK

technical@ephcontrols.co.uk

www.ephcontrols.co.uk/contact-us

+44 1933 322 072

Harrow, HA1 1BD

© 2026 EPH Controls Ltd.

2026-07-29_RDTP-TW_DS_PKAN