R27-RF V2

2 Zone RF Programmer

Installation and Operating Guide

EPH CONTROLS

Table of contents

Installation Instructions

Factory Default Settings	3
Specifications	3
LCD Display	4
Button Description	5
Wiring Diagram	6
Mounting & Installation	7

Operating Instructions

Quick Introduction to your R27-RF^{V2} programmer	10
Mode Selection	11
Programming Modes	12
Factory Program Settings	12
Adjust the Program Setting in 5/2 Day Mode	13
Reviewing the Program Settings	14
Boost Function	14
Advance Function	15

Operating Instructions Continued

Menu	16
P01 RF Thermostat Pairing	16
P02 GW04 Gateway Pairing	20
P03 Setting the Date, Time and the Programming Mode	21
P04 Holiday Mode	22
P05 Frost Protection	23
P06 PIN	24
P07 RF Thermostat UnPairing	26
Copy Function	27
Backlight Mode Selection	28
Locking the Keypad	29
Resetting the Programmer	29
Master Reset	30
Service Interval	30

2 Zone RF Programmer

Installation Instructions

Factory Default Settings

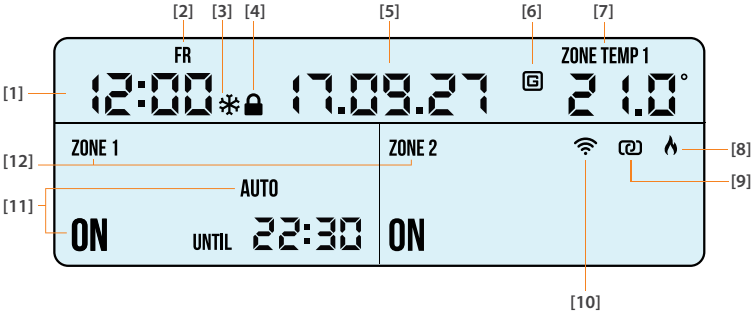
Program:	5/2D	Operating Mode:	Auto
Backlight:	On	Pin Lock:	Off
Keypad Lock:	Off	Service Interval:	Off
Frost Protection:	Off		

Specifications

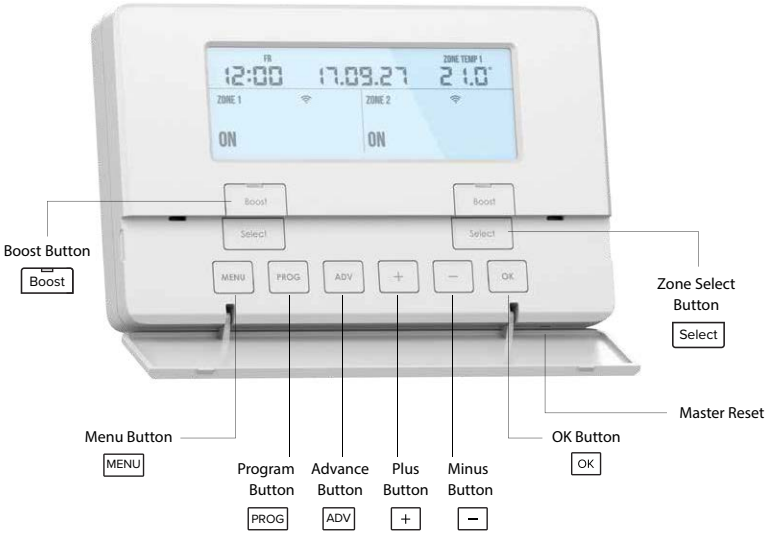
Switch Output:	230Vac SPDT	Backplate:	British System Standard
Power Supply:	230Vac	Pollution degree:	2 (Resistance to voltage surge 2000V; as per EN60730)
Ambient Temperature:	0…50˚C		
Dimensions:	161 x 100 x 31 mm		
Contact Rating:	3(1)A 230Vac	Software Class:	Class A
Program Memory	5 Years	Frequency:	868.35 MHz
Temperature Sensor:	NTC 100K		
Backlight:	White		
IP Rating:	IP20		
Battery:	3VDC Lithium LIR2032 & CR2032		

LCD Display

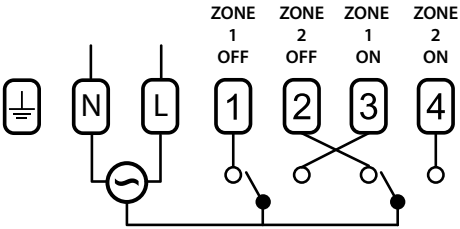
[1] Displays current time.
[2] Displays current day of the week.
[3] Displays when frost protection is activated.
[4] Displays when keypad is locked.
[5] Displays current date.
[6] Displays when Gateway is connected.
[7] Displays zone temperature.
[8] Displays when calling for heat.
[9] Displays RF thermostat connection.
[10] Displays RF transmission.
[11] Displays current mode.
[12] Displays zone title.



Button Description



Wiring Diagram



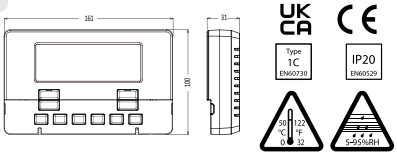
200-240V~
50/60Hz

Terminal Connections

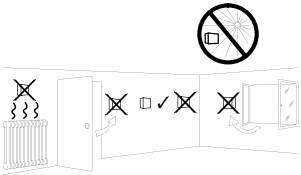
⏚	Earth
N	Neutral
L	Live
1	Zone 1 OFF - N/C Normally closed connection
2	Zone 2 OFF - N/C Normally closed connection
3	Zone 1 ON - N/O Normally open connection
4	Zone 2 ON - N/O Normally open connection

Mounting & Installation

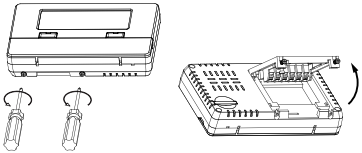
1



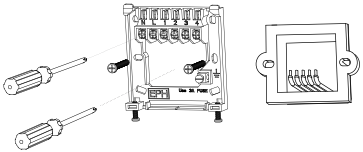
2



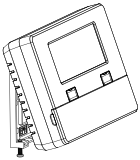
3



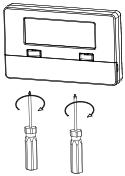
4



5



6



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 programmer.
- If the programmer is used in a way not specified by the manufacturer, its safety may be impaired.
- Prior to setting the programmer, it is necessary to complete all required settings described in this section.
- Before commencing installation, the programmer must be first disconnected from the mains.

This programmer can be surface mounted or mounted to a recessed conduit box.

1) Remove the programmer from its packaging.
2) Choose a mounting location for the programmer:
   - Mount the programmer 1.5 metres above the floor level.
   - Prevent direct exposure to sunlight or other heating / cooling sources.
3) Use a phillips screwdriver to loosen the screws of the backplate on the bottom of the programmer. The programmer is lifted upwards from the bottom and removed from the backplate. (See Diagram 3 on Page 7)
4) Screw the backplate onto a recessed conduit box or directly to the surface.
5) Wire the backplate as per the wiring diagram on page 6.
6) Sit the programmer onto the backplate making sure the programmer pins and the backplate contacts are making a sound connection, push the programmer flush to the surface and tighten the screws of the backplate from the bottom. (See Diagram 6 on Page 7)

2 Zone RF Programmer

Operating Instructions

Quick introduction to your R27-RF^{V2} programmer:

The R27-RF^{V2} programmer will be used to control two separate zones in your central heating system.

It is compatible with the EPH range of room and cylinder thermostats.

Each zone can be independently operated and programmed to suit your needs. Each zone has up to three daily heating programs called P1, P2 and P3. See Page 13 for instructions on how to adjust the program settings.

On the LCD screen of your programmer you will see two separate sections, one to represent each zone.

Within these sections you can see what mode the zone is currently in.

When in the AUTO mode, it will show when the zone is next programmed to be switched ON or OFF.

For 'Mode Selection' please see page 11 for further explanation.

When the zone is ON, you will see the red LED for that zone light up. This indicates that power is being sent from the programmer on this zone.

When the wireless thermostat is satisfied and not calling for heat, it will stop the programmer from activating. The red light for that zone will not turn on.

In the event your wireless cylinder thermostat loses connection it will prevent the zone from activating. The red light will not turn on. The batteries should be checked/replaced.

Low power or discount store battery brands should not be used. When the battery is low, a battery low notification will appear on the thermostat and on the EMBER app. The batteries should be changed immediately.

Mode Selection AUTO

There are four modes available for selection.

AUTO The zone operates up to three 'ON/OFF' periods per day (P1, P2, P3).

ALL DAY The zone operates one 'ON/OFF' period per day. This operates from the first 'ON' time to the third 'OFF' time.

ON The zone is permanently ON.

OFF The zone is permanently OFF.

Press Select to change between AUTO, ALL DAY, ON & OFF.

The current mode will be shown on the screen under the specific zone.

The Select are found under the front cover. Each zone has its own Select .

Programming Modes

This programmer has the following programming modes.

5/2 Day mode Programming Monday to Friday as one block and Saturday and Sunday as a 2nd block.

7 Day mode Programming all 7 days individually.

24 Hour mode Programming all 7 days as one block.

Factory Program Settings 5/2d

	5/2 Day					
	P1 ON	P1 OFF	P2 ON	P2 OFF	P3 ON	P3 OFF
Mon-Fri	06:30	08:30	12:00	12:00	16:30	22:30
Sat-Sun	07:30	10:00	12:00	12:00	17:00	23:00

	7 Day					
	P1 ON	P1 OFF	P2 ON	P2 OFF	P3 ON	P3 OFF
All 7 days	06:30	08:30	12:00	12:00	16:30	22:30

	24 Hour					
	P1 ON	P1 OFF	P2 ON	P2 OFF	P3 ON	P3 OFF
Everyday	06:30	08:30	12:00	12:00	16:30	22:30

Adjust the Program Setting in 5/2 Day Mode

Press PROG .

Programming for Monday to Friday for Zone 1 is now selected.

To change programming for Zone 2 press the appropriate Select .

Press + and − to adjust the P1 ON time. Press OK .

Press + and − to adjust the P1 OFF time. Press OK .

Repeat this process to adjust P2 and P3 times.

Programming for Saturday to Sunday is now selected.

Press + and − to adjust the P1 ON time. Press OK .

Press + and − to adjust the P1 OFF time. Press OK .

Repeat this process to adjust P2 and P3 times.

Press MENU to return to normal operation.

While in programming mode, pressing Select will jump to the next day (block of days) without changing the program.

Note:

1. To change from 5/2d to 7D or 24H programming, refer to page 19, Menu P03.
2. If you don't wish to use one or more of the daily programs then simply set the start time and end time to be identical. For example, if P2 is set to start at 12:00 and end at 12:00 the programmer will simply ignore this program and proceed to the next switching time.

Reviewing the Program Settings

Press PROG .

Press OK to scroll through the periods for the individual day (block of days).

Press Select to jump to the next day (block of days).

Press MENU to return to normal operation.

You must press the specific Select to review the schedule for that zone.

Boost Function

Each zone can be boosted for 30 minutes, 1, 2 or 3 hours while the zone is in the AUTO, ALL DAY & OFF mode.

Press Boost 1, 2, 3 or 4 times, to apply the desired BOOST period to the Zone.

When a Boost is pressed there is a 5 second delay before activation where '**BOOST**' will flash on the screen, this gives the user the time to select the desired BOOST period.

To cancel a BOOST, press the respective Boost again.

When a BOOST period has ended or has been cancelled, the Zone will return to the mode that was previously active prior to the BOOST.

Note: A BOOST cannot be applied while in the ON or Holiday Mode.

Advance Function

When a zone is in the AUTO or ALL DAY mode, the Advance function allows the user to bring the zone or zones forward to the next switching time.

If the zone is currently timed to be OFF and ADV is pressed, the zone will be switched ON until the end of the next switching time. If the zone is currently timed to be ON and ADV is pressed, the zone will be switched OFF until the start of the next switching time.

Press ADV.

Zone1 and Zone 2 will begin to flash.

Press the appropriate Select.

The zone will display '**ADVANCE ON**' or '**ADVANCE OFF**' until the end of the next switching time.

Zone 1 will stop flashing and enter Advance mode.

Zone 2 will remain flashing.

Repeat this process with Zone 2 if required.

Press OK.

To cancel an ADVANCE, press the appropriate Select.

When an ADVANCE period has ended or has been cancelled, the zone will return to the mode that was previously active prior to the ADVANCE.

Menu

This menu allows the user to adjust additional functions.

To access the menu, press MENU.

P01 RF Thermostat Pairing

This function allows the user to connect an RF thermostat to the R27-RF^{V2} programmer.

To connect an RFR^{V2}, RFRB^{V2} or RFC^{V2} to an R27-RF^{V2} programmer

1. On the R27-RF^{V2}:

Press MENU, **'P01 rF COn'** will appear on the screen.

Press OK, **'RF CONNECT'** will appear solid on the screen.

2. On the thermostat:

Remove the back cover & press the RF button on the PCB.

RFR^{V2}

RFRB^{V2}

RFC^{V2}

3. On the R27-RF^{V2}:

Once **'ZONE'** flashes press Select.

4. On the thermostat:

When **'r01'** appears, press to confirm the thermostat is connected.

5. On the R27-RF^{V2}:

Press OK to return to the main screen.

P01 RF Thermostat Pairing continued

CDT2-RF

To connect a CDT2-RF to an R27-RF^{V2} programmer

1. On the R27-RF^{V2}:

Press MENU, **'P01 rF COn'** will appear on the screen.

Press OK, **'RF CONNECT'** will appear solid on the screen.

2. On the thermostat:

Press the RF button on the left side of the thermostat housing.

3. On the R27-RF^{V2}:

Once **'ZONE'** flashes press Select.

4. On the thermostat:

When **'r01'** appears, press OK to confirm the thermostat is connected.

5. On the R27-RF^{V2}:

Press OK to return to the main screen.

Note: When pairing the 2nd zone on the RF controller, **'r02'** will appear on the thermostat screen.

RDT-RF

To connect an RDT-RF to an R27-RF^{V2} programmer

1. On the R27-RF^{V2}:

Press MENU, **'P01 rF COn'** will appear on the screen.

Press OK, **'RF CONNECT'** will appear solid on the screen.

2. On the thermostat:

Press and hold ⏻ and OK together for 5 seconds.

'PO1' will appear on the screen, press OK.

3. On the R27-RF^{V2}:

Once **'ZONE'** flashes press Select.

4. On the thermostat:

When **'r01'** appears solid on the screen, press OK to confirm the thermostat is connected.

5. On the R27-RF^{V2}:

Press OK to return to the main screen.

Note: When pairing to the 2nd zone on the RF controller, **'r02'** will appear on the thermostat screen.

HDT-RF

To connect a HDT-RF to an R27-RF^{V2} programmer

1. On the R27-RF^{V2}:

Press MENU, **'P01 rF COn'** will appear on the screen.

Press OK, **'RF CONNECT'** will appear solid on the screen.

2. On the thermostat:

Press and hold ⏻ and ◎ together for 5 seconds.

'PO1' will appear on the screen, press ◎.

3. On the R27-RF^{V2}:

Once **'ZONE'** flashes press Select.

4. On the thermostat:

When **'r01'** appears solid on the screen, press ◎ to confirm the thermostat is connected.

5. On the R27-RF^{V2}:

Press OK to return to the main screen.

Note: When pairing to the 2nd zone on the RF controller, **'r02'** will appear on the thermostat screen.

P02 GW04 Gateway Pairing

GW04 Gateway

This function allows the user to connect the GW04 Gateway to the R27-RF^{V2} programmer.

1. On the R27-RF^{V2}:

Press MENU, '**P01 rF COn**' will appear on the screen.

Press + until '**P02 gAtE**' will appears on the screen.

Press OK. **'CONNECT'** will flash on the screen.

2. On the GW04 Gateway:

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

3. On the R27-RF^{V2}:

When successful '**r1**' and '**CONNECTED**' will appear on the screen.

Press OK.

Press MENU and the programmer will return to normal operation.

Notes:

If multiple R27-RF^{V2} programmers are paired to the same gateway **r2**, **r3** or **r4** may appear on the screen.

When in the gateway pairing screen the wireless channel (**CH**) will be displayed on the top right of the screen.

P03 Setting the Date, Time and the Programming Mode DST ON

Press MENU, '**P01 rF COn**' will appear on the screen.

Press + until '**P03 tIne**' appears on the screen.

Press OK, the year will begin to flash.

Press + and − to adjust the year. Press OK.

Press + and − to adjust the month. Press OK.

Press + and − to adjust the day. Press OK.

Press + and − to adjust the hour. Press OK.

Press + and − to adjust the minute. Press OK.

Press + and − to adjust from 5/2d to 7d or 24h mode. Press OK.

Press + and − to turn DST (Day Light Saving time) On or Off.

Press MENU and the programmer will return to normal operation.

Note:

Please see page 12 for descriptions of Programming Modes.

P04 Holiday Mode

This function allows the user to switch off their heating system by defining a start and end date.

Press [MENU], '**P01 rF COn**' will appear on the screen.

Press [+] until '**P04 HOL**' will appears on the screen.

Press [OK], '**HOLIDAY FROM**', the date and time will appear on the screen. The year will begin to flash.

Press [+] and [−] to adjust the year. Press [OK].

Press [+] and [−] to adjust the month. Press [OK].

Press [+] and [−] to adjust the day. Press [OK].

Press [+] and [−] to adjust the hour. Press [OK].

'**HOLIDAY TO**' and the date and time will appear on the screen. The year will begin to flash.

Press [+] and [−] to adjust the year. Press [OK].

Press [+] and [−] to adjust the month. Press [OK].

Press [+] and [−] to adjust the day. Press [OK].

Press [+] and [−] to adjust the hour. Press [OK].

The programmer will now be switched off during this selected period.

To cancel the HOLIDAY, press [OK].

The programmer will return to normal operation when the holiday has finished or has been canceled.

P05 Frost Protection OFF

This function allows the user to activate the frost protection between a range of 5°C and 20°C.

Frost protection is default set to OFF.

Press MENU, '**P01 rF COn**' will appear on the screen.

Press + until '**P05 FrOST**' appears on the screen.

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

Press + to select '**ON**'. Press OK.

'**5˚C**' will flash on the screen.

Press + and − to select your desired frost protection temperature. Press OK.

Press MENU and the programmer will return to normal operation.

The Frost symbol ❄ will display on the screen if the user activates it in the menu.

If the room temperature drops below the desired frost protection temperature, all zones of the programmer will activate and the frost symbol will flash until the frost protection temperature has been achieved.

P06 PIN

This function allows the user to put a PIN lock on the programmer. The PIN lock will reduce the functionality of the programmer.

The user will have two options to choose from:

01: All buttons will be disabled.

02: Functionality will be reduced to a 30 minutes and 1 hour boost. The only modes available are the AUTO & OFF.

Set up the PIN

Press [MENU], '**P01 rF COn**' will appear on the screen.

Press [+] until '**P06 PIn**' appears on the screen. Press [OK], '**OFF**' will appear on the screen.

Press [+] to change from **OFF** to **ON**. Press [OK]. **'01'** will be appear on the screen.

Press [+] and [−] to choose between options 01 and 02.

Press [OK] button. '0000' will flash on the screen. Press [+] and [−] 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]. **'VErIFy'** is displayed with '0000'. Press [+] and [−] 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 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 Lock symbol 🔒 will flash every second on the screen.

When the programmer is PIN locked, Pressing the [MENU] will take the user to the PIN unlock screen.

To Unlock the PIN

Press MENU , '**UNLOCK**' will appear on the screen. '**0000**' will flash on the screen.

Press + and − 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 programmer, it will automatically reactivate if there is no button pressed for 2 minutes.

To Deactivate the PIN

When the PIN is unlocked (see above instructions)

Press MENU , '**P01 rF COn**' will appear on the screen.

Press + until '**P06 PIn**' appears on the screen.

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

Press + or − to select '**OFF**'. Press OK .

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

The PIN is now disabled.

Press MENU to return to normal operation or it will automatically exit after 20 seconds.

P07 RF Thermostat UnPairing

This function allows the user to disconnect an RF thermostat from an R27-RF^{V2} programmer.

Press MENU , '**P01 rF COn**' will appear on the screen.

Press + until '**P07 dISCOn**' appears on the screen.

Press OK .

'Zone' will flash on the screen. (e.g. Zone 1 or Zone 2)

Press Select and '**ZONE'** will disappear on the screen.

Press OK .

Your RF thermostat is now disconnected.

Press MENU and the programmer will return to normal operation.

Copy Function

Copy function can only be used when the 7d mode is selected. (See page 19 to select 7d mode)

Press PROG to program the ON and OFF periods for the day for the week you want to copy.

Do not press OK on the P3 OFF time, leave this period flashing.

Press ADV , '**COPY**' will appear on the screen, with the next day of the week flashing.

To add the desired schedule to this day, press + .

To skip this day, press − .

Press OK when the schedule has been applied to the desired days.

Ensure the zone is in the 'Auto' mode for this schedule to operate accordingly.

Repeat this process for Zone 2 if required.

Note:

You cannot copy schedules from one zone to another, E.g. Copying Zone 1 schedule to Zone 2 is not possible.

Backlight Mode Selection ON

There are 3 backlight settings available for selection:

AUTO Backlight stays on for 10 seconds when any button is pressed.

ON Backlight is permanently On.

OFF Backlight is permanently Off.

To adjust the backlight press and hold [OK] for 10 seconds.

'**Auto**' appears on the screen.

Press [+] or [−] to change the mode between Auto, On and Off.

Press [OK] to confirm selection and to return to normal operation.

Locking the Keypad

To lock the programmer, press and hold [+] and [−] together for 10 seconds.

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

To unlock the programmer, press and hold [+] and [−] for 10 seconds.

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

Resetting the Programmer

To reset the programmer to factory settings:

Press [MENU].

'**P01 rF COn**' will appear on the screen.

Press [+] until '**P08 rESEt**' appears on the screen.

Press [OK] to select.

'**nO**' will begin to flash.

Press [+], to change from '**nO**' to '**YES**'.

Press [OK] to confirm.

The programmer will restart and revert to its factory defined settings.
The time and date will not be reset.

Master Reset

To master reset the programmer to factory settings, locate the master reset button on the right-hand side underneath the programmer. *(see page 5)*

Press the Master Reset button and release it.

The screen will go blank and reboot.

The programmer will restart and revert to its factory defined settings.

The time and date will need to be set.

Service Interval OFF

The service interval gives the installer the ability to put an annual countdown timer on the programmer. When the Service Interval is activated '**SEruCE**' will appear on the screen which will alert the user that their annual boiler service is due.

For details on how to enable or disable the Service Interval, please contact customer service.

Notes

Notes

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.
2026-04-23_R27-RF-V2_DS_PK