SECURE

Smart Programmable Thermostat C1727

Installation and commissioning guide

Commercial and confidential

Smart Programmable Thermostat C1727 is registered trade name of Secure Meters Ltd.

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As part of Secure Meter's continuous endeavour to improve, product design and specifications mentioned are liable to change. System functionality information, illustrations and product aesthetics published in the document may vary from those of your

Installation by an expert recommended

BS 7671:2008

The Secure Controls products requires electrical connections at mains voltage and should be installed by a suitably competent person, in accordance with Part P of the Building Regulations, BS 7671:2008, (e.g. an electrical contractor registered with an authorised competent person self-certification scheme).

In the box
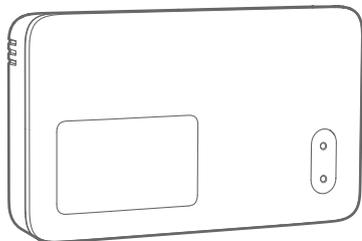
Pre-paired

Receiver C1727
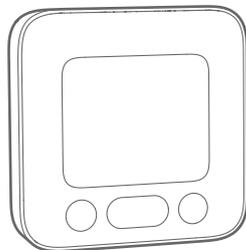
**Programmable Thermostat Display PTD**

Optional (To be purchased separately)
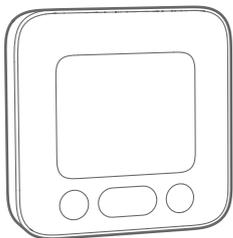
Extra PTD
(Additional PTD for extra zones)

Temperature Sensor THS
(Additional temperature sensor for extra zones)
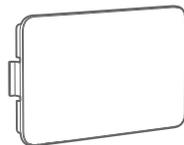
WiFi Extender HC2.4
(Add-on WiFi adapter)

Know your products

Receiver C1727
- Mains-powered device, compatible with Combination, System and Regular boilers (Heat+hotwater+zones)
- Communicates wirelessly with PTD, temperature sensor and mobile app
- Variant with WiFi module available for remote access
- Simple installation for retrofits with minimum wiring changes required
- Supports boiler plus compliance, load compensation and service interval functionality
- 7 year no quibble warranty

Programmable thermostat display (PTD)
- Independently controls heating and hot water
- No need for WiFi when programming schedule
- Home and Away one-click function
- Guaranteed 12 year battery life
- Easy and intuitive 7 day programming

Temperature sensor THS
- Cost-effective add on device to manage additional heating zones
- Wireless and simple to install

WiFi Extender HC2.4
- Plug and play wireless module to control your system remotely
- Works well with 2.4 GHz wireless router

What is covered?

How to

Install
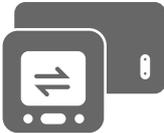
Setup system using PTD

Test

① **Receiver C1727**
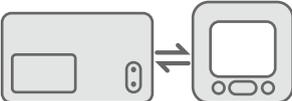
Establish communication

② **Programmable Thermostat Display PTD**

③ **User mobile app**

Compatibility

The C1727 Smart Programmer is compatible with most heating control systems and is ideal for S and Y plan system boilers using spring return valves.

It works well with compatible combination or system boilers as well as heat pumps requiring On/Off control. Shipped with a standard 6-pin back plate, it can easily replace Centaurplus and Serviceplus time switches and programmers requiring minimum of wiring changes.

⚠ **CAUTION** Failure to observe precautions may result in fatal injury and equipment damage

⚠ **SHOCK** Hazard of electrical shock or explosion

▣ Double insulation protection

Prerequisites

For installation	For commissioning

For installation

Tools / things you may need:

Flat head screw driver

Philips head screw driver

**Drill machine (2.5 mm drill bit)**

Wire stripper

Plier

Hammer

Wall anchors and screws

Cable

Pencil/Pen

Identification sleeves

L N GND 1 2 3 4

Measuring tape

For commissioning

To commission your system, you need:

☑ **Secure Controls PTD**

Or

☑ **Smartphone**

Version 11.0 and above

Marshmallow (version 6.0) and above

Secure installer guide mobile app

☑ **802.11 B/G/N, 2.4 GHz wireless router with internet (If upgrading the receiver for remote control)**

Typical system deployments*

Single zone heating and hot water

App

Internet

WiFi

C1727

	Wireless connection
	Wired connection
	Pipes

Channel 1

PTD

Zone 1

CT

Boiler

Hot water

Auto by-pass Valve

Channel 2 (Two port zone valve)

8

Typical system deployments*

Combi-boiler with 1 zone heating

App

Internet

WiFi

C1727

Channel 2

Combi-boiler
heating

PTD

Zone 1

Auto by-pass
Valve

Typical system deployments*

Combi-boiler with 2 zone heating

* All graphics are for illustration purpose only

App

Internet

WiFi

C1727

PTD

Zone 1

Channel 2

PTD

Or

TS

Zone 2

Combi-boiler heating

Channel 1

Auto by-pass Valve

Two port zone valve
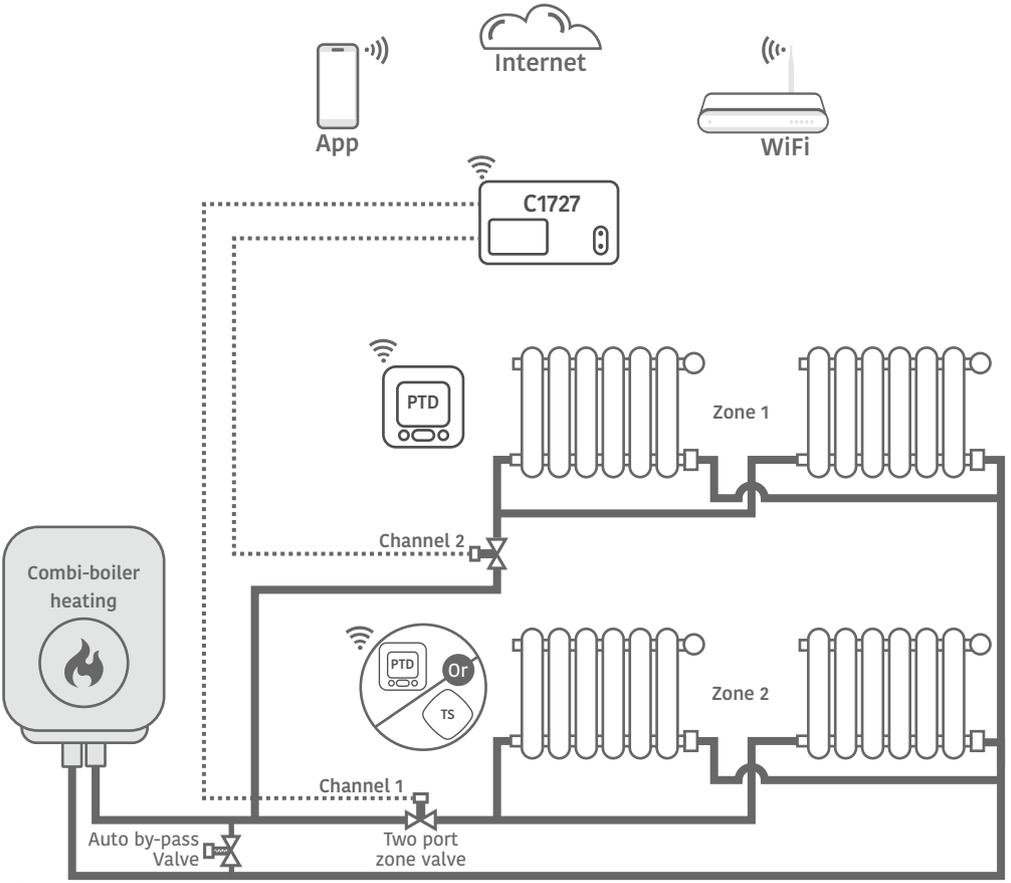
Product dimensions

Receiver C1727

153 mm · 91 mm · 32.5 mm

Programmable Thermostat Display PTD

100 mm · 100 mm · 29.5 mm
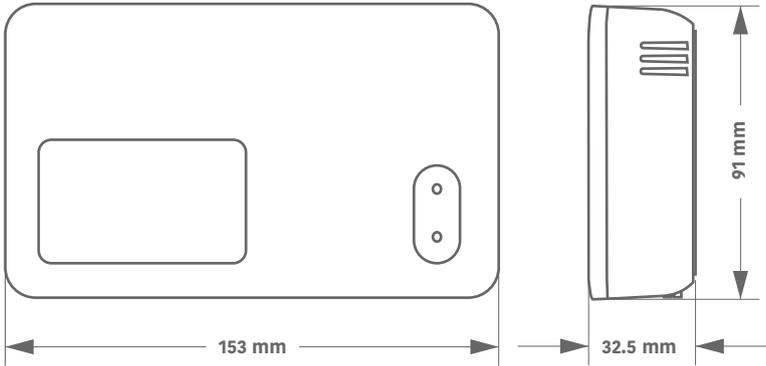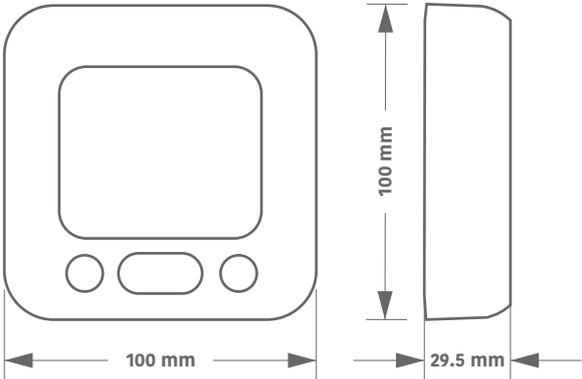
Download the installer mobile app

If you are replacing an existing programmer or time switch or even performing a fresh installation, we recommend that you install the Secure Installer Guide mobile app.
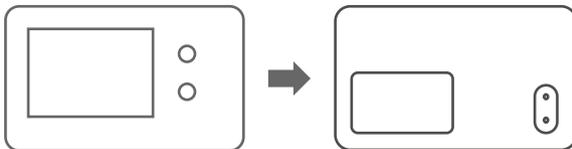
1. Download the Secure installer guide mobile app
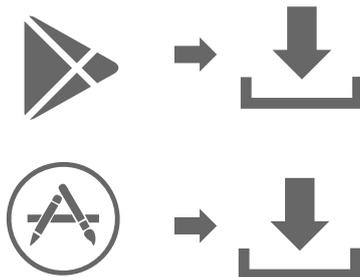
2. Open the app and select **Replace a programmer or time switch**

3. Choose your existing product and follow the instructions

Install the receiver

A1
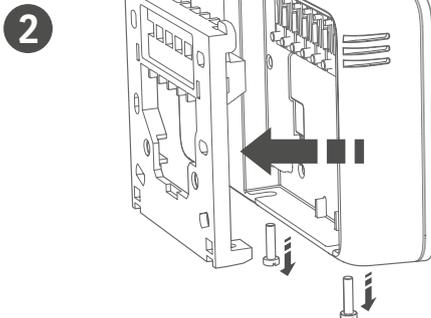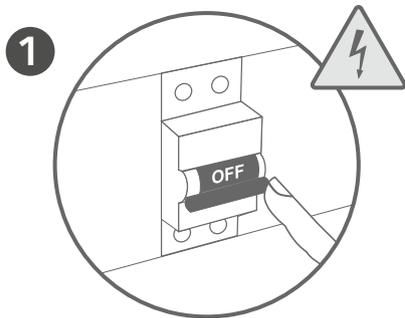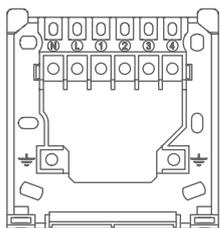
Fascia plate
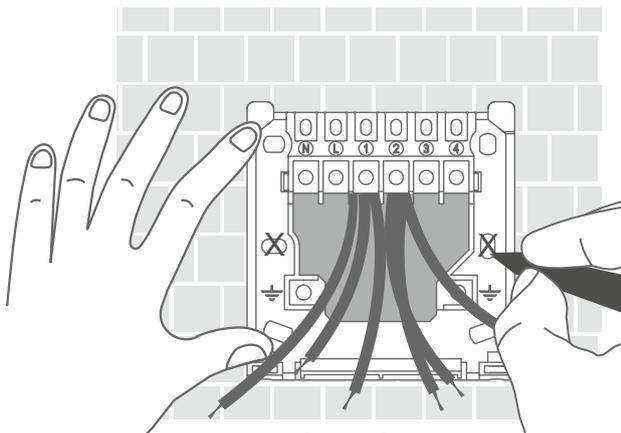
Mark out the position

Drill the holes and secure the mounting plate

A2

1

**2**
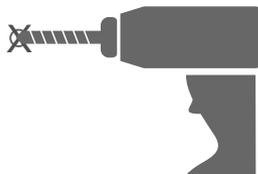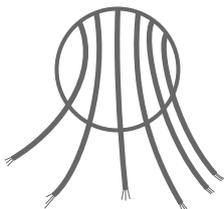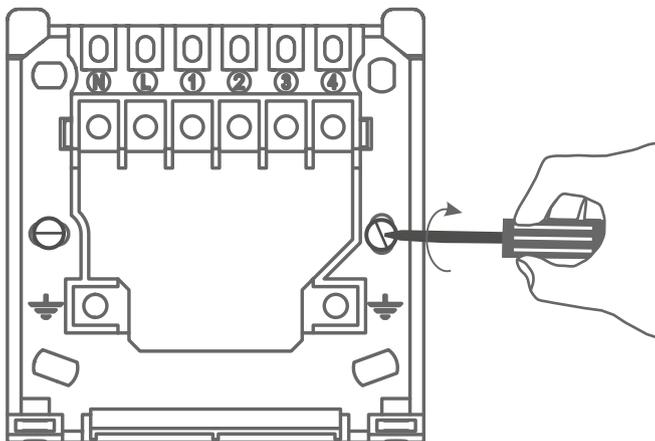
M3.5, AB
type screws

In case of surface wiring (Optional)

Break the surface wiring knockout provided on the receiver before proceeding further.
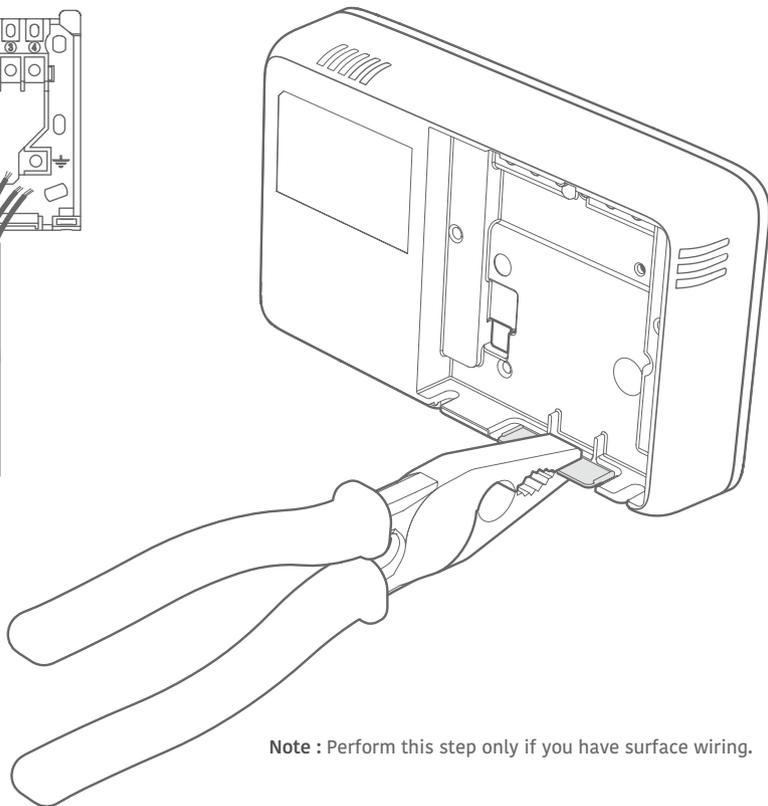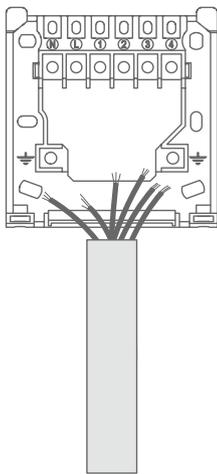
**Note :** Perform this step only if you have surface wiring.

Label your wires

N L 1 2 3 4

Earth   Earth
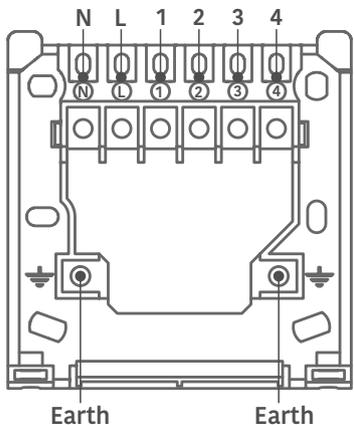
Backplate

Pin	Label	Pin description
N	Neutral	Neutral
L	Live	Live
1	Off 1	Hot water OFF (NC), channel 1
2	COM	Common
3	On 1	Hot water ON (NO), channel 1
4	On 2	Heating ON (NO), channel 2

Note: NC – Normally Closed, NO – Normally Open

If replacing, take a picture of your old thermostat connections, label and re-wire as shown in Secure Controls installer app.
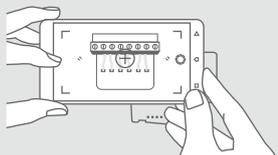
Make connections

This diagram is schematic and should be used for guidance only.

230 V Combi-boiler connection

A3
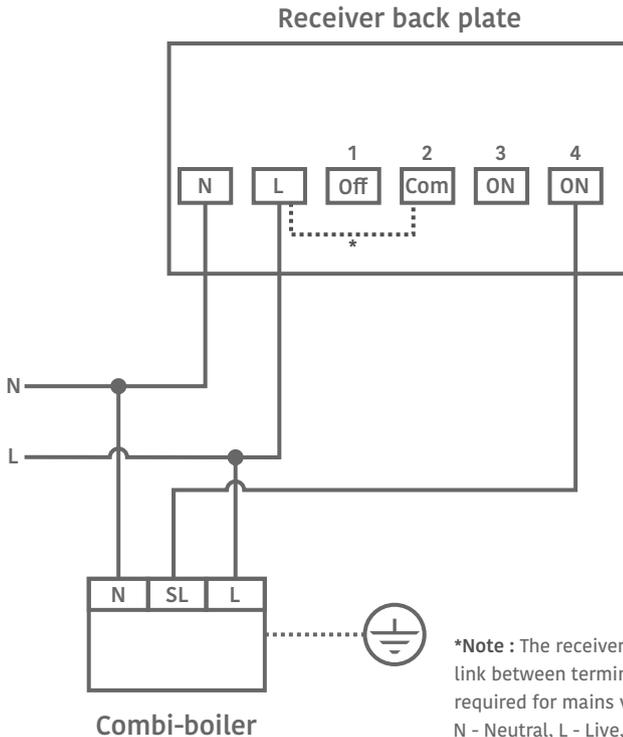
Receiver back plate

		1	2	3	4
N	L	Off	Com	ON	ON

*

N

L

| N	SL	L

Combi-boiler

*Note : The receiver has voltage free contacts. A link between terminal L and terminal 2 is required for mains voltage applications.
N - Neutral, L - Live, SL - Switched Live

Make connections

This diagram is schematic and should be used for guidance only.

2x heating zone system

A3
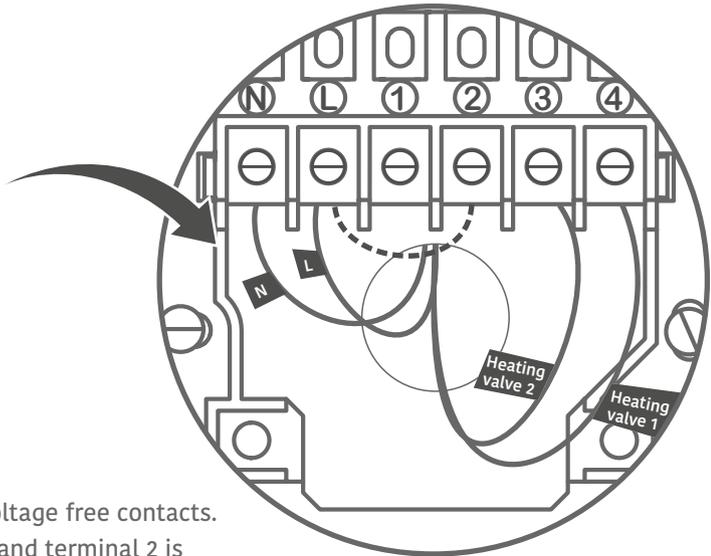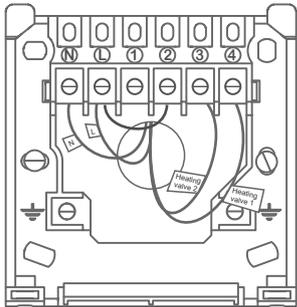
1.0/1.5 mm^2
Torque $\leq$0.5 Nm

*Note : The receiver has voltage free contacts.
A link between terminal L and terminal 2 is
required for mains voltage applications

Note: Connections shown for mains operated 2x heating zone system. These may vary for
different boiler types.

Make connections

This diagram is schematic and should be used for guidance only.

1x heating + 1x water heating system

A3

N L ① ② ③ ④

Boiler Live Out

Hot water valve

Heating valve 1

1.0/1.5 mm^2
Torque ≤0.5 Nm

N L ① ② ③ ④

Boiler live out

Hot water valve

Heating valve 1

Note: Connections shown for 1x heating and 1x water heating. Connections may vary for different boiler types.

Make connections

This diagram is schematic and should be used for guidance only.

3 Port Valve or Y Plan

A3

*Note : The receiver has voltage free contacts. A link between terminal L and terminal 2 is required for mains voltage applications

Receiver back plate
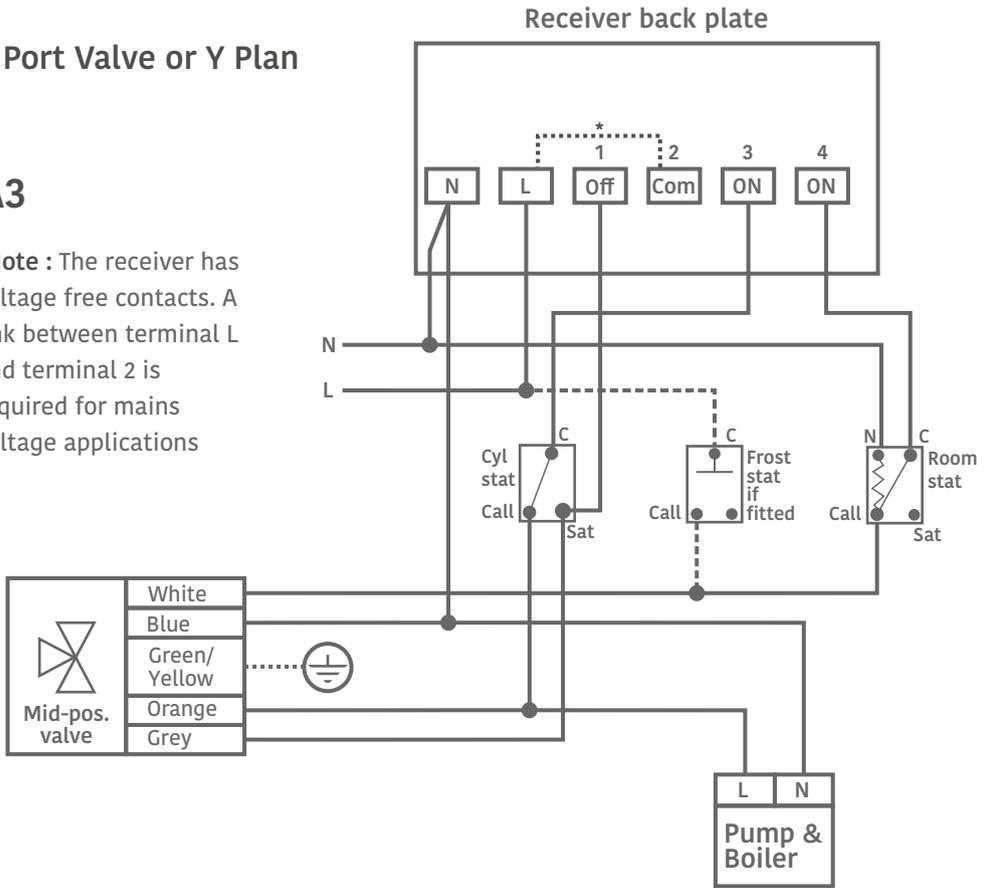
Plug in the WiFi extender HC2.4 (optional)

1 **Remove dummy cover**
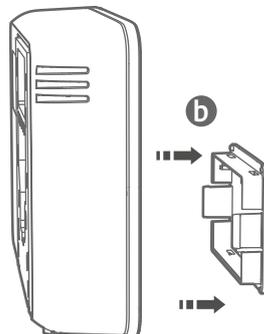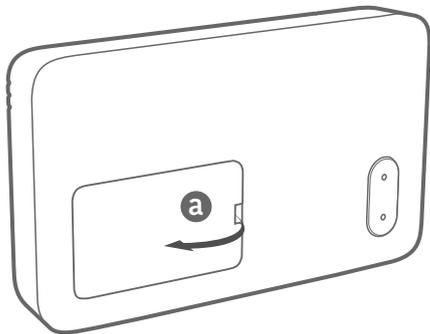
2 **Plug in the WiFi adapter**
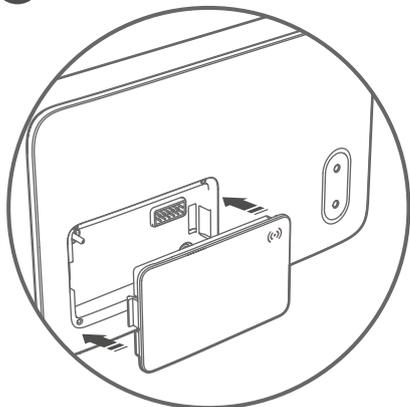
Note : WiFi adapter once installed cannot be removed

Fit the receiver

A4

1

2
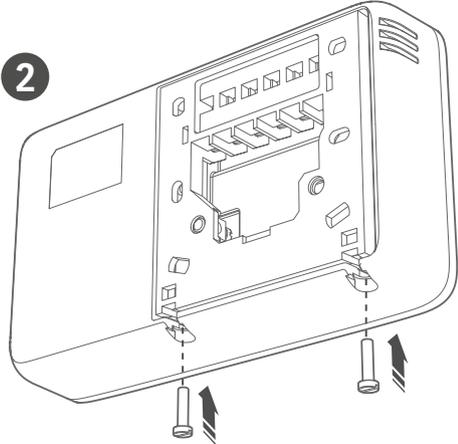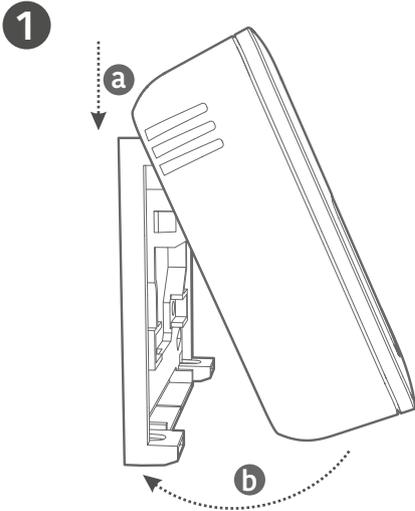
Verify installation

A6
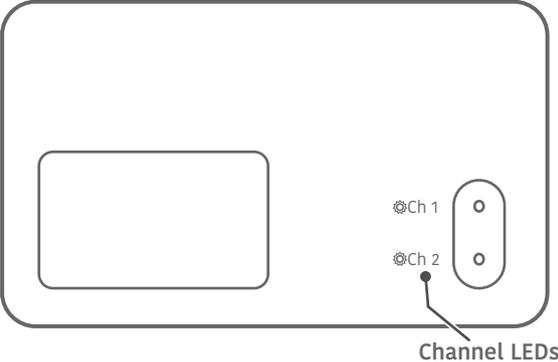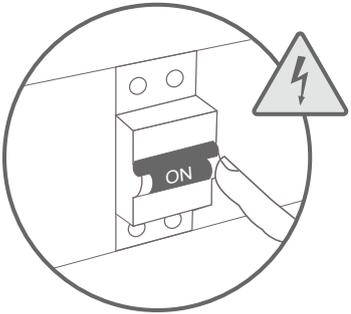
Channel LEDs

LED states	
Default state	Solid white
During setup	Blinking white
Channel selected	Solid red

* Note:

1. Use the top button or bottom button to select the required channel.
2. Long press any button to initiate setup. It suggests that the receiver is ready to be paired with mobile app or another PTD.

Install the PTD
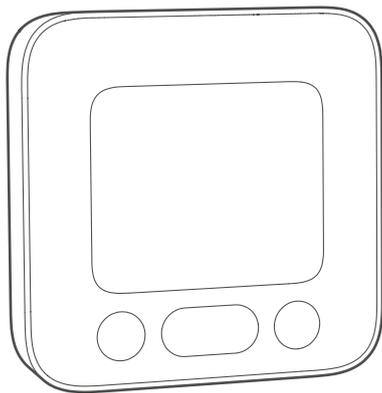
Ideal mounting location

The PTD should be placed approximately 1.5 metres above floor level, in 'free space', away from draughts and sources of heat or electrical interference.
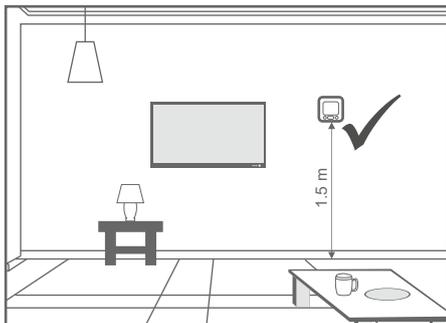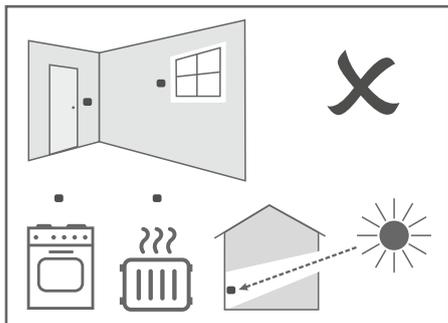
Mark out the mounting position

B1

1
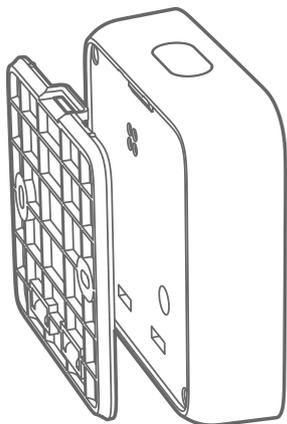
Unbox

2
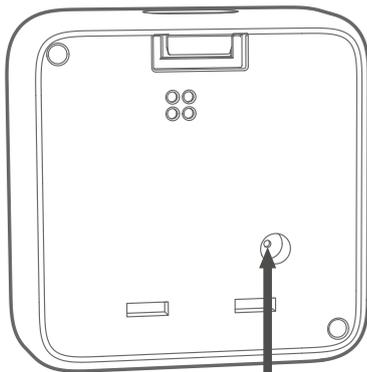
Press

The product is shipped in deep sleep mode to save battery. To wake up the device, you must press the button at the rear before setup.

3
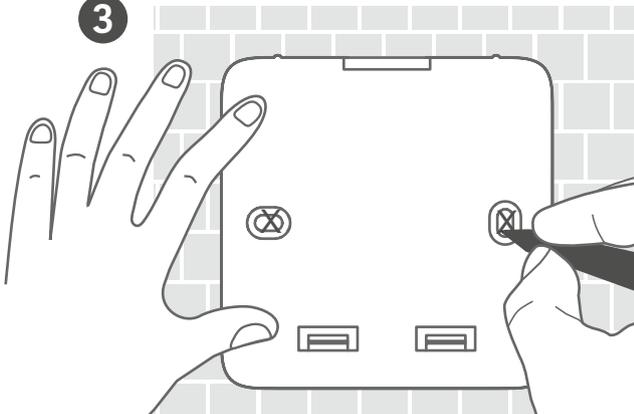
Fit the PTD

B2

1

2

M3.5, AB
type screws

3

a

Click

b

26

PTD button functions

Menu/Back button

Home-Away button

+ button

Home-Away button

- button

Buttons	Functions
Menu/Back button	Press 1. To enter the main menu 2. To return to the previous menu / selection
Home-Away button	Press 1. To navigate between modes (Home/Away) 2. To enter a menu/screen 3. To confirm a change or setting or enter
+ or - button	Press (+) 1. Increase the target temperature 2. To navigate between different menus (In forward direction) 3. To navigate between different items within a menu (In forward direction) Press (-) 1. Decrease the target temperature 2. To navigate between different menus (In backwards direction) 3. To navigate between different items within a menu (In backwards direction)

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Establish communication with the receiver

Long press the **Menu** button to establish communication between Receiver C1727 and PTD

Long press Menu button

TO SETUP

HOLD MENU BUTTON

— Home-Away +
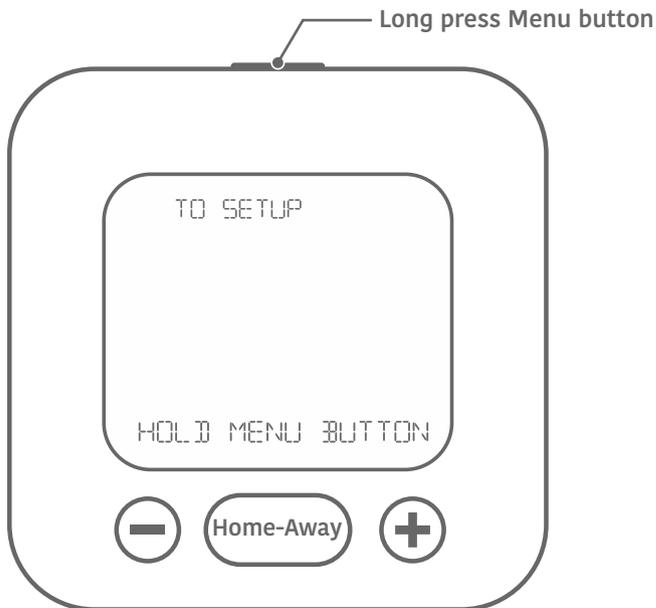
Notes: The PTD has great temperature sensitivity and you may observe a sudden rise in ambient temperature during the commissioning process triggered by the touch of your hand. This is only temporary.

Establish communication with the receiver

SEARCHING RECVR

(−) ( ) (+)

➡

Zone-|

Yes
CTRL HOT WATER?

(−) (x1) (+)
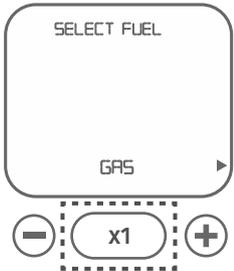
Press + or - to select (Yes
or No). Press Home-Away
to confirm selection

➡

SELECT FUEL

GAS ▶

(−) (x1) (+)

Press + or - to select fuel
type. Press Home-Away to
confirm selection

Communication established

PTD after establishing communication with the receiver

Note: To add additional PTD or temperature sensor, refer their respective installation guides.

Install the user mobile app

1. Download the **Secure Controls** user mobile app
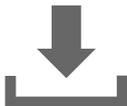
2. Open the app and create an account to sign in

Product technical specifications

Receiver C1727

Operating temperature	0°C to 40°C
Pollution degree	2
Ingress protection	IP30
Rated input voltage	230V ± 10% AC
Relay contact voltage rating, Ch1 and Ch2	Volt free (max 230/240 V AC)
Relay current rating	3(1) A maximum
Storage temp. range	-20°C to +70°C
Relative humidity	0% to 95% non condensing
Wireless communication	WiFi (2.4 GHz) , 2.4 GHz RF
Standards	1. Safety : Class II as per BS EN 60730-1; EN 60730-2-7; EN 60730-2-9 2. EN 301 489-1,17 3. EN 300-328 4. RoHS & REACH 5. WEEE

Product technical specifications

Programmable Thermostat Display PTD

Operating temperature	0°C to 40°C
Storage temp. range	-20°C to +70°C
Relative humidity	0% to 95% non condensing
Pollution degree	2
Ingress protection	IP30
Battery specifications	Non replaceable 2x A Lithium-ion, 3.6 V, 3600 mAh (each)
Battery life	≈12 years
Wireless communication	2.4 GHz RF
Standards	1) EN 300-328
	2) Safety standards: IEC 62368-1
	3) EN 301 489-1, 17 (RED)
	4) RoHS Directive 2011/65/EU
	5) WEEE

Products variants

Product name	Model number	Description
Programmable Thermostat Display PTD	SCD100-000	Battery operated device for zone heating and hot water
Programmable Thermostat C1727	SCT200-000	Mains powered 2 channel receiver C1727 and Programmable Thermostat Display (PTD)
Programmable Thermostat H3747	SCT400-000	Mains powered 4 channel receiver H3747 and Programmable Thermostat Display (PTD)
Temperature Sensor THS	SCS100-000	Battery operated heating control Temperature Sensor THS
WiFi Extender HC2.4	SCW100-000	2.4 GHz WiFi add-on adapter for 2 and 4 channel receiver, It is used to enable WiFi functionality in the receivers

Learn more

Receiver C1727

This is a mains-powered device designed to control boilers and domestic or light commercial heating systems. It lets you establish communication between the boiler/heating system and the PTD to enable the right comfort levels in each of your zones. C1727 is Ideal for replacing traditional wired controls for systems that require separate control of heating and hot water or multiple heating zones. Once commissioned, the Receiver

> 1. Can be operated locally via smart phone to control heating and hot water (If applicable)
> 2. The WiFi variant can be operated remotely using the Secure Controls mobile app with Internet to control heating and hot water (If applicable)

This device is designed for S and Y Plan using spring return valves and is compatible with most Gas combination and system boilers. It is supplied with a standard 6-pin back plate and is easy to replace with minimum wiring changes. C1727 supports Boiler plus compliance, load compensation and service interval functionality that significantly improves boiler efficiency by preventing short-cycling and overshooting of temperature when used with Programmable thermostat display. Load compensation has been shown to save energy compared to traditional systems, while maintaining more consistent comfort levels. Supplied with a 7 year no quibble warranty, it is an ideal replacement for Centaurplus and Serviceplus time switches and programmers.

PTD

This is a battery operated wireless device, which measures and controls up to 2 zones (2 heating or 1 hot water + 1 heating). Designed for comfort and convenience, it comes with an intuitive interface and powerful features such as Receiver operating mode, Boost, Scheduling, Optimum start/stop and Service interval etc. There is no need for WiFi when programming schedule in the PTD as it offers easy 7 day programming. With a guaranteed 12 year battery life, it is an ideal replacement for wired thermostats, with limited functionality.

BGX701-290