



# sensoCOMFORT Boiler Schematics and Installation Guide

**Controls: sensoCOMFORT, VR 92(f), VR71, VR70, VR 66/2**

This guide booklet contains information to assist in the installation and commissioning of your boiler system. This booklet should be used alongside all the relevant manuals for the equipment supplied.

**Please read the contents very carefully for a successful installation.**

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## General Notes

- Ensure registration of individual components within a pack instead of the pack itself when registering your guarantee.
- Ensure system wiring adheres to the relevant Vaillant schematic diagram.
- Check eBus polarity on all connections.
- Ensure isolation at relevant electrical points.

## Terms and Conditions for Vaillant Schematic Diagrams

- All applicable laws and regulations must be followed.
- The Diagram may be subject to alteration at any time.
- Vaillant is not responsible for any inaccuracies or omissions in the information and drawings provided to it and upon which it relies when constructing the diagrams.
- Any reproduction of the design must have the prior permission of Vaillant.
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## Schematic Diagrams

The below systems are the most popular system installations in the UK. For further assistance please call Vaillant Technical on: 0344 693 3133

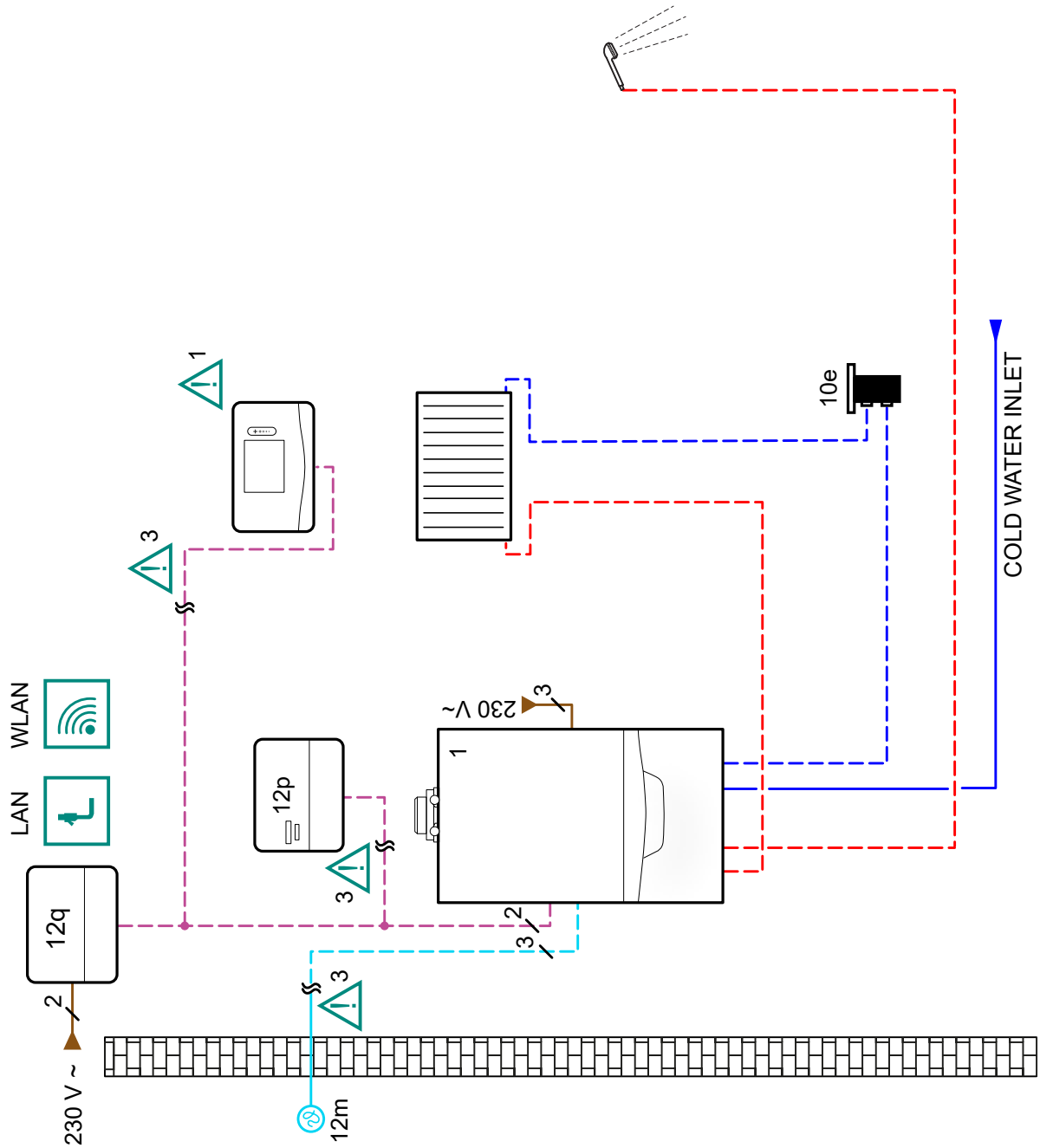
For the relevant system configuration settings in the sensoCOMFORT wired or wireless controller, refer to **page 30**. Care must be taken going through each setting diligently and adjust as necessary in accordance to system configuration and property requirements. Only key settings are listed in this document, refer to the sensoCOMFORT installation manual for further guidance.

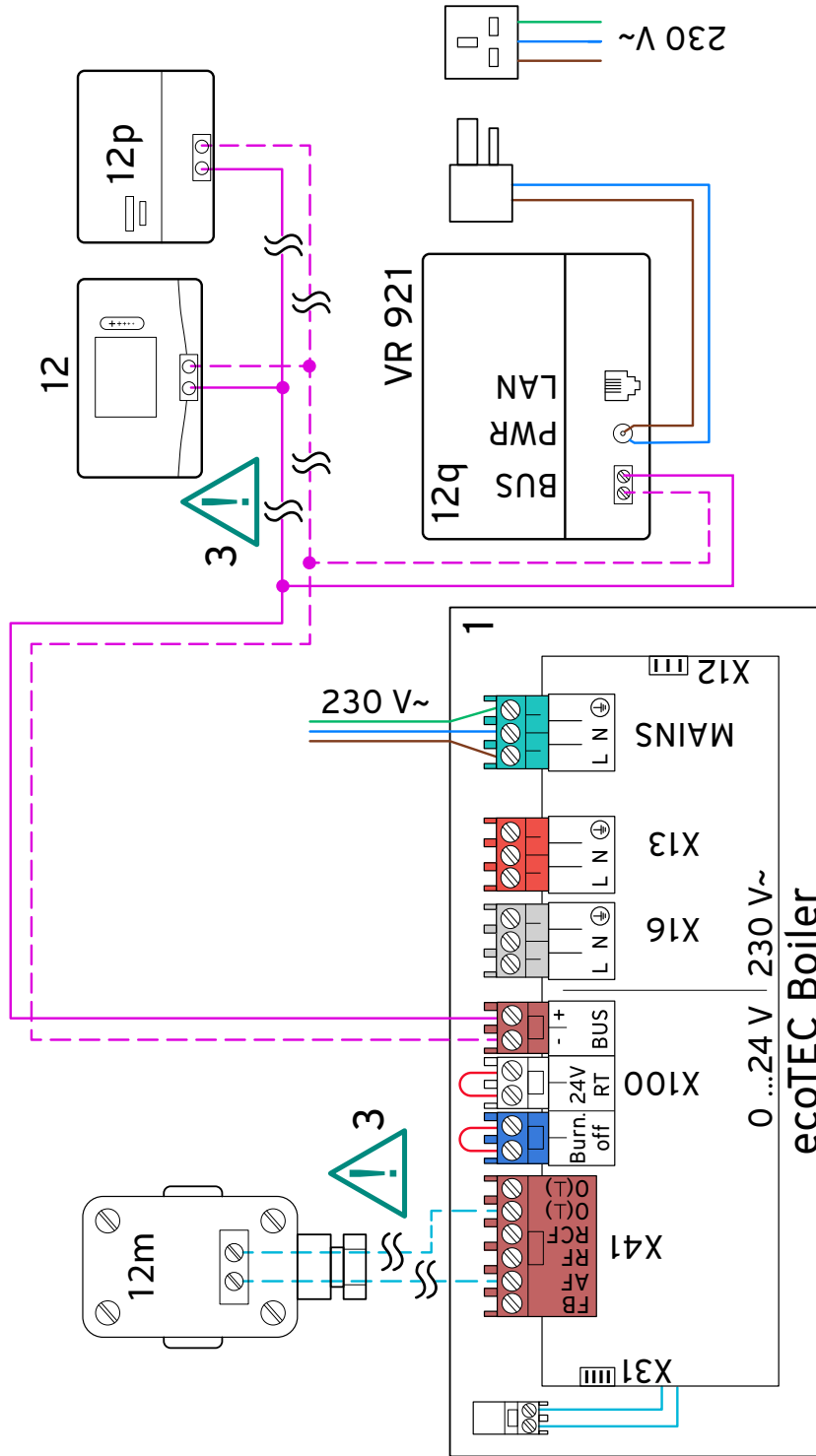
<b>Schematic No.</b>	<b>Combination Boiler Schematics</b>	<b>Page No.</b>
20010-1001	Combination Boiler, 1 Radiator Zone	4
20021-1002	Combination Boiler, 2 Radiator Zones (Direct)	7
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10020-1012	System Boiler, Domestic Hot Water, 2 Radiator Zones (Mixed)	22
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## Combination Boiler, 1 Radiator Zone

Schematic No. 20010-1001





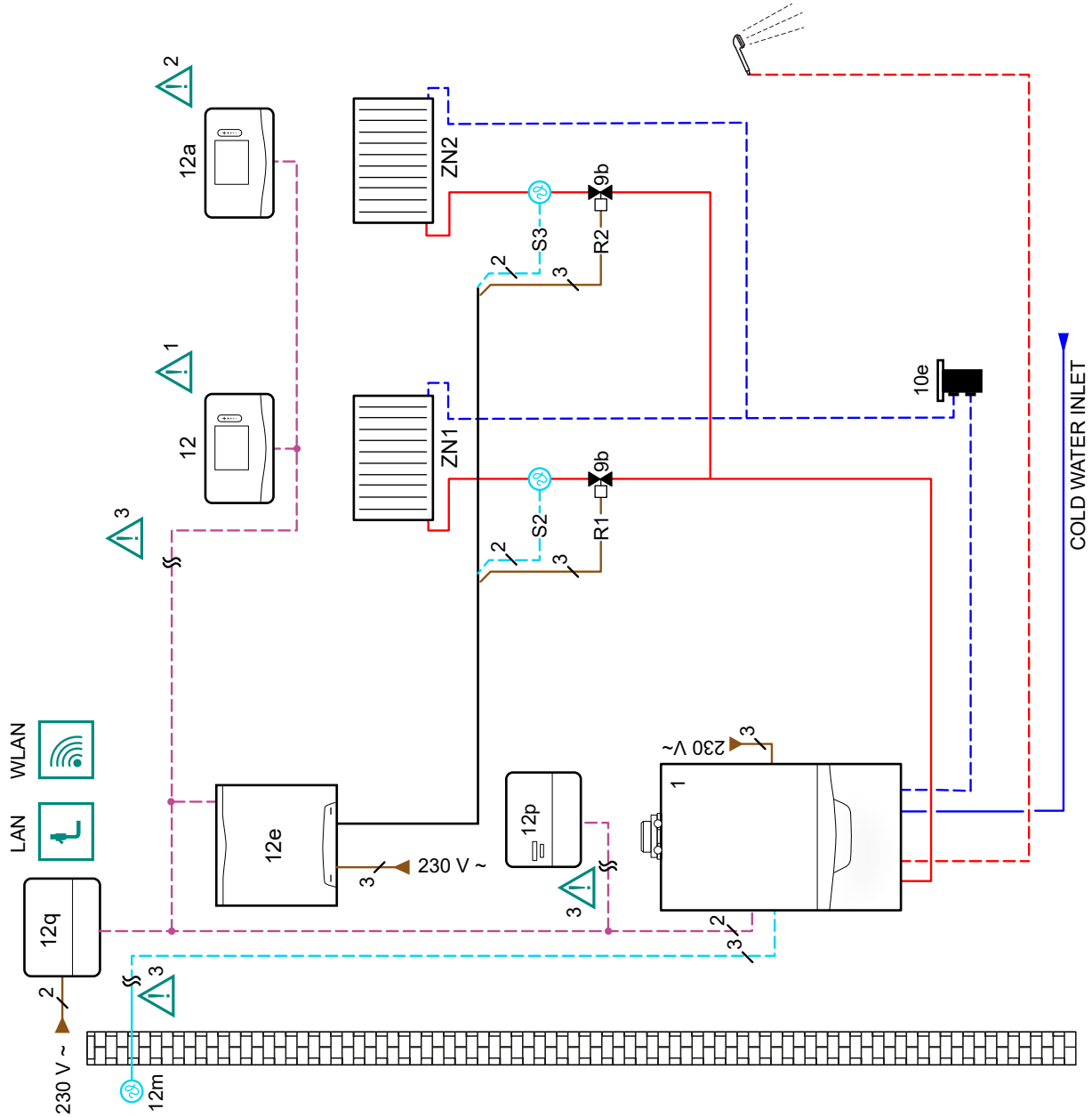
## sensoCOMFORT System Configuration Relevant Settings

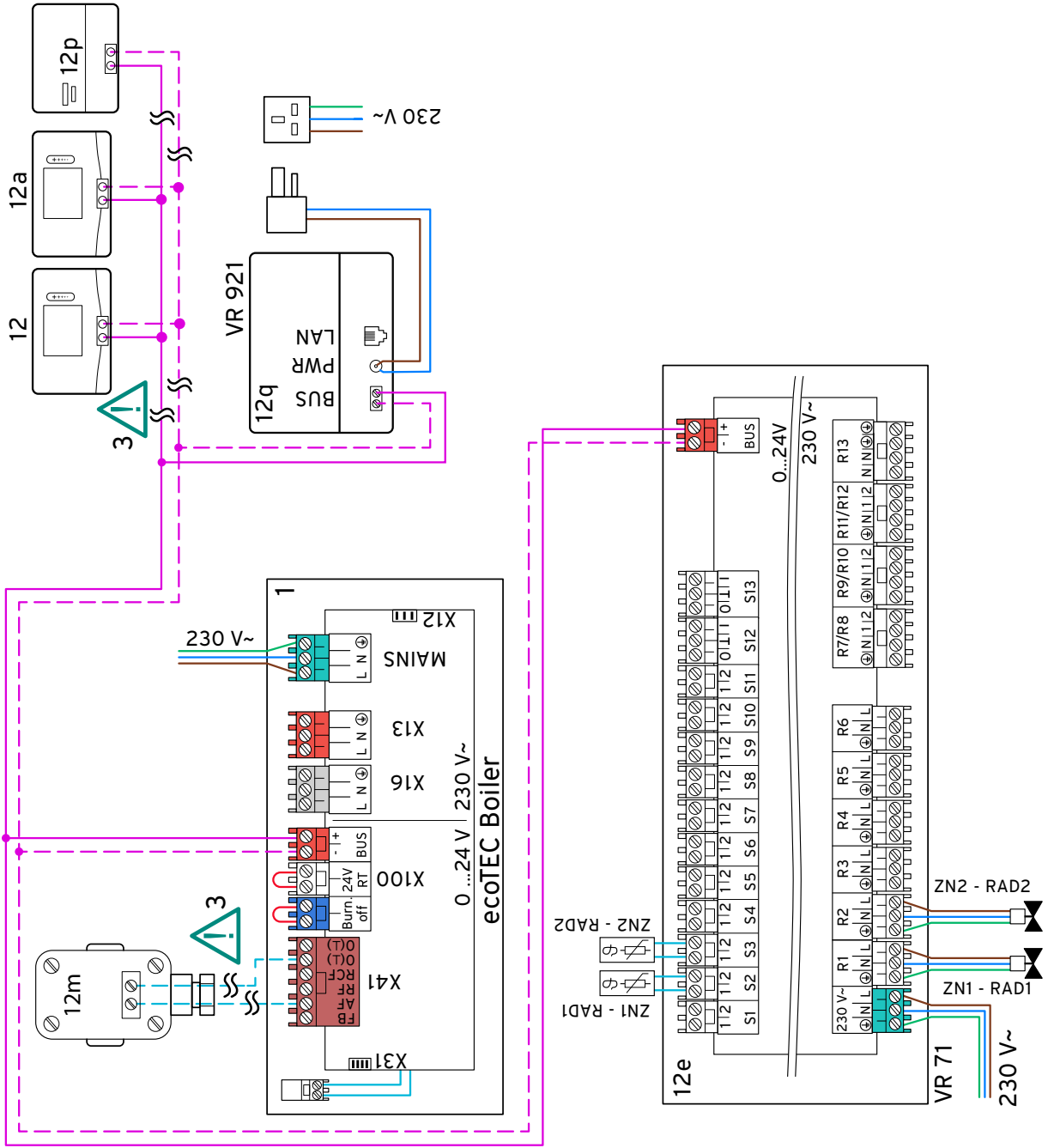
### 20010- 1001 - Combination Boiler, 1 Radiator Zone

Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control

## Combination Boiler, 2 Radiator Zones (Direct)

Schematic No. 20021-1002





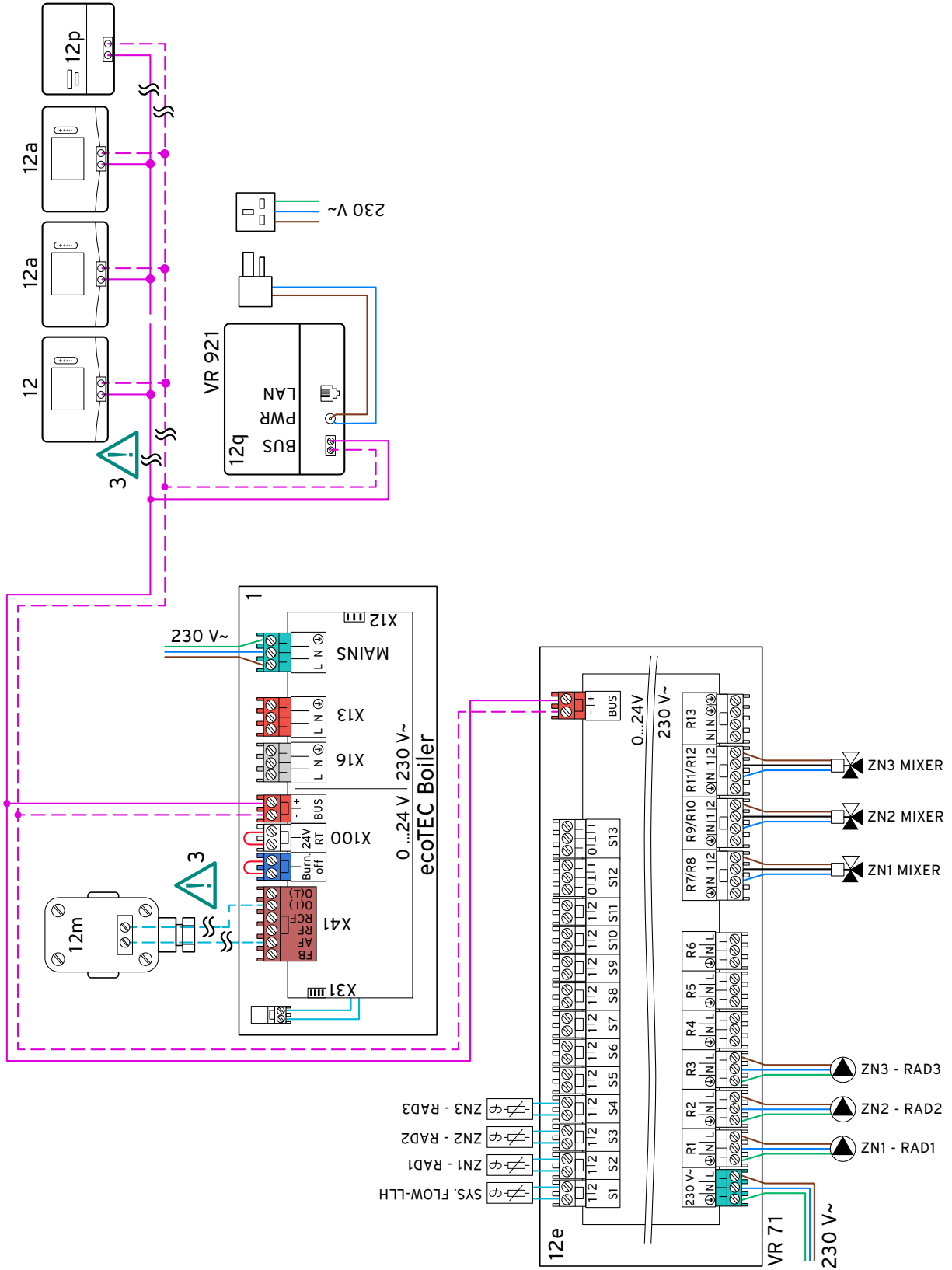


## sensoCOMFORT System Configuration Relevant Settings

### 20021- 1002 - Combination Boiler, 2 Radiator Zones (Direct)

Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1





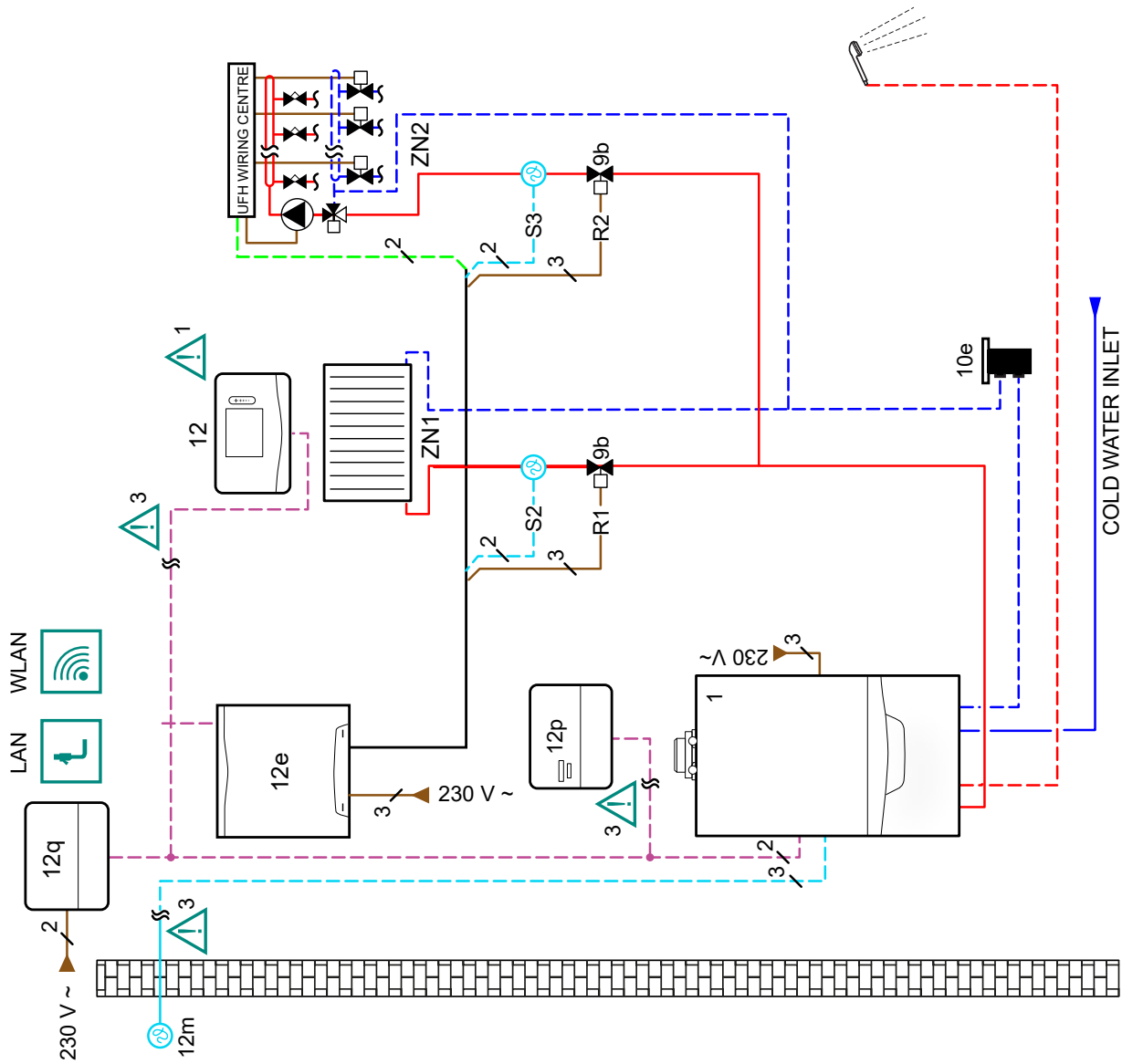
## sensoCOMFORT System Configuration Relevant Settings

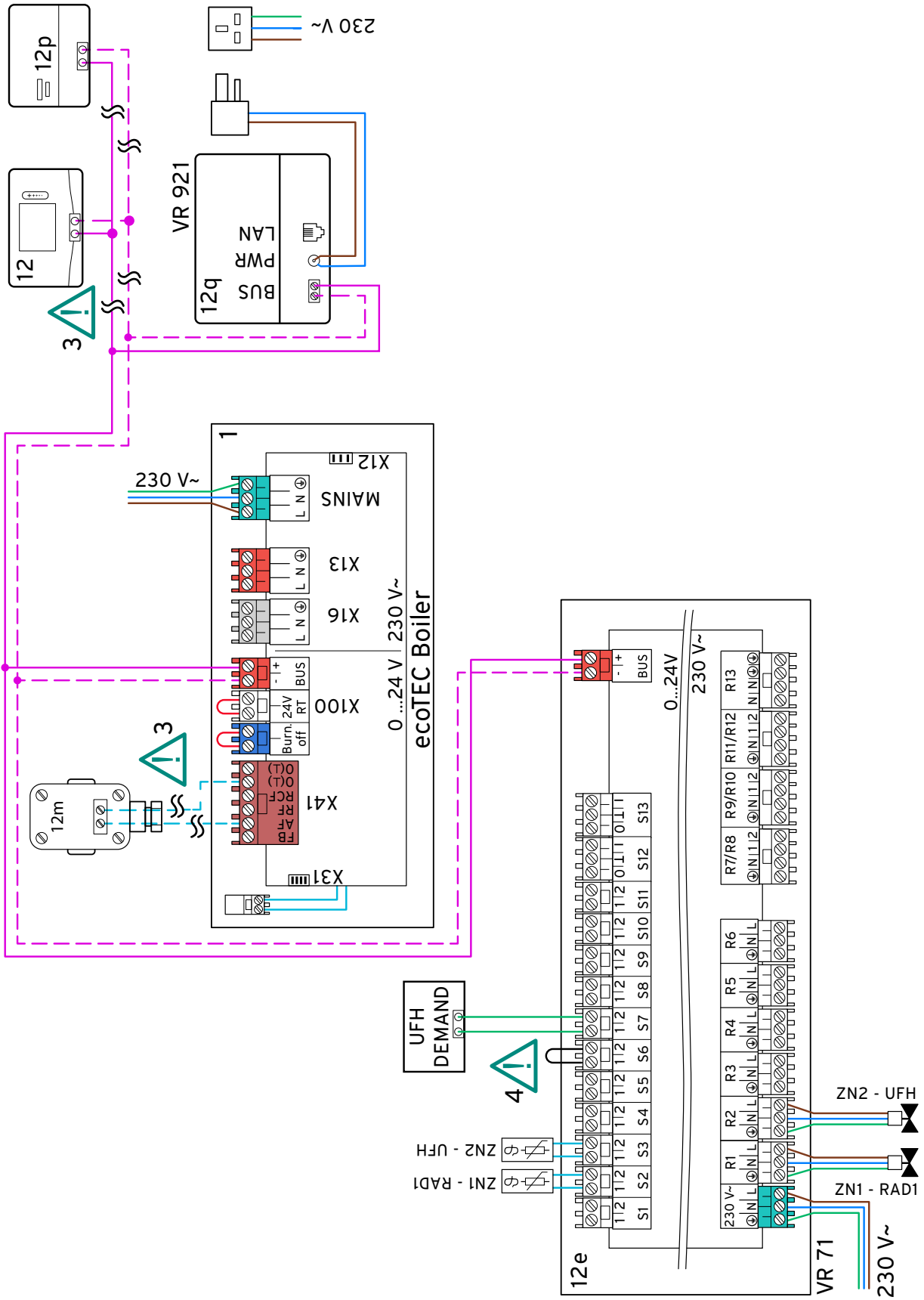
### 20030- 1003 - Combination Boiler, 3 Radiator Zones (Mixed)

Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 3</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1
<b>Zone 3</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 2

# Combination Boiler, 1 Radiator (Direct), 1 Underfloor (3<sup>rd</sup> Party)

Schematic No. 20022-1002





## sensoCOMFORT System Configuration Relevant Settings

### 20022- 1002 - Combination Boiler, 1 Radiator (Direct), 1 Underfloor (3rd Party)

Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1





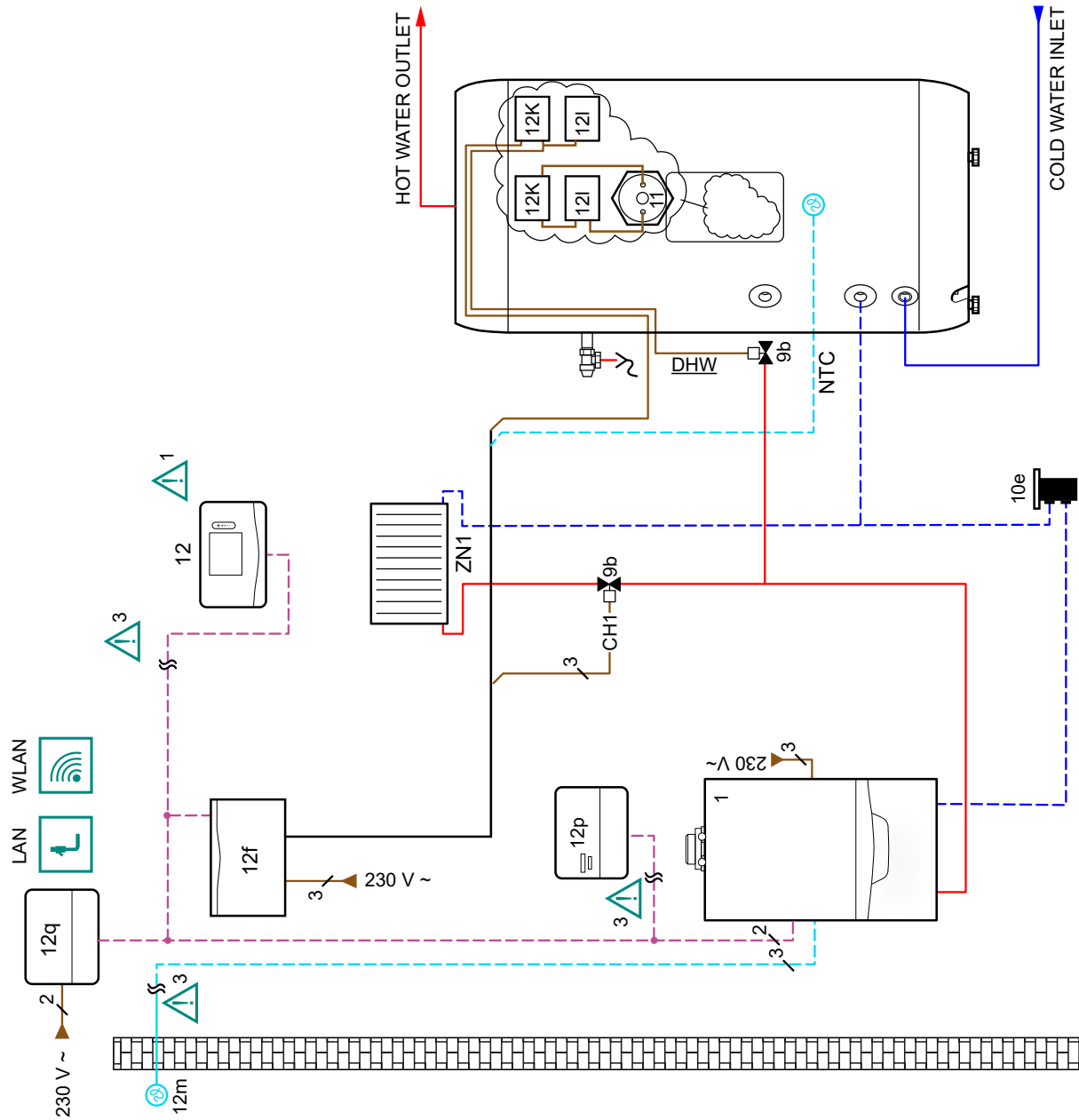


## sensoCOMFORT System Configuration Relevant Settings

20110- 1003 - Combination Boiler, 1 Underfloor (Mixed), 2 Radiator (Mixed)	
Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 3</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1
<b>Zone 3</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 2

# System Boiler, Domestic Hot Water, 1 Radiator Zone

Schematic No. 10010-1011



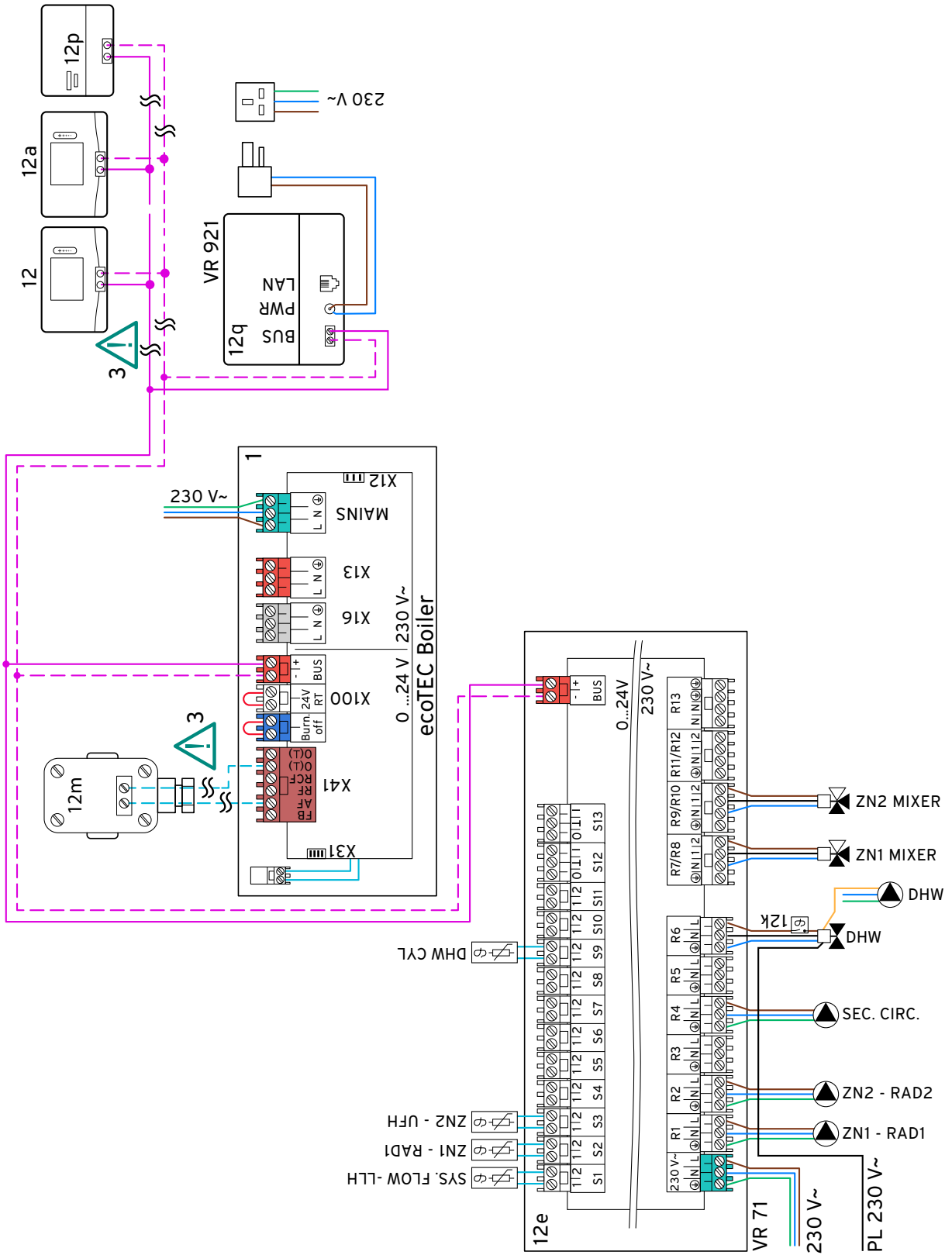


## sensoCOMFORT System Configuration Relevant Settings

### 10010- 1011 - System Boiler, Domestic Hot Water, 1 Radiator Zone

Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control





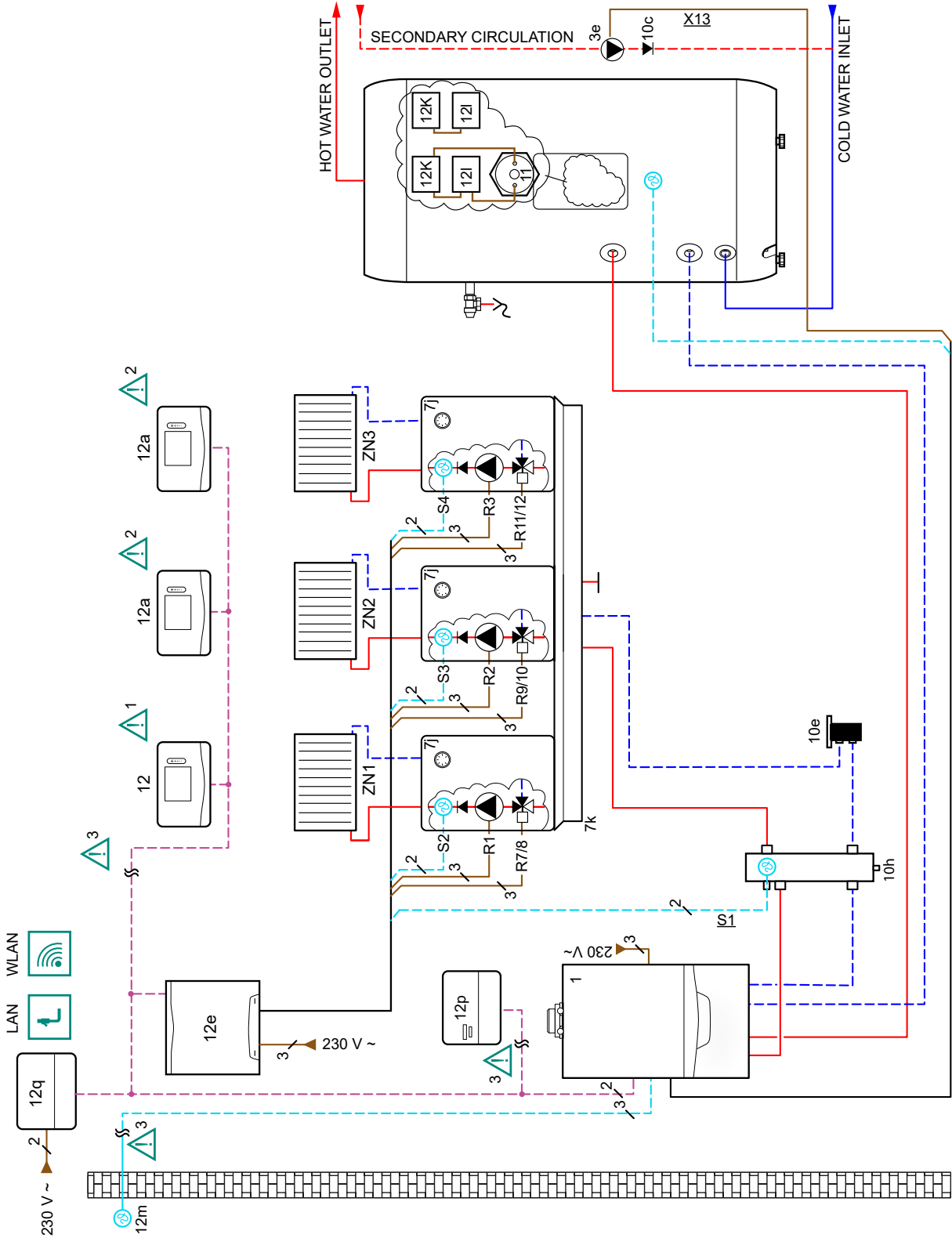
## sensoCOMFORT System Configuration Relevant Settings

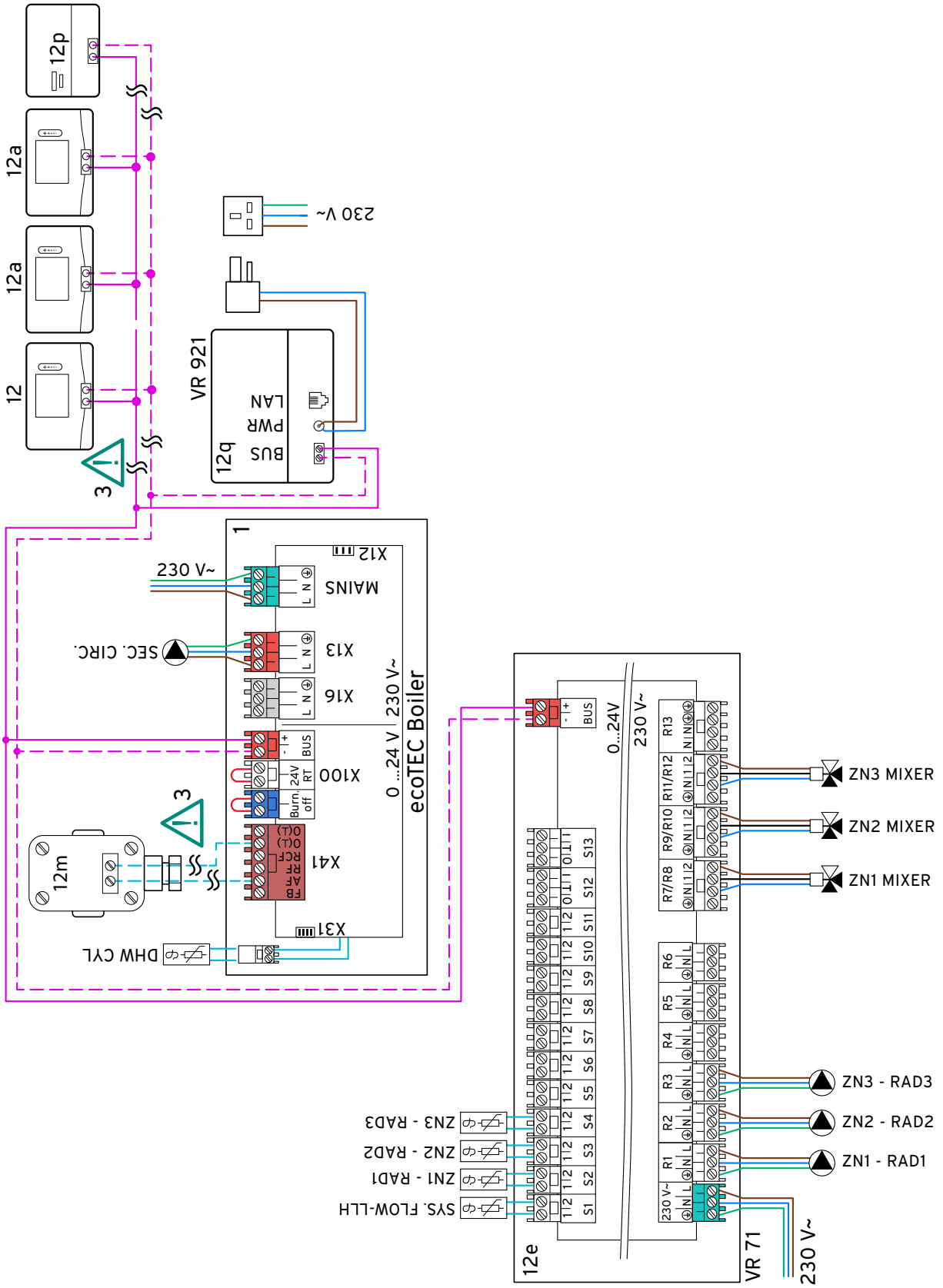
10020- 1012 - System Boiler, Domestic Hot Water, 2 Radiator Zones (Mixed)	
Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	2
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1



# System Boiler (Exclusive), Domestic Hot Water, 3 Rad. Zones (Mixed)

Schematic No. 10041-1013





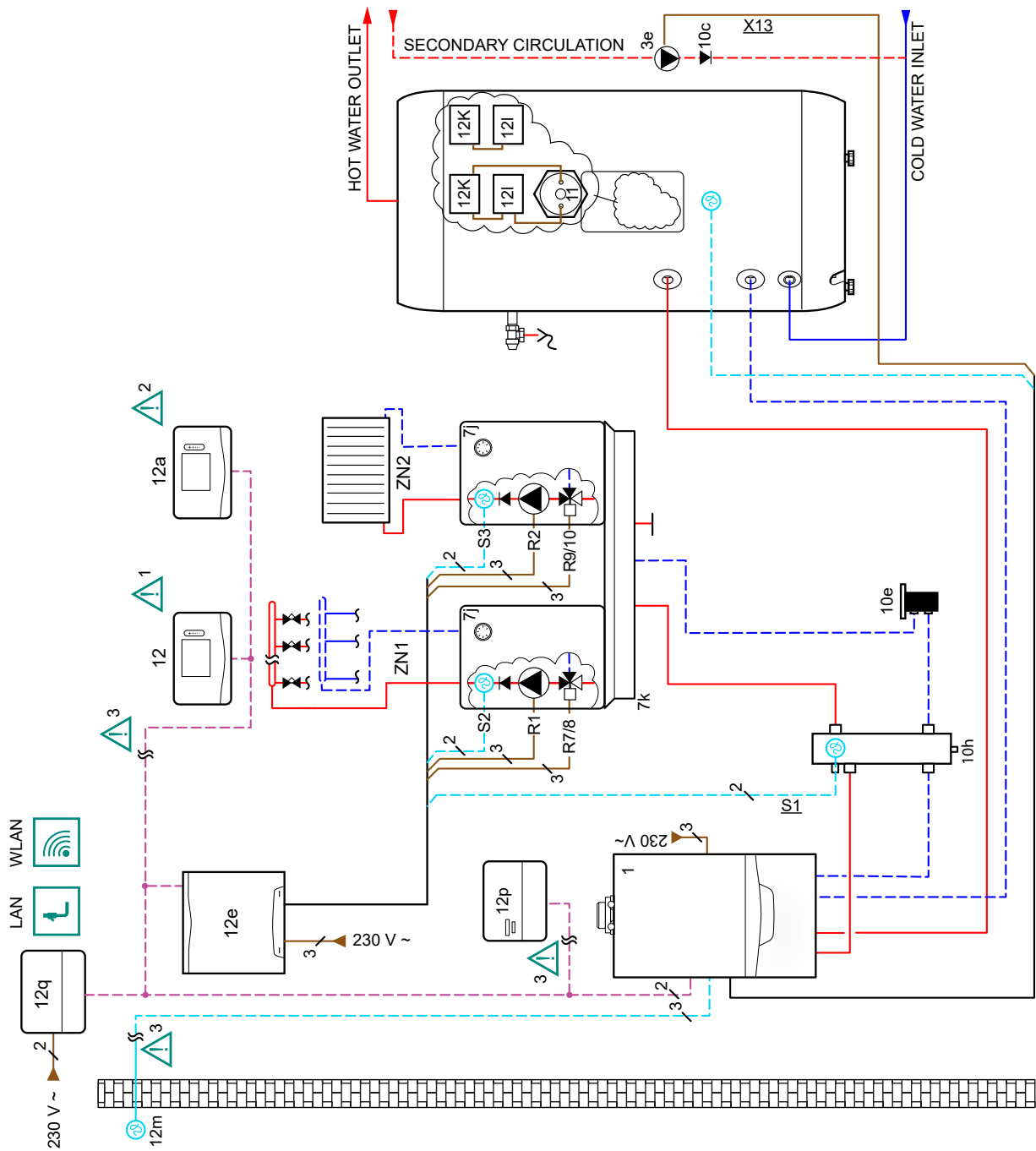
## sensoCOMFORT System Configuration Relevant Settings

### 10041- 1013 - System Boiler (Exclusive), Domestic Hot Water, 3 Radiator Zones (Mixed)

Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 3</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1
<b>Zone 3</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 2

# System Boiler (Exclusive), Domestic Hot Water, 1 Underfloor (Mixed), 1 Radiator (Mixed)

Schematic No. 10030-1012



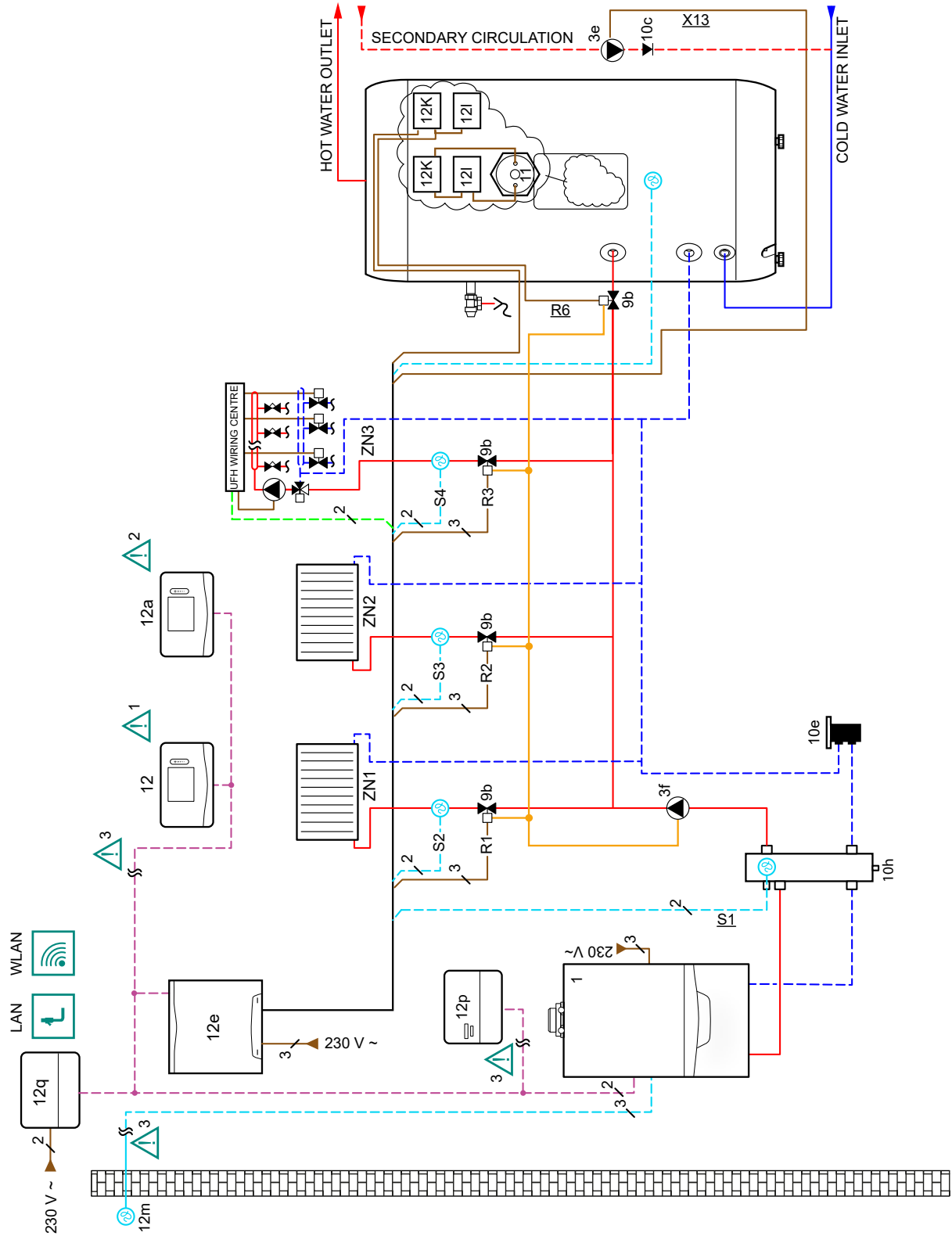


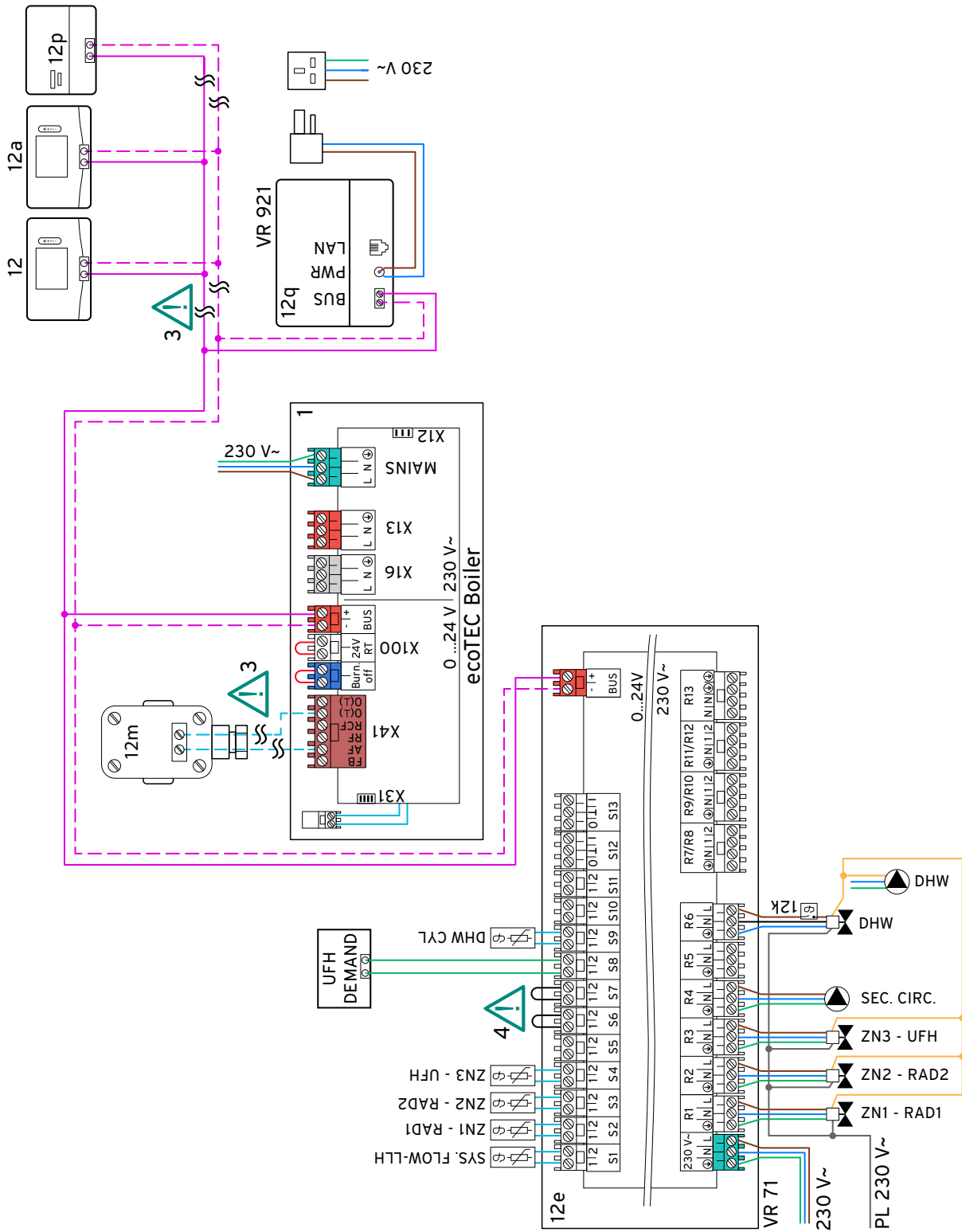
## sensoCOMFORT System Configuration Relevant Settings

10030- 1012 - System Boiler (Exclusive), Domestic Hot Water, 1 Underfloor (Mixed), 1 Radiator (Mixed)	
Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
<b>Basic system diagram config.</b>	
Basic system diagram code:	1
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1

# System Boiler, Domestic Hot Water, 2 Radiator Zones, 1 Underfloor Zone (3rd Party)

Schematic No. 10060-1013







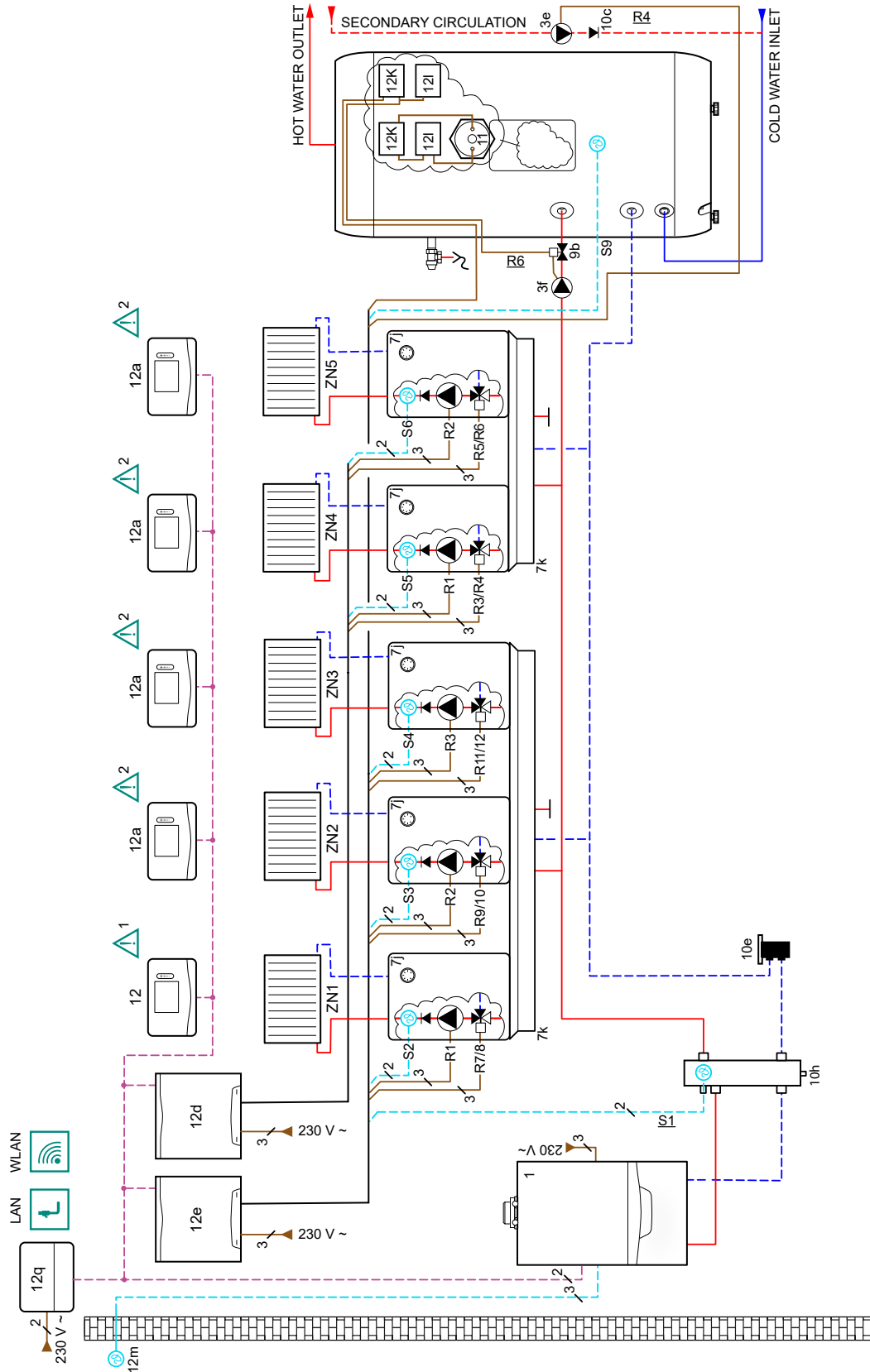
## sensoCOMFORT System Configuration Relevant Settings

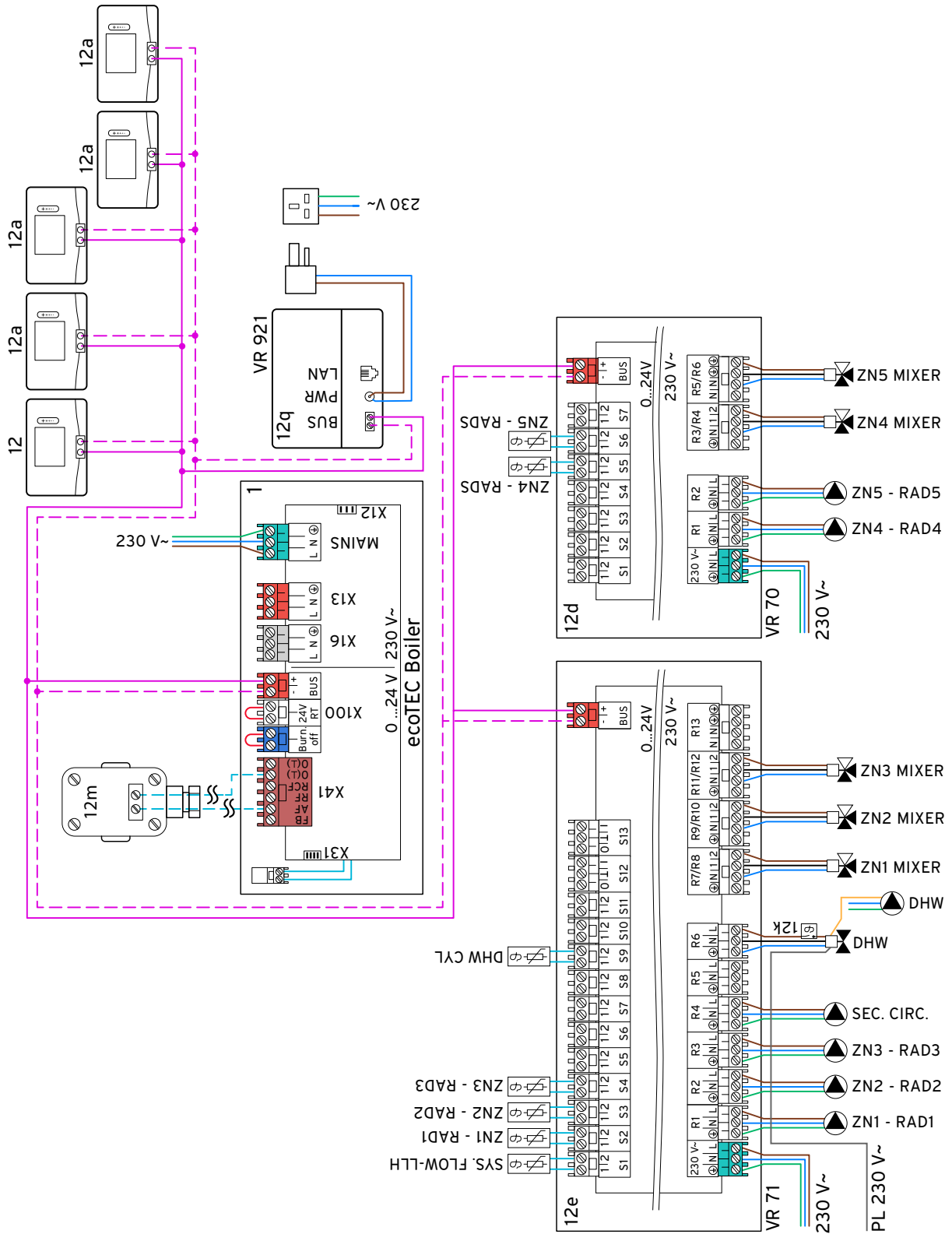
10060- 1013 - System Boiler, Domestic Hot Water, 2 Radiator Zones, 1 Underfloor (3rd party)

Setting	Value
<b>Installation</b>	
Adapt. heat curve:	Activated
conf. ext. inputs:	Open, deactiv.
<b>Basic system diagram config.</b>	
Basic system diagram code:	2
FM5 Configuration:	3
<b>Circuit 1</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 2</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Normal
Room temp. mod.:	Expanded
<b>Circuit 3</b>	
Circuit type:	Heating
OT switch-off threshold	30°
Max. target flow temp.:	70°
Set-back mode:	Eco
Room temp. mod.:	Inactive
<b>Zone 1</b>	
Zone activated:	Yes
Zone assignment:	Control
<b>Zone 2</b>	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1
<b>Zone 3</b>	
Zone activated:	Yes
Zone assignment:	No assignmt.

# System Boiler, Domestic Hot Water, 5 Radiator Zones (Mixed)

Schematic No. 10100-1015





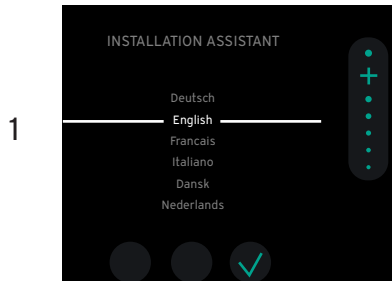
## sensoCOMFORT System Configuration Relevant Settings

10100- 1015 - System Boiler, Domestic Hot Water, 5 Radiator Zones (Mixed)			
Setting	Value	Setting	Value
<b>Installation</b>		<b>Circuit 5</b>	
Adapt. heat curve:	Activated	Circuit type:	Heating
<b>Basic system diagram config.</b>		OT switch-off threshold	30°
Basic system diagram code:	2	Max. target flow temp.:	70°
FM5 Configuration:	3	Set-back mode:	Normal
<b>Circuit 1</b>		Room temp. mod.:	Expanded
Circuit type:	Heating	<b>Zone 1</b>	
OT switch-off threshold	30°	Zone activated:	Yes
Max. target flow temp.:	70°	Zone assignment:	Control
Set-back mode:	Normal	<b>Zone 2</b>	
Room temp. mod.:	Expanded	Zone activated:	Yes
<b>Circuit 2</b>		Zone assignment:	Rem. contr. 1
Circuit type:	Heating	<b>Zone 3</b>	
OT switch-off threshold	30°	Zone activated:	Yes
Max. target flow temp.:	70°	Zone assignment:	Rem. contr. 2
Set-back mode:	Normal	<b>Zone 4</b>	
Room temp. mod.:	Expanded	Zone activated:	Yes
<b>Circuit 3</b>		Zone assignment:	Rem. contr. 3
Circuit type:	Heating	<b>Zone 5</b>	
OT switch-off threshold	30°	Zone activated:	Yes
Max. target flow temp.:	70°	Zone assignment:	Rem. contr. 4
Set-back mode:	Normal		
Room temp. mod.:	Expanded		
<b>Circuit 4</b>			
Circuit type:	Heating		
OT switch-off threshold	30°		
Max. target flow temp.:	70°		
Set-back mode:	Normal		
Room temp. mod.:	Expanded		

## sensoCOMFORT Commissioning / Configuration

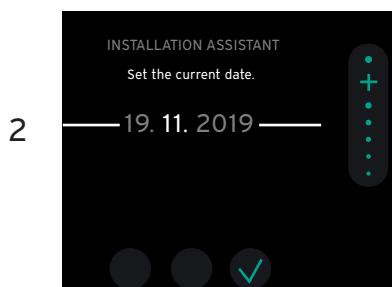
When the sensoCOMFORT is powered up for the first time, the installation assistance will guide you through several basic settings.

### Installation Assistant

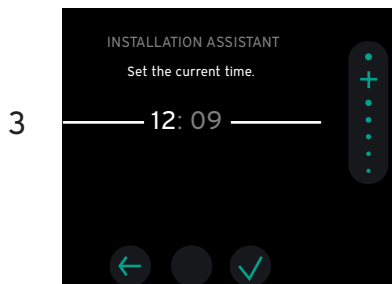


Use the scroll bar to the right of the screen to scroll through the different language options and then tap the ✓ below the screen.

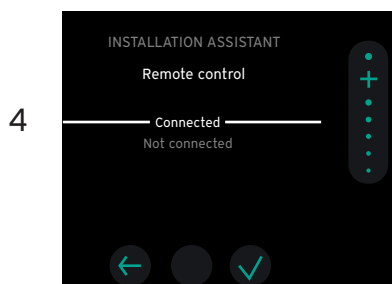
**Note:** You can tap the top and the bottom of the scroll bar to scroll up and down 1 position.



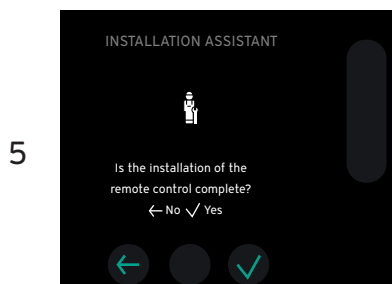
Use the scroll bar to change the value of the day then tap on the ✓ to move onto the month, and repeat once more for the year. Tap on the ✓ once the date is set.



In the same manner as previous, select the time.

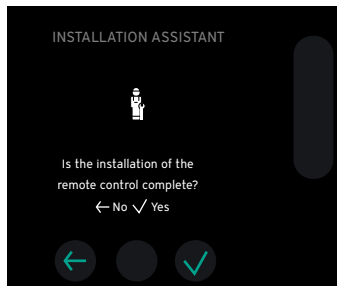


If you have multiple zones being controlled by a VR 92(s) then select **Connected**.



If you have VR 92(s) connected to the system, ensure you have completed the installation assistant on ALL of them before continuing with the installation assistant on the sensoCOMFORT.

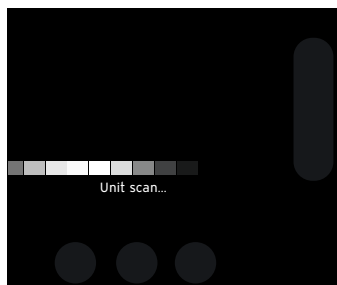
6



Ensure you have completed the installation assistant on ALL other eBUS appliances / components before continuing with the installation assistant on the sensoCOMFORT.

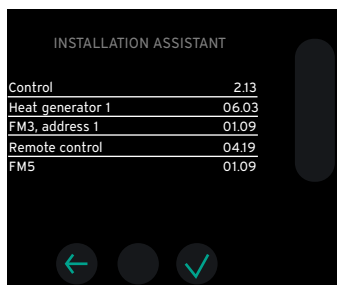
Tap on the ✓ to continue with eBUS system scan.

7



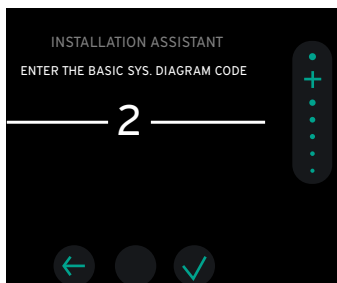
Wait for the system scan to complete.

8



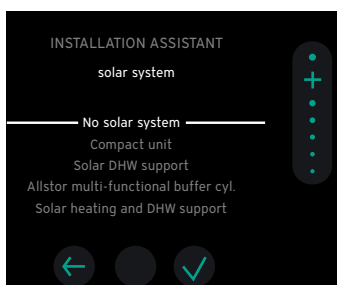
Ensure that ALL eBUS appliances / components are shown in the unit scan results. If a component is missing then check the eBUS connection and / or polarity.

9



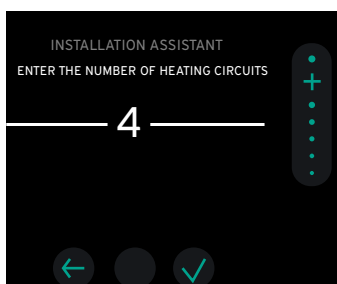
If this screen is displayed, select the system diagram number applicable to the system installed. Refer to page 30 for relevant system configuration settings in accordance to the schematic drawing of the system installed.

10



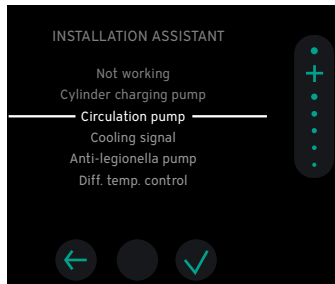
If this screen is displayed and you have solar thermal then select the configuration of the heating system.

11



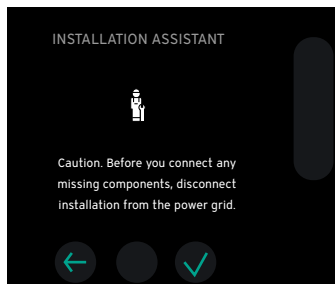
If this screen is displayed, select the number of heating zones / circuits in the heating system.

12



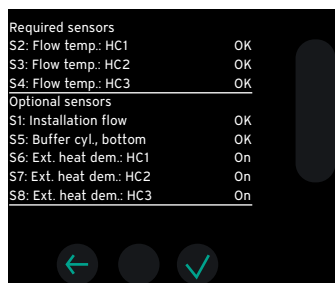
If this screen is displayed, select the assignment for the multi-function output terminal. Select **'Not working'** if this terminal isn't in use. Refer to page **30** for relevant system configuration settings in accordance to the schematic drawing of the system installed.

13



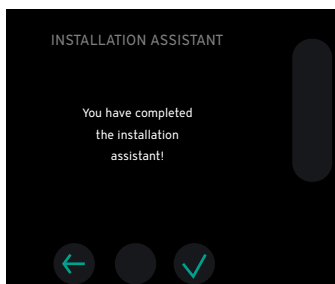
If this screen is displayed, and if there are appliances / components missing from the eBUS connection, then switch off the power to the heating system, connect any missing appliances / components and restart the installation assistant of sensoCOMFORT.

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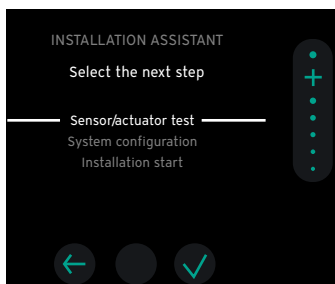
If this screen is displayed, take note of the required sensors and actuators and ensure they are connected. For all sensors that are connected ensure they display **OK** as their status. **'??'** means the sensor is either defective or not connected.

15



The installation assistant is now complete, tap on the **✓** to continue.

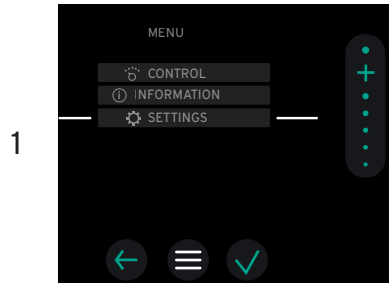
16



Depending on the appliances and the configuration of the heating system, **sensor/actuator test** may be displayed. If this is the case, test each actuator to ensure zone valves / pumps / mixers operate as they should. Test that temperature readings of the sensors correspond with what they should be. Then go into the **System configuration** menu and cross reference the settings in accordance with the relevant system configuration settings; Refer to page **30**.

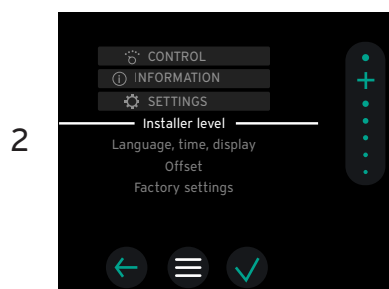
## Navigating To the System Configuration Menu

Use the selection buttons (found just below the screen) for going backwards, forwards and confirming selections. Use the rotary knob for scrolling through menus and for making adjustments within selected settings.

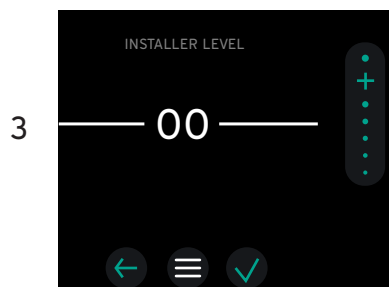


Press the menu button and scroll to the bottom of the list until **'Settings'** is highlighted, then press the ✓.

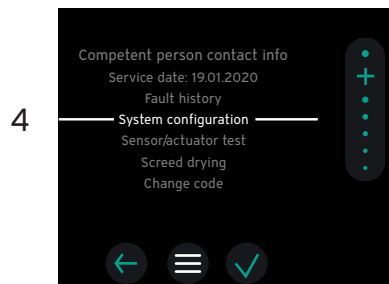
**Note:** Depending on if the controller is in screen saver mode, a second press of the menu button may be required to access the main menu.



Scroll down once more until **'Installer level'** is highlighted then press the ✓.



The default code is **'000'**, press the ✓ to continue.



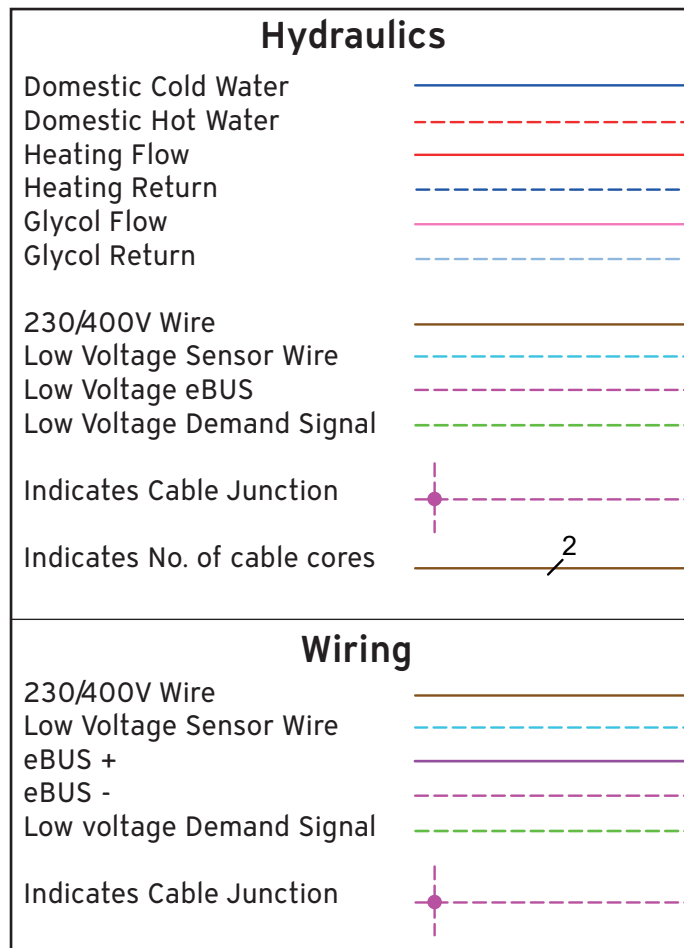
Scroll down until **'System configuration'** is highlighted then press the ✓.

For the relevant system configuration settings in the sensoCOMFORT, refer to page 30; arranged by the schematic number in numerical order. Care must be taken going through each setting diligently and adjust as necessary in accordance to system configuration and property requirements. Only key settings are listed in this document, refer to the sensoCMFORT installation manual for further guidance.



## Schematics Legend

1	Boiler	12	sensoCOMFORT
3e	Secondary Circulation Pump	12a	VR92
3f	Primary Flow Pump	12d	Wiring Centre - VR 70
5	uniSTOR DHW Cylinder	12e	Wiring Centre - VR 71
7j	VDM Pump Group	12f	Wiring Centre - VR 66
7k	Distribution Bar	12K	High Limit Cut Out
9b	Zone Valve	12l	Cylinder Thermostat
11	Immersion Heater	12m	Outdoor Temperature Sensor
10c	Non-return Valve	12p	Wireless Receiver
10e	Magnetic Filter	12q	Internet Gateway - VR 921
10h	Low Loss Header		



2. Set VR92 remote address to its zone number - 1  
e.g. If VR92 is in zone 3, then remote address must be set to 2.
3. Controls and outdoor sensor can be wired or wireless
4. Link required (not factory fitted).

**Notes**

## Notes

# Contacts

## Sales enquires

Vaillant sells its products through plumbing and heating merchants in the UK. For further information, contact your local Vaillant sales representative.

Phone: **0345 602 0262**

## Training

For information on training centres and courses in your area.

Phone: **0345 601 8885**

Email: **training@vaillant.co.uk**

## Technical enquiries

If you have a technical query, you can contact us by phone or email.

Phone: **0344 693 3133**

Email: **technical@vaillant.co.uk**

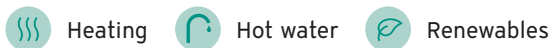
## Advance support line

Phone: **0330 678 0878**

## General enquiries

If you are unsure of who you need to speak to or you have a general enquiry, our friendly reception staff will happily point you in the right direction.

Phone: **0345 602 2922**



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