Heating Hot water Renewables

Top 10 schematic diagrams with set-up guidance

Vaillant

Important Note:

This guide shall support the professional installer in planning, installing and commissioning the appliance. It shall on no account replace or modify the installation, operating and maintenance instructions delivered with the appliance which always have to be observed.

The non-observance of the instructions delivered with the appliance can lead to malfunctions of the appliance and can result in death or serious injuries. Some characteristics of the appliance shown in this guide may vary from those of the most current series version. Vaillant Group UK Limited shall not be held liable for any damages or injuries arising directly or indirectly from the use of this guide.

Table of Contents

Please check the product installation manuals for further information.

We are here to help you!

Don't hesitate to contact us for further support

Introduction

This publication covers the 10 most popular heat pump installations in the UK. It is based on the most commonly used systems, and covers three main areas:

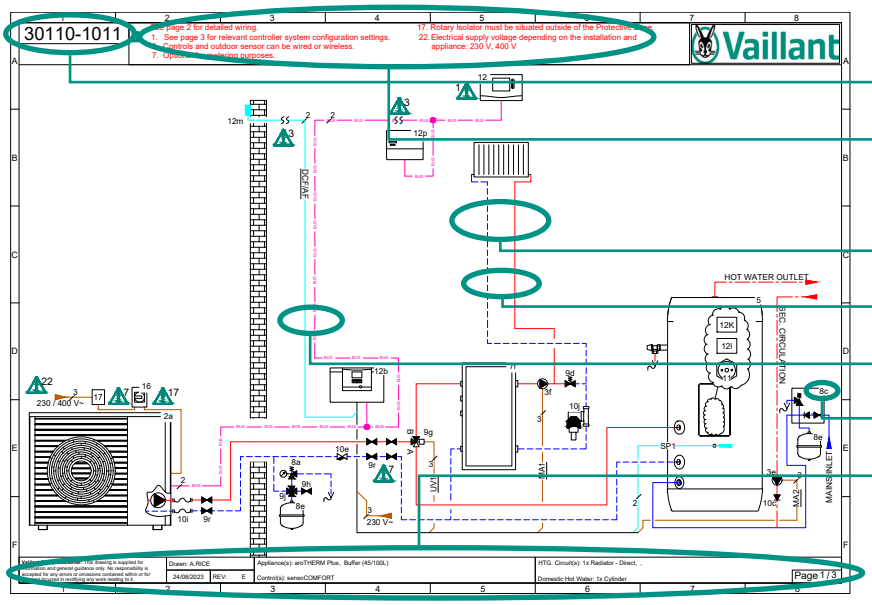
1. The hydraulic schematic with product, components and additional non-Vaillant items (if applicable).

2. The wiring of all Vaillant products and components (no full details of non-Vaillant items).

3. The main controller set-up for the type of system being installed, either VRC 700 or sensoCOMFORT.

Each scheme will have a scheme number and short description of the type of system/circuits. There will also be a key to identify individual Vaillant and non-Vaillant products and components (on page 3).

1.1 Page 1 of a schematic drawing



Drawing number

Warnings/notes

Circuit type(s)

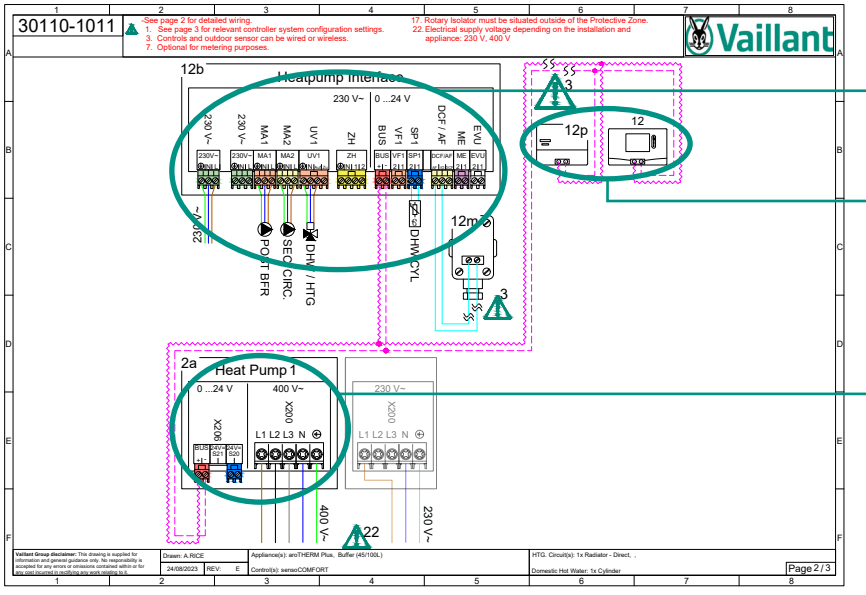
Hydraulics

Wiring

Component ID

Drawing information

1.1.1 Page 2 of a schematic drawing

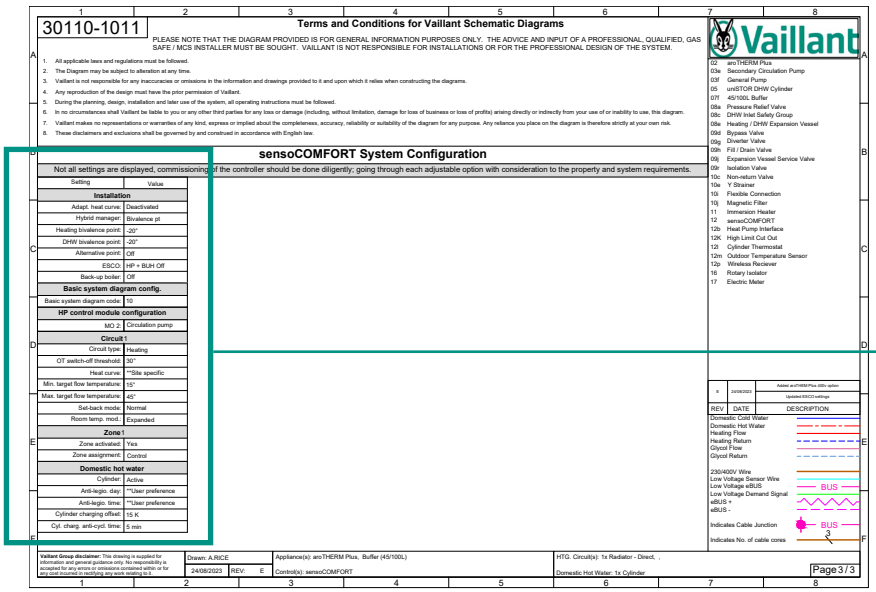


Heat pump appliance interface (AI unit)

Custom controls

Heat pump (outdoor unit)

1.1.2 Page 3 of a schematic drawing



Customer controller set-up sequence for sensoCOMFORT or VRC 700

Please note -Any schematic produced by our Sales and System Design team will contain all the above information according to the information given to them at the time. It must be stressed that some of the design criteria may be slightly different for any given installation. With that in mind, during the set-up process of the controls configuration, any area marked "Site Dependent" means that you should check what information needs to be used for the site or customer preference you are setting up.

The order of each item on the VRC 700 or sensoCOMFORT listed in the configuration screens do not always appear in the same order. Always make sure that you are in the correct part of each subject when looking at individual settings.

1.1.3 Simulator links for installers and end users

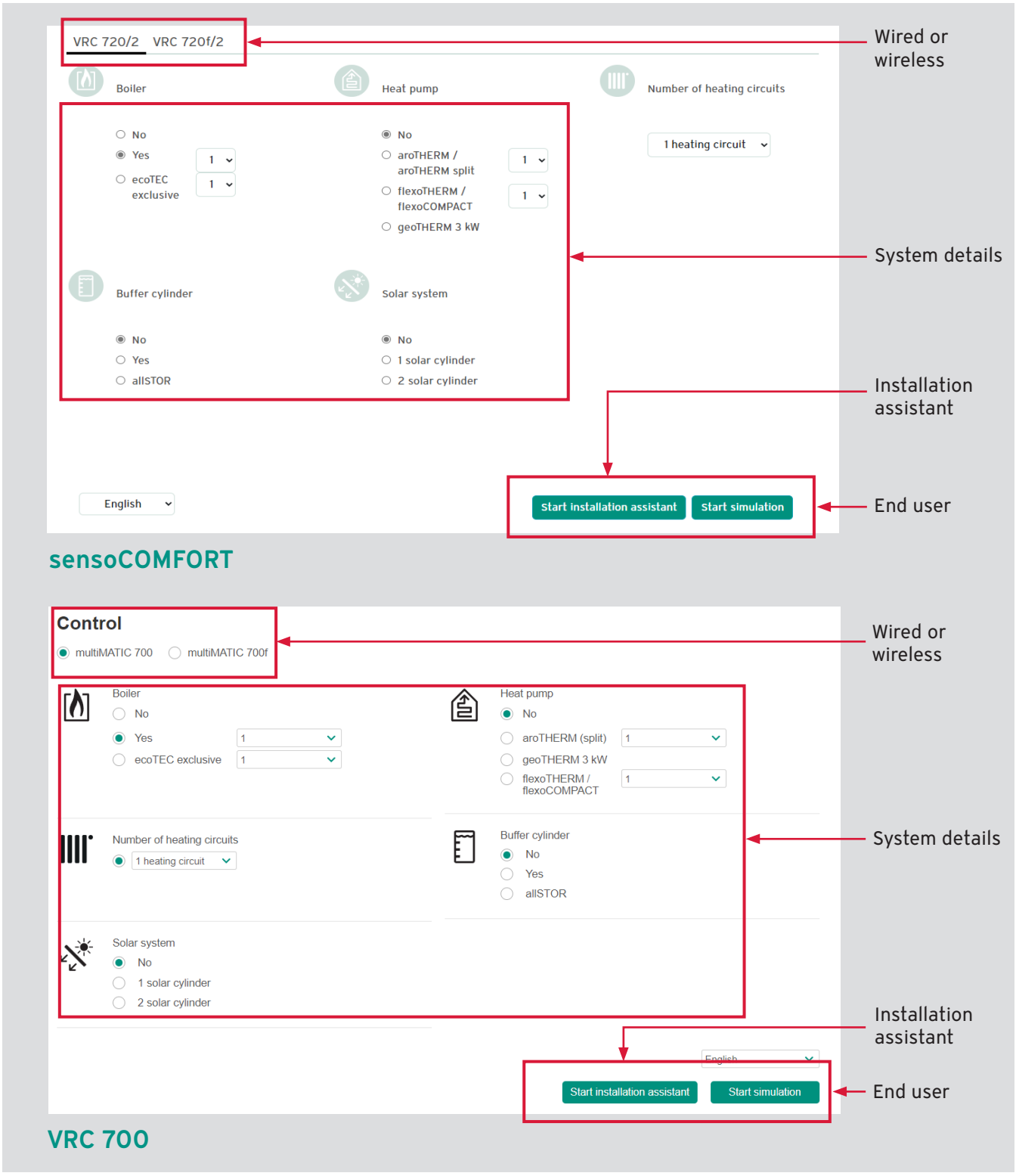
There is a simulator for both the VRC 700 and the sensoCOMFORT controls:

Control	URL
VRC 700	https://simulator.vaillant.com/VRC 700_6/gb/
sensoCOMFORT	https://simulator.vaillant.com/VRC 720_2/gb/

Each simulator has a tab at the top for you to choose between a wired or wireless control. It also has selection criteria for you choose what system you want to use:

- Boiler or heat pump
- Buffer tank
- Cylinder fitted
- Number of heating zones

You can select to start the installation assistant (as if you power up for the first time). Or you can choose to start using the control (if you want to show an end user how to turn the system on/off or set-up a holiday period etc.).



Note that some selections are for technologies not sold in the UK

Simulation

1.2 How to use this workbook and guide

This workbook and guide has been set out in order, so that the "Setting to Work" process should be trouble-free from the first start-up.

1.2.1 The first switch on order

Follow, in order, the following protocol for all heat pump installations. Individual units may have been tested electrically first, but the process for setting up is an important step for trouble free start-up and running.

Make sure that all wiring is complete, and that the filling and purging of air has already been completed.

1. Power up the outdoor unit first
2. Power up indoor unit (if one is installed)

aroTHERM plus

1. Outdoor unit

Hydraulic station

uniTOWER

HEX

2. Indoor unit (hydraulic station, uniTOWER or HEX)

(AI) Heat pump interface

3. AI unit (and wiring centre) for simple system)

VR 71 wiring centre

sensoCOMFORT

VRC 700

4. Wiring centre and controls (for other systems)

3. Power up the controls (including AI if installed)

1.2.2 Order of set-up (Start-up assistant)

Very simple systems may only have the outdoor unit and an AI unit, with or without a HEX unit. More complex systems could have the out-door unit, a hydraulic station or uniTOWER, either with one control, or with a wiring centre and a number of controls covering many different heating zones.

1. Run the AI unit "Start-up assistant" first (if installed) or run the "Installation assistant on the Hydraulic station or uniTOWER (whichever is installed).
2. Run the "Start-up assistant" on all VR 91 or VR 92 remote controls (if installed)
3. Run the "Start-up assistant" on the sensoCOMFORT or VRC 700 (based on what has installed) last.

aroTHERM plus with uniTOWER

aroTHERM plus hybrid

aroTHERM plus with hydraulic station

2 First power-up and settings to complete

2.1 Step 1 - completing the start-up assistants (on the below appliances first) in order

1. Heat pump interface

2. hydraulic station

3. uniTOWER

4. flexoTHERM

Always complete the start-up assistants on these appliances first (only one used on each system).

** The Start-up assistant differs slightly between appliances

This document is for guidance only. Please consult the installation and servicing manual for further details on the relevant product.

Questions on start-up assistant	Recommended setting	Guidance
Language	English	
System control available	Yes	Referring to whether a sensoCOMFORT has been installed.
Immersion heater power supply	230 - 240v	Set power supply of immersion heater in Hydraulic Station/ uniTOWER/flexoTHERM (not applicable if using VWZ AI/Heat Pump Interface).
Immersion heater output range	1-9kW or external **Installation Dependant**	Set output of immersion heater in Hydraulic Station/ uniTOWER/flexoTHERM (not applicable if using VWZ AI/Heat Pump Interface).
Cooling technology	No	Unless system is designed for cooling and coding resistor has been fitted.
Compressor current limit **aroTHERM plus Only**	5-7kW unit = 13-16A 10 -12kW unit = 20-25A	You can reduce the current draw of the outdoor unit depending on the electricity supplier. A reduction in current will reduce compressor output.
MO relay **aroTHERM plus Only**	Various (consult schematic)- fault signal, ext. immersion heater, DHW 3-way valve	Relates to X14 on Hydraulic Station/UniTOWER
Intermediate heat exchanger	Yes/No	uniTOWER ONLY. there is an accessory to fit a plate heat exchanger within the uniTOWER. Set to yes if fitted.
Purge building circuit	Yes	We recommend running a purge programme for at least 15 mins to ensure the system is clear of any air. There are air vents which needs opening inside the Hydraulic Station/ uniTOWER. flexoTHERM will offer two purge modes that should both be ran (Environment & Building). Failure to do so can result in an overheat thermostat fault. Please note that the purge program will run indefinitely, until cancelled.
Contact details		Installer contact details to prompt the customer on who to call in the event of an issue with the heat pump.
Finish installation assistant		

Note : Ensure the purge programs are operated for at least 15 mins per mode (heating and DHW). This is highly important for the MEH 97 hydraulic station and uniTOWER as these units contain a overheat thermostat, which if triggered will need to be replaced - This would not be covered by warranty if failure occurs during installation

After running the start-up assistants on all other system components, it will be necessary to run the start-up assistants on the controls.

To do this you will need to have the Vaillant schematic supplied as part of the system design or check the list in the next section to find the system that matches the one that you are commissioning.

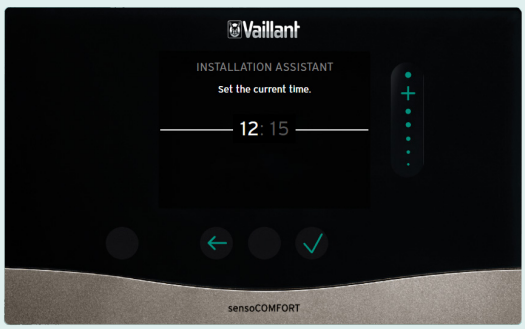
Each of the schematics in this document contains the set-up process for both the VRC 700 and sensoCOMFORT (VRC 720/2).

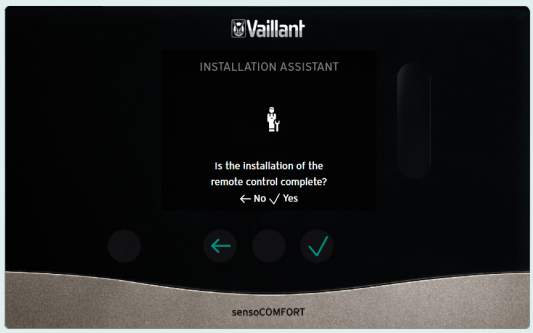
Always use the start-up assistant on the remote controls (VR91 or VR92) first and then run the start-up assistant on the main control (VRC 700 or sensoCOMFORT VRC 720/2) last.

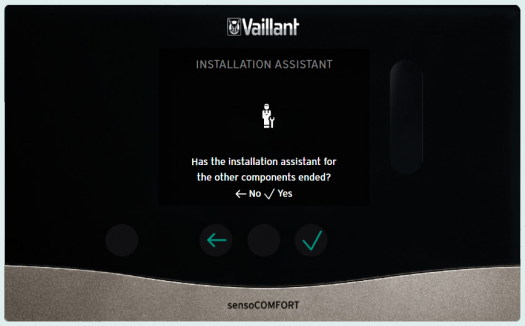
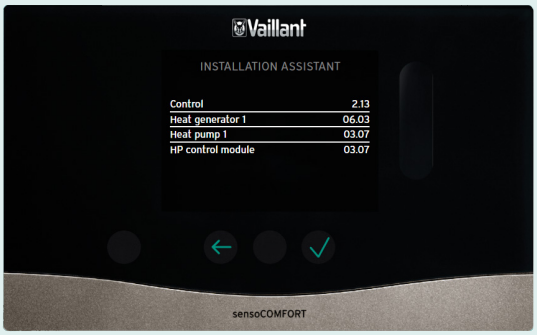
2.2 Step 2 – the start-up procedure for the sensoCOMFORT

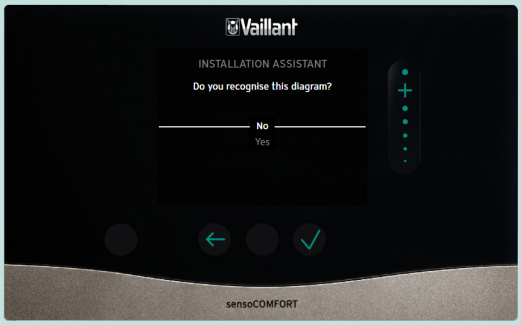
Always run the start-up assistant on all remote controls (VR92/VR92f) before the main control (sensoCOMFORT/VRC 700).

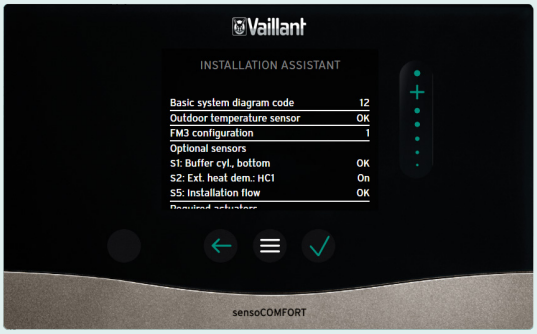
Please note, not every screen will appear during the start-up assistant as it is dependent on whether a VR70 or VR71 has been connected to the system.

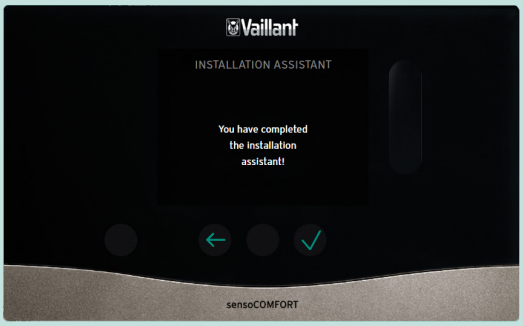
Control	Setting	Description
	Language	Language selection
	Date	Set the current date
	Time	Set the current time

	Value will be from 0 to 10. Zero being no connection. In this event the controller would need to move closer to the receiver in the first instance and eliminate any external influences. Check eBUS connection and polarity to receiver and power to outdoor unit.	Control reception strength (wireless controls only)
	Value will be from 0 to 10. Zero being no connection. In this event the outdoor sensor would need to move closer to the receiver in the first instance and eliminate an external influences. Check eBUS connection and polarity to receiver and power to outdoor unit.	Outdoor temperature sensor strength (wireless controls only)
	Connected Not connected	This is If additional VR92 Remote control(s) are to be installed along with the sensoCOMFORT to control additional heating zones or not. **Connected** = You must run the Installation wizard on all VR92 Remote control(s) first. **Not Connected** = Only the sensoCOMFORT is to be used to control all heating zones.
	Yes	To confirm the installation assistant for the VR92 remote control(s) is complete.

	Yes	To confirm the installation assistants have been completed on the Heat Pump Interface, Hydraulic Station, uniTOWER or FlexoTHERM. (as per step 1 these need to be fully completed before clicking yes to this question).
		sensoCOMFORT will now scan for all eBUS components connected to the system.
	*Read only* Control refers to the sensoCOMFORT. Remote control address (1) refers to the VR92. HP control module is the interface software set up in the first stage. FM3 is a VR70. FM5 is a VR71. Heat generator 2 may be a boiler or heat pump in cascade by VR32.	This is a list of everything connected on eBUS. Please ensure this is correct against what has been installed as in the event of a communication issue components may not show in the list, proceeding and adding components later does not always allow connection/ correct operation so only click yes if this list is correct at this point.

	**YES** - This will allow you to enter the known system diagram number. **NO** - This will prompt the system to ask you questions relating to what equipment is installed. The system will then make a judgement on the best suggested system diagram.	As a recommendation, we would advise referring to the system diagram numbers detailed in the next stage.
	8, 10 or 16 for heat pumps	Diagram number for heat pumps is 8 for a direct system, 10 for indirect i.e. hex exchanger module 16 for a cascade system using VR32B eBUS cards (primary/secondary cascade or hybrid system will use 8/10 normally - consult the relevant drawing schematic).
	No solar system or solar system DHW support	Only applicable if the solar system is Vaillant and has been wired into the VR70/71, not applicable if a VRS 570 has been used or none Vaillant solar system (Only shown if VR70/71 installed).
	Select the number of heating circuits	Heating circuits and zones. If VR71 is installed, then you only select the number of zones, and the display is simplified to that of the adjacent example (Only shown if VR71/70 installed).

	FM3 or FM5 MO selection FM3=VR70 terminal R3 FM5=VR71 terminal R4	This is to select what the R3 or R4 terminal is operating from the VR70/71 (Only shown if VR70/71 installed).
	HP control module MO2 function. MA2 on Heat Pump Interface X11 on Hydraulic Station X11 on UniTOWER X14 on flexoTHERM.	This is to select what is connected to Multi-Functional Output 2 Terminal.
		A caution message if the installer needs to adjust any wiring ()nly shown if VR70/71 installed).
	If dashes - - shows adjacent to a required sensor with then a VR10 NTC sensor will need to be connected to relevant S terminal and positioned correctly as per drawing.	Summary of settings - system diagram, outdoor temperature sensor, VR 70 configuration, VR 71 configuration, required sensors, optional sensors, (S terminals on VR70/71) required actuators, optional actuators (R terminals on VR70/71).

		Installation assistant completed.
	Always select Installation configuration as further settings will need to be adjusted to suit the system.	Installation assistant - Select the next step. If you have a hydraulic/ wiring drawing issued from Vaillant then the 3rd/4th page usually includes any specific parameters required for that specific system set up. These should be followed in the first instance.

2.3 Installation configuration

After the start-up assistant has completed, it will be necessary to enter all the basic information given on the schematic (page 3). Check each item listed on the sheet according to the control type being used, until all items have been confirmed as correct or adjusted.

Some settings will be require input from site specific information.
Other parameters may need no intervention at all.

2.4 Explanation of sensoCOMFORT setting screens

The following tables are the individual sections of the Installation configuration menu in the sensoCOMFORT controller. Only the modifiable parameters are listed as some items displayed are read only. Please consult the sensoCOMFORT installation and servicing manual for further descriptions of read only items, if required.

If a specific diagram has been produced for the installation, then any settings relevant for that particular installation should be used in place of the suggested settings below.

This menu can also be accessed by the *main menu - settings - installer level- access code 00 - installation configuration.*

2.4.1 Installation menu

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Adaptive heat curve	- Deactivated - Activated	Deactivated	Deactivated This is due to inconsistant weather patterns with the UK climate. If no information is present to allow an accurate entry of the heat curve, this can be activated but is not reccommeded due to the possiblilty of higher energy usage.	Adaptive heat curve will adjust the heat curve automatically based on how quickly the target room temperature is reached. This newly determined heat curve is saved for the next heating cycle. Dependant upon the adjustment and weather conditions on the previous heating cycle having this parameter activated can cause an over shoot on actual room temperature. Explanation is required to the end user. Please note that this function is only available if the control or the remote control has been installed in the living room and "Expanded" room temperature modulation has been activated for the corresponding heating circuit.
Automatic cooling	- Deactivated - Activated	Deactivated	Deactivated unless cooling possible for installation and coding resistor has been fitted on the Arotherm plus.	If Parameter = "Yes" has been selected, cooling mode starts with the stored control algorithm.
Cooling at outdoor temperature	- 10 - 30°C	15°C	As per cooling requirements	Minimum temperature from which the cooling mode is enabled.
Source regeneration	- No - Yes	No	Not for non cooling applications. If cooling is actived, refer to system schematic.	If Parameter = "Yes" is selected, automatic cooling remains activated even during programmed absences. To do so, the "Automatic cooling" parameter must also be set to "Activated".
Hybrid manager	- triVAI - Bivalence pt	Bivalence point	Biv point to be used if accurrate information is present. Tri-Vai is to be used if minimal information present. This promotes a preferance of comfort for the customer.	Bivalence Point = Outdoor temperature where heat pump and backup work together. triVAI = Allows utility information to be entered (SETTINGS > TARIFFS). System will then calculate which appliance is most efficient to run.

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Heating bivalence point	- -30°C - 20°C	0°C	Property dependant, set temperature when back up heater/appliance will be required for parallel operation. If no back up installed then set to -30°C.	Ideally, this should be set at the outdoor temperature at which the system design was completed. Therefore, when the outdoor temperature is lower than designed, the heat pump can no longer complete the full demand of the property and considers support from the backup heater.
DHW bivalence point	- -20°C - 20°C	-7°C	Property dependant, set temperature when back up heater/appliance will be required for parallel operation. If no back up installed then set to -20°C.	Ideally, this should be set at the outdoor temperature at which the system design was completed. Therefore, when the outdoor temperature is lower than designed, the heat pump can no longer complete the full demand of the property and considers support from the backup heater
Alternative point	- Off - -20°C - 40°C	Off	Off, unless backup heater is present. This is then system specific.	The alternative point determines at what outdoor temperature the heat pump switches off and the heating demand is covered by the back-up heater ONLY.
LHM temperature	- 20°C - 80°C	25°C	25°C	If control signal is lost then heating will operate at this flow temperature. This is not applicaple to heat pumps due to the control software design. If a heat pump loses the signal from the controller, a communication fault shall appear. If the heat pump fails, the back-up boiler fulfils the heat demand with the LHM set flow temperature.
Back-up boiler type	- Condensing - Non-condensing - Electrical	Condensing	Dependant on what back up appliance is available for support.	Definition of the back-up boiler (efficiency) for calculation of the triVAI point.
ESCO	- HP off - BUH off - HP + BUH off - Heating off - Cooling off - Heat + cool off	HP + BUH Off	-HP + BUH Off is used if there is nothing connected to EVU/S21 -Heating off is used if the EVU/S21 has 3rd party controls connected. This will operate as a 'closed for demand'. A 3rd party relay may be required. -Heat & Cool off is used if a 3rd party cooling signal is connected to EVU/S21.	EVU = Heat Pump Interface S21 = Hydraulic Station, Unitower, Flexotherm.

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Back-up boiler	- Off - Heating - DHW - DHW + heat	DHW + heat	Dependant on what demands the back up appliance needs to support.	If the Hydraulic station (Arotherm Split) Flexotherm is used, this should be set to at least DHW to allow for legionella protection assistance.
Buffer cylinder offset	- 0 - 15 K	10 K	10 K	Definition of an offset applied to the buffer cylinder target temperature if the PV contact is closed.
Conf. ext. inputs	- Bridge, deactivated - Open, deactivated	Bridge (closed), deactivated (Open)	Dependant on 3rd party switching characteristics of installation Bridge, Deactive = Open for demand Open, Deactive = Closed for Demand **Any Vaillant zones will need to be linked when using a VR70/VR71**	VR 70 = 3rd party controls can be connected to S2 (zone 1) or S3 (zone 2) VR 71 = 3rd party controls can be connected to S6 (zone 1), S7 (zone 2) & S8 (zone 3) For sensoCOMFORT the switching method can be adjusted. See below table for further guidance.
Actuation reversal	- Off - On	On	On if cascade	Will only show if second unit with VR 32B is connected on ebus. If "On" is selected the actuation sequence of the heat generators is set daily according to the respective activation times.
Max. Pre-heating time	- Off - Up to 300 mins	Off	Off	The amount of time that the unit will heat before the demand is due to begin to provide additional comfort for the customer.
DHW in Cascade	- All heat pumps - Heat pump 1	All heat pumps	System Dependant	Whether all appliances in cascade, completes the DHW demand or the first heat pump alone.
OT constant heating	- Off - Down to -25°C	Off	Off	This is at what outdoor temperature, the heatpump will begin a constant CH demand. This should only be activated if the applianced serves a vunerable customer.

2.4.2 Basic system diagram config

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Basic system diagram code	1 - 16	1 or 8	8 or 10 for heat pumps 16 for cascades using VR32	8 - heat pump direct system 10 - heat pump indirect system 16 - cascaded appliances system
VR 70 configuration	1 - 12		Will be autopopulated based on start up assistant configuration.	If this needs to be adjusted, refer to sensoCOMFORT manual.
VR 70 MO	- Not working - Cylinder charge pump - Circulation pump - Cooling signal - Anti-legionella pump - Heating pump	Not working	Select appropriate for installation	Relates to R3 on VR70
FM5 configuration	1 - 11		Will be autopopulated based on start up assistant configuration.	If this needs to be adjusted, refer to sensoCOMFORT manual.
VR 71 MO	- Not working - Cylinder charge pump - Circulation pump - Cooling signal - Anti-legionella Pump - Diff. temp. control	Not working	Select appropriate for installation	Relates to R4 on VR71

2.4.3 HP control module configuration

Parameter	Select/Display	Factory setting	Suggested setting	Remark
MO 2	- Circulation pump - Dehumidifier - Zone - Anti-legionella pump - Not connected	Circulation pump	Select appropriate for installation	Heat Pump Interface = MA2 Hydraulic Station = X11 uniTOWER = X11 flexoTHERM = X14
ME	- Not connected - 1 x circulation - Photovoltaics	1 x circulation	Select appropriate for installation.	Heat Pump Interface = ME Hydraulic Station = X41 (FB & OT) uniTOWER = X41 (FB & OT) flexoTHERM = X41 (FB & OT)

2.4.4 Circuits 1 to 9

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Circuit type	- Inactive - Heating - Fixed value - DHW - Increase in return	Heating	Heating.	Fixed Value may be used for buffer management or a towel rail circuit
OT switch-off threshold	10 - 99°C	21°C	21°C	Setting the outdoor temperature at which heating mode remains permanently switched off. (This is measured by the outdoor temperature wich should be located on a North/North West facing wall, 2/3rd's up the building). If a vunerable customer this may need to be increased. Energy Usage will increase if this parameter is set too high.
Target flow temperature, desired	5 - 90°C	65°C	As per installation	For circuit type only = Fixed value
Target flow temperature, set-back	0 - 90°C	0°C	As per installation	For circuit type only = Fixed value
DHW temperature	35 - 70°C	60°C	55°C Max.	For circuit type only = DHW
Actual cylinder temperature	Display in °C		**Read Only**	For circuit type only = DHW
Target return temperature	15 - 80°C	30°C	As per installation	For circuit type only = Increase in return flow
Heat curve	0.10 - 4.00	0.60	See heat curve graph below. Will need to know the design flow temperature of the installation at a given outdoor temperature to set accurately	Guidance only. 0.8 - 1.0 for radiator circuit. (New Build) 1.0 - 1.2 for radiator circuit (Existing) 0.6 - 0.8 for underfloor heating (UFH) However, ensuring this is set accurately will improve the efficiency of the appliance.
Minimum target flow temperature	15 - 90°C	15°C	25°C for Radiators 20°C for UFH	Enter the lower limit for the target flow temperature. The system control compares the set value with the calculated target flow temperature, and regulates to the larger of these values.

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Maximum target flow temperature	15 - 90°C	55°C	System design flow temperature + 5°C	Ensuring this is set accuratly. Will improve the efficiency of the appliance. **Please note that if a multi zone system is installed, the appliance will target the higher target flow temperature**
Set-back mode	- Eco - Normal	Eco	Vaillant controls = Normal 3rd party controls = Eco	Eco: The heating function is switched off and the frost protection function is activated. At outdoor temperatures below 4 °C for longer than four hours, the system control switches the heat generator on and regulates to the Set-back temp. Normal: The heating function is switched on. The system control regulates to the Setback temp.
Room temperature mode	- Inactive - Active Expanded	Inactive	Expanded	- Active: Adjusting the flow temperature based on the current room temperature. - Expanded: Adjusting the flow temperature based on the current room temperature. The system control also activates/ deactivates the zone.
Cooling possible	- No - Yes	No	No, unless cooling coding resistor has been fitted and installation designed for cooling.	If „Yes“ is selected the cooling function is released.
Dew point monitoring	- No - Yes	Yes	Yes if doing cooling	Will only show if cooling possible set to Yes.
Minimum cooling target flow temperature	7 - 24°C	20°C	20°C	Will only show if cooling possible set to Yes.
Dew point offset	-10-10 K	2k	2k	Will only show if cooling possible set to Yes.

2.4.5 Zones 1 to 9

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Zone activated	- No - Yes	Yes	Yes	Deactivates Zones that are not required. All existing zones appear in the display.
Zone assignment	- No assignmt - Control - Remote control 1 - Remote control 2 - Remote control 3 - Remote control 4	Control	SensoCOMFORT = Control VR92 = Remote control * If there is no Vaillant controller used for the zone then select no assignment.	Defines which controller is being used for the relevent heating zone.

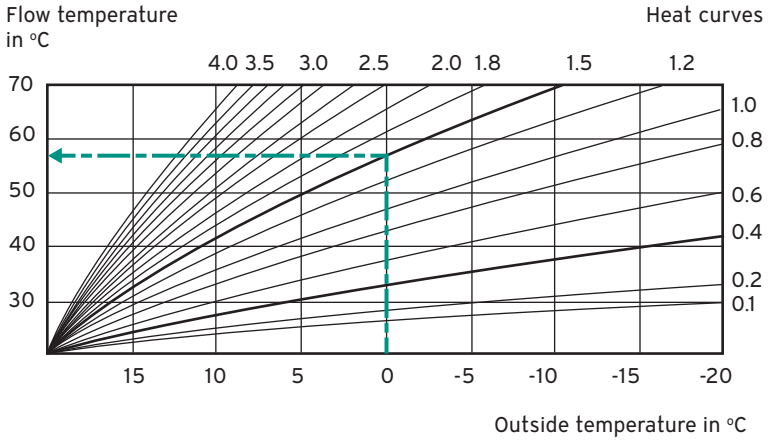
2.4.6 Domestic Hot Water

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Cylinder	- Inactive - Active	Active	Active	If no DHW on system then select inactive.
Anti-legionella day	- Off - Monday - Tuesday - Wednesday - Thursday - Friday - Saturday - Sunday - Daily	Off	Select a day of the week	
Anti-legionella time	00:00 - 23:59	04:00	Select a relevant time **Avoid active hot water usage periods as this can prolong running periods. Consider times when ambient temperature are likey to be higher**	At the programmed day and time the cylinder is heated to 60°C for one hour and the circulation pump and legionella pump are activated. Consider when DHW will be used as the legionella program can run for up to 120 minutes if 60°C not reached. The use of a TMV (Thermostatic Mixing Valve) is recomended.
Cylinder charging hysteresis	3 - 20K	5.0K	5K	Allowed temperature drop of cylinder before reheating.

Parameter	Select/Display	Factory setting	Suggested setting	Remark
Cylinder charging offset	0 - 40K	25K	8k = Arotherm 2/3, Geotherm Mini & Flexotherm up to 8kW 10k = Flexotherm above 8kW 15K = Arotherm plus* *This allows optimum comfort for the customer. This can be lowered, leading to increased effciency in DHW. Please note that this will cause slightly longer run times.	Only with domestic hot water control via VRC 720
Max. cyl. charging time	- Off - 20 - 120 minutes	60 minutes	See below table	
Cylinder charg. anti-cycl. time	0 - 120 minutes	60 minutes	30 minutes	
Parallel cylinder charging	- No - Yes	No	No	

Domestic hot water temperatures are set in Control - Domestic hot water - domestic hot water temperatures: recommendation 48-55°C.

Heating curve graph



2.4.7 Cylinder charging times 10°C - 50°C

As a guide only, to ensure the heat pump can re-heat the cylinder in one cycle, and heating is not compromised. Times may need to be shortened if heat loss is high for the property so heating performance is not compromised. Maximum is 120 minutes for this parameter.

****flexoTHERM & Geotherm Mini should be set to 90 minutes****

aroTHERM plus		3.5 kW	5 kW	7 kW	10 kW	12 kW
Litres	150	110	74	55	37	
	200	120	98	74	49	39
	250			92	61	49
	300			110	74	59

Reheat time in minutes

aroTHERM 2/3		5 kW	8 kW	11 kW	15 kW
Litres	150	88	55	40	
	200	118	74	54	39
			92	67	49
	300		110	80	59

Reheat time in minutes

You have successfully completed the controls set up/controls commissioning for the sensoCOMFORT control.

2.5 Final Checks of crucial settings (before standard programming settings)

The system should start in DHW mode in the first instance (if DHW is active), this will be confirmed with a tap and pump symbol showing on the display.

It is important to ensure that the flow rates and temperature differential between flow and return pipes are correct. A 5°C (5K) differential is ideal for optimum efficiency with a cold fill pressure of 1.5 - 2 bar.
Flow rates can be viewed by using the relevant interface display.

Access by pressing the top 2 buttons at the same time (possibly twice as usually the first press will light the display up)
Use the + button to scroll down the menu to installer level, press top right-hand button to select
The access code is 17, use + button to adjust, press top right-hand button to select
Use the + button to scroll down to Test menu, press top right-hand button to select
Use the + button to scroll down to Sensor/Actuator test, press top right-hand button to select
Press + button until Building circuit: Flow rate is displayed.

If the flow rate needs to be adjusted, then this can be accessed by following the below **Not available on aroTHERM plus**:

Access by pressing the top 2 buttons at the same time (possibly twice as usually the first press will light the display up)
Use the + button to scroll down the menu to installer level, press top right-hand button to select
The access code is 17, use + button to adjust, press top right-hand button to select
Use the + button to scroll down to Configuration, press top right-hand button to select
Press the + button 7 times to Max. remaining feed head, press top right-hand button to adjust

Note. You may need to adjust max. remaining feed head and recheck the flow rate in test menu - sensor/actuator test - building circuit flow rate. Max remaining feed head parameter adjusts the pump in both heating and domestic hot water modes.

2.6 Target flow rates

2.6.1 aroTHERM 2/3						
kW output	5 kW	8 kW	11 kW	15 kW	-	-
Nominal flow rate	800 l/h	1350 l/h	1850 l/h	2500 l/h	-	-
2.6.2 aroTHERM 2/3						
kW output	3.5 kW	5 kW	7 kW	10 kW	12 kW	-
Nominal flow rate	800 l/h	800 l/h	1200 l/h	2000 l/h	2000 l/h	-
2.6.3 aroTHERM split						
kW output	3.5 kW	5 kW	7 kW	10 kW	12kW	-
Nominal flow rate	600 l/h	800 l/h	1000 l/h	1700 l/h	1800 l/h	-
2.6.4 flexoTHERM (Building circuit)						
kW output	5 kW (230V)	8 kW (230V)	11 kW (230V)	11 kW (400V)	15 kW (400V)	19 kW (400V)
Nominal flow rate	930 l/h	1450 l/h	1930 l/h	1920 l/h	2450 l/h	3320 l/h

2.7 Setting the desired Comfort and Set-back temperatures

Desired temperature

This is set by proceeding through the menu. (CONTROL > ZONE > HEATING > MODE). Once this stage is reached, the mode can be set to Manual or Time Controlled. If set to manual, the desired temperature will simply show under the mode option. If set to time controlled, you will set a time program alongside a desired temperature. This allows multiple desired temperatures that can vary from one time program to another.

Set-back temperature

If the heating mode is set 'Time Controlled', the sensoCOMFORT will allow a setback temperature to be set. This is accessed following the same process as above (CONTROL > ZONE > HEATING > MODE). However, the set-back is the temperature that the heating system will allow the property to drop to, outside of a time program period. This is recommended to be set no lower than 15 degrees to prevent excessive temperature drops and therefore longer running times when the time program is activated.

3 Top 10 schemes in the UK

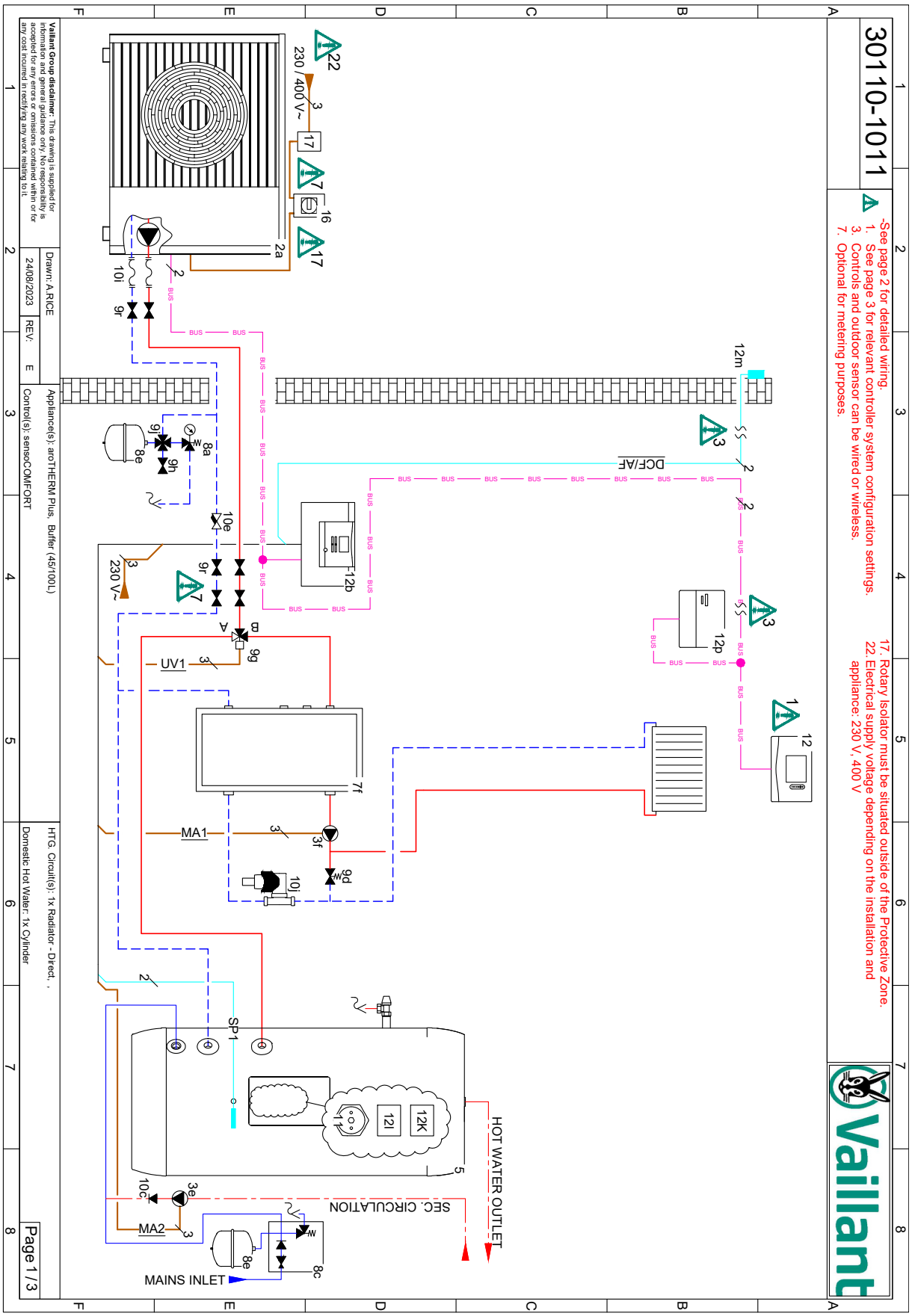
The next pages contain the top 10 schemes used in the UK currently.

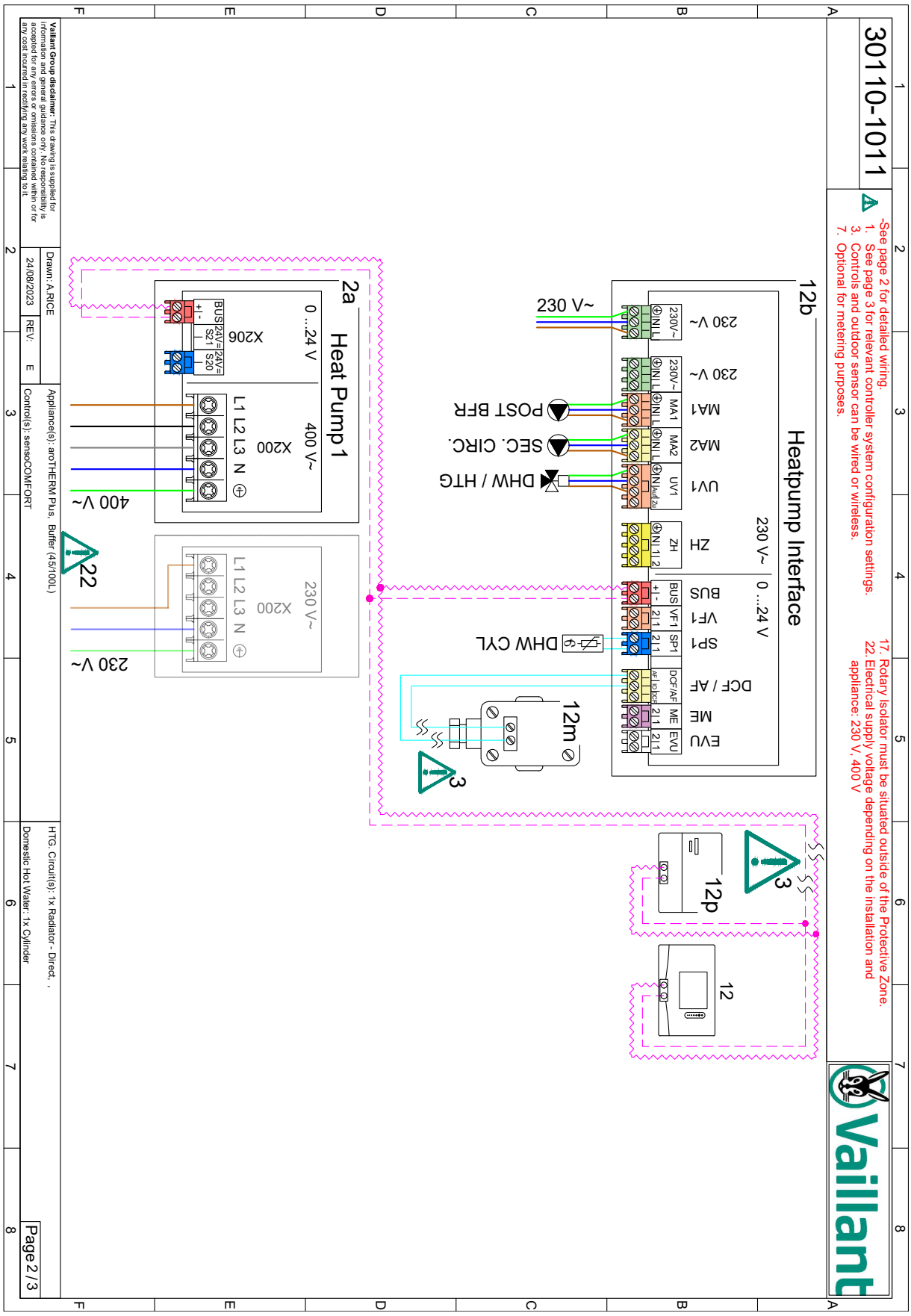
These are by no means the only schemes, Vaillant may have supplied a different or a bespoke schematic to an individual system. Any Vaillant schematic will contain all the same information including all the individual settings for that system, some settings will be marked “Site specific” which will require additional information unique to the installation site and customer requirements.

Specific schematic designs may be requested from our design support team.

Scan or Click QR-Code for
more aroTHERM schematics

3.1 30110-1011 aroTHERM plus mono Direct, Buffer, Cylinder, 1 Rad zone




30110-1011
A
-See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
3. Controls and outdoor sensor can be wired or wireless.
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone.
22. Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230 V~
230 V~
230 V~
POST BFR
SEC. CIRC.
DHW / HTG
DHW CYL
12m
3
12p
12
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
400 V~
22
230 V~
X200
L1 L2 L3 N
230 V~
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Drawn: A.RICE
24/08/2023
REV: E
Appliance(s): aroTHERM Plus, Buffer (45/100L)
Control(s): sensoCOMFORT
HTG. Circuit(s): 1x Radiator - Direct, ,
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30110-1011

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8. These disclaimers and exclusions shall be governed by and construed in accordance with English law.

sensoCOMFORT System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	HP + BUH Off
Back-up boiler:	Off
Basic system diagram config.	
Basic system diagram code:	10
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Normal
Room temp. mod.:	Expanded
Zone 1	
Zone activated:	Yes
Zone assignment:	Control
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

02	aroTHERM Plus
03e	Secondary Circulation Pump
03f	General Pump
05	uniSTOR DHW Cylinder
07f	45/100L Buffer
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10i	Flexible Connection
10j	Magnetic Filter
11	Immersion Heater
12	sensoCOMFORT
12b	Heat Pump Interface
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
16	Rotary Isolator
17	Electric Meter

REV	DATE	DESCRIPTION
E	24/08/2023	Added aroTHEM Plus 400v option Updated ESCO settings

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

Indicates Cable Junction
Indicates No. of cable cores

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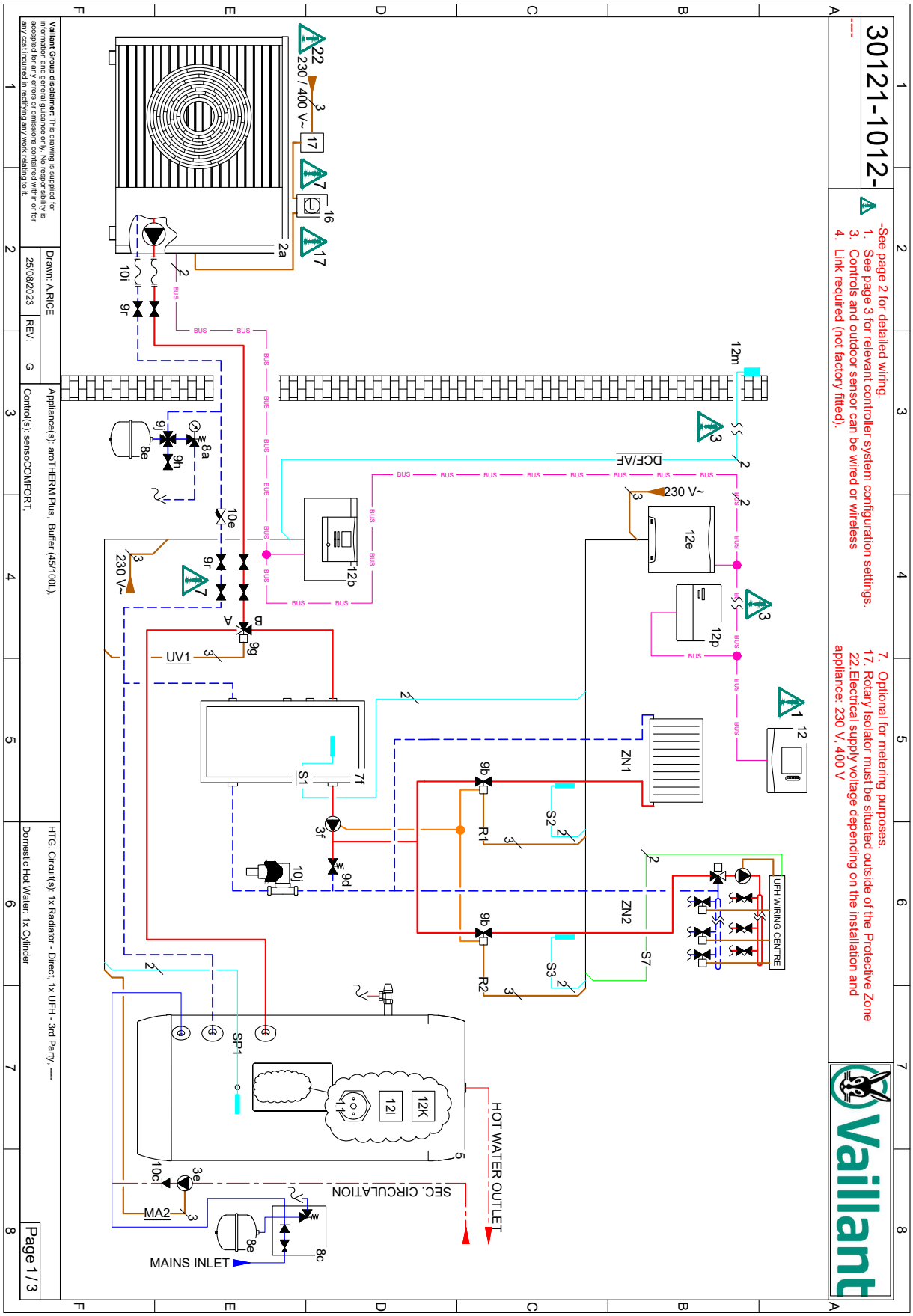
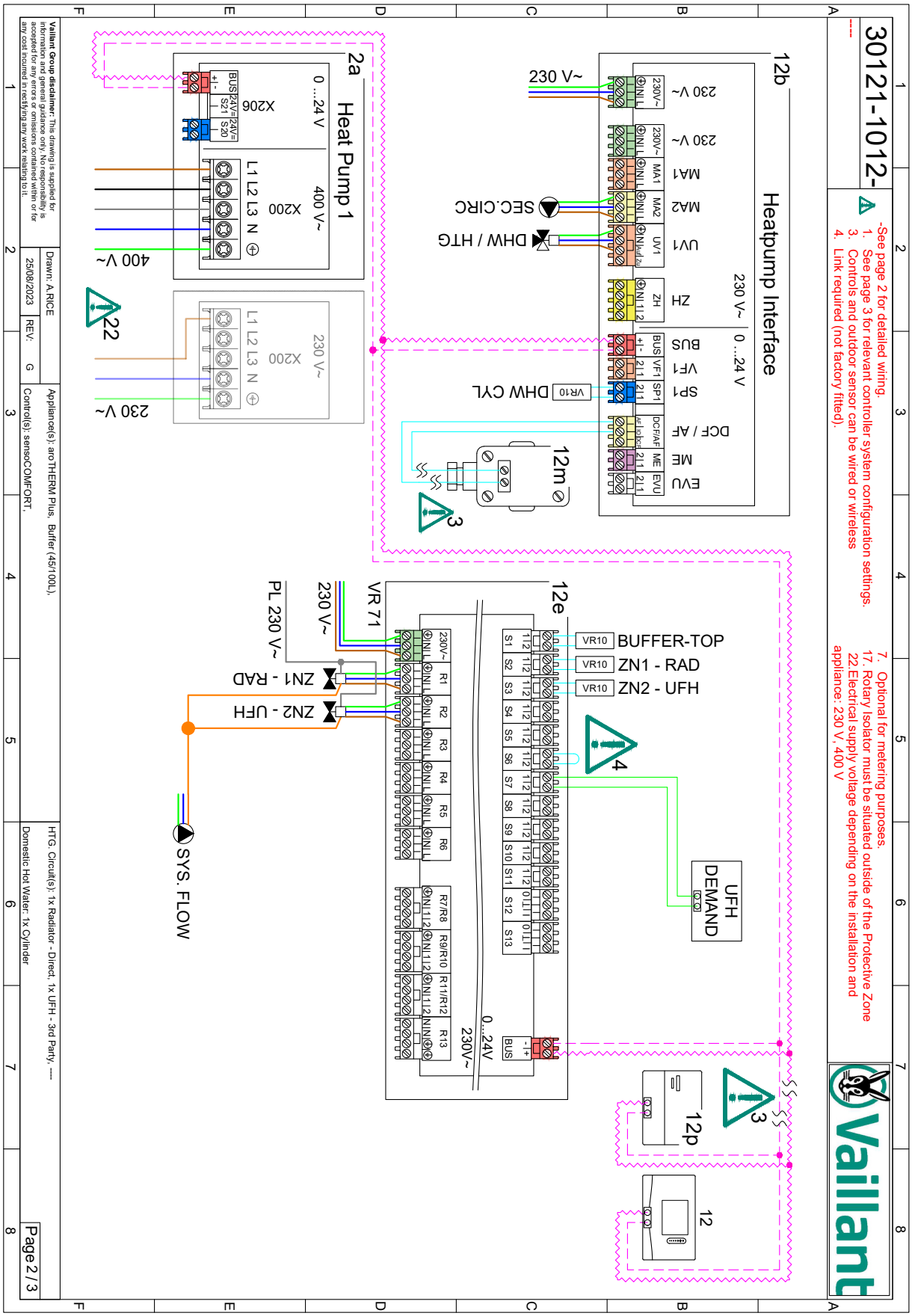
Drawn: A.RICE
24/08/2023 REV: E

Appliance(s): aroTHERM Plus, Buffer (45/100L)
Control(s): sensoCOMFORT

HTG. Circuit(s): 1x Radiator - Direct, ,
Domestic Hot Water: 1x Cylinder

3.2 30121-1012 aroTHERM plus mono Direct, Buffer, Cylinder, 1 Rad zone, 1 UFH circuit




30121-1012-
-See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
3. Controls and outdoor sensor can be wired or wireless
4. Link required (not factory fitted).
7. Optional for metering purposes.
17. Rotary isolator must be situated outside of the Protective Zone
22.Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230 V~
SEC.CIRC
DHW / HTG
DHW CYL
12m
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
400 V~
230 V~
12e
VR10 BUFFER-TOP
VR10 ZN1 - RAD
VR10 ZN2 - UFH
UFH DEMAND
VR 71
230 V~
PL 230 V~
ZN1 - RAD
ZN2 - UFH
SYS. FLOW
12p
12
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Drawn: A.RICE
25/08/2023
REV: G
Appliance(s): aroTHERM Plus, Buffer (45/100L).
Control(s): sensoCOMFORT.
HTG. Circuit(s): 1x Radiator - Direct, 1x UFH - 3rd Party, ----
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30121-1012-

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sensoCOMFORT VRC720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	HP + BUH Off
Back-up boiler:	Off
Conf. ext. input:	Open, deactiv.
Basic system diagram config.	
Basic system diagram code:	8
FM5 configuration:	3
FM5 MO:	Not working
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Normal
Room temp. mod.:	Expanded

Setting	Value
Circuit 2	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Eco
Room temp. mod.:	Inactive
Zone 1	
Zone activated:	Yes
Zone assignment:	Control
Zone 2	
Zone activated:	Yes
Zone assignment:	No assignmt
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

Vaillant

02	aroTHERM Plus
03e	Secondary Circulation Pump
03f	General Pump
05	uniSTOR DHW Cylinder
07f	45/100L Buffer
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
09b	Zone Valve
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10i	Flexible Connection
10j	Magnetic Filter
11	Immersion Heater
12b	Heat Pump Interface
12e	Wiring Centre - VR 71
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
16	Rotary Isolator
17	Electric Meter

REV	DATE	DESCRIPTION	ZONE
G	25/08/2023	Added aroTHERM Plus 400V option	2,E

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Cooling Flow
Cooling Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

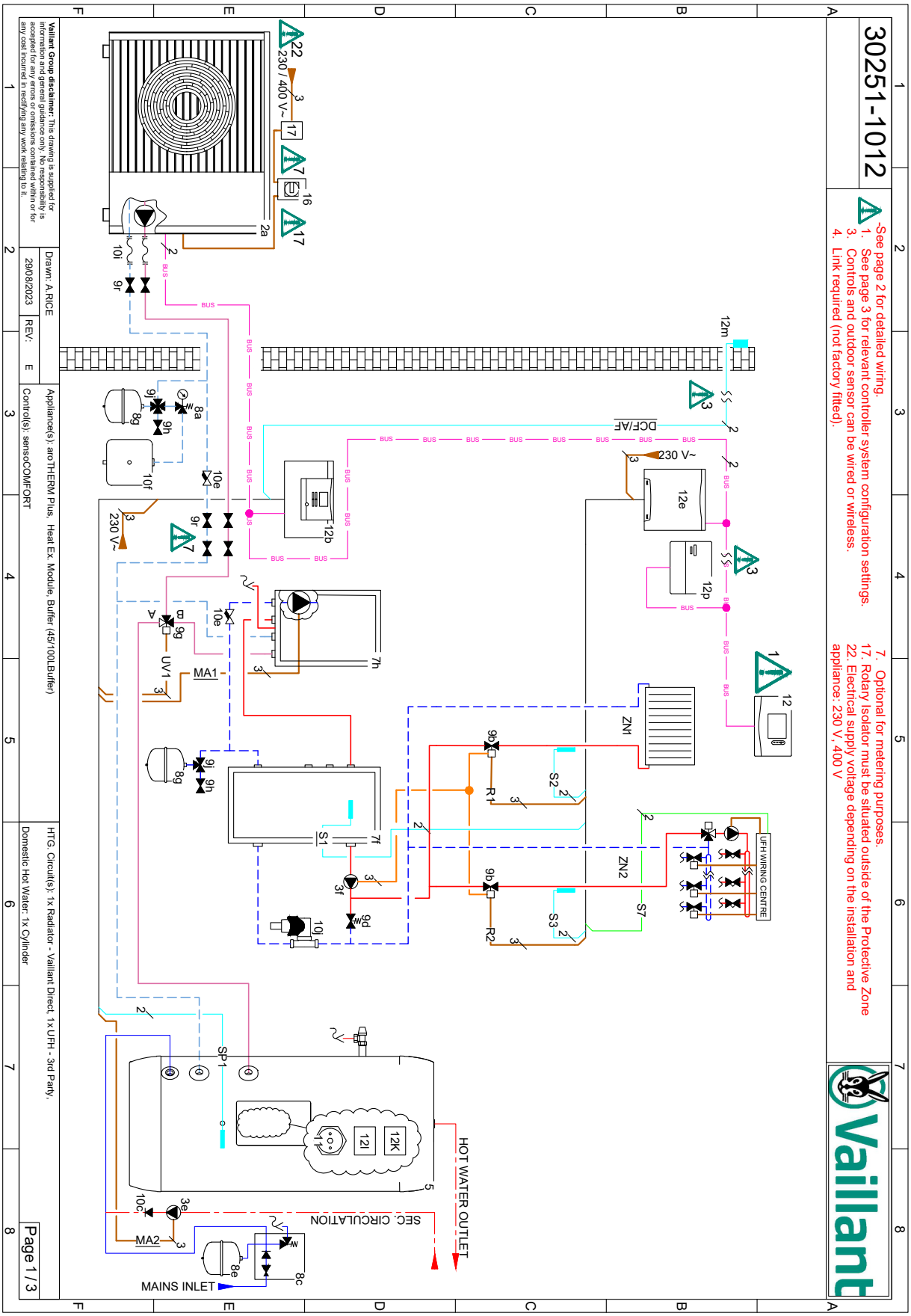
Indicates Cable Junction
Indicates No. of cable cores

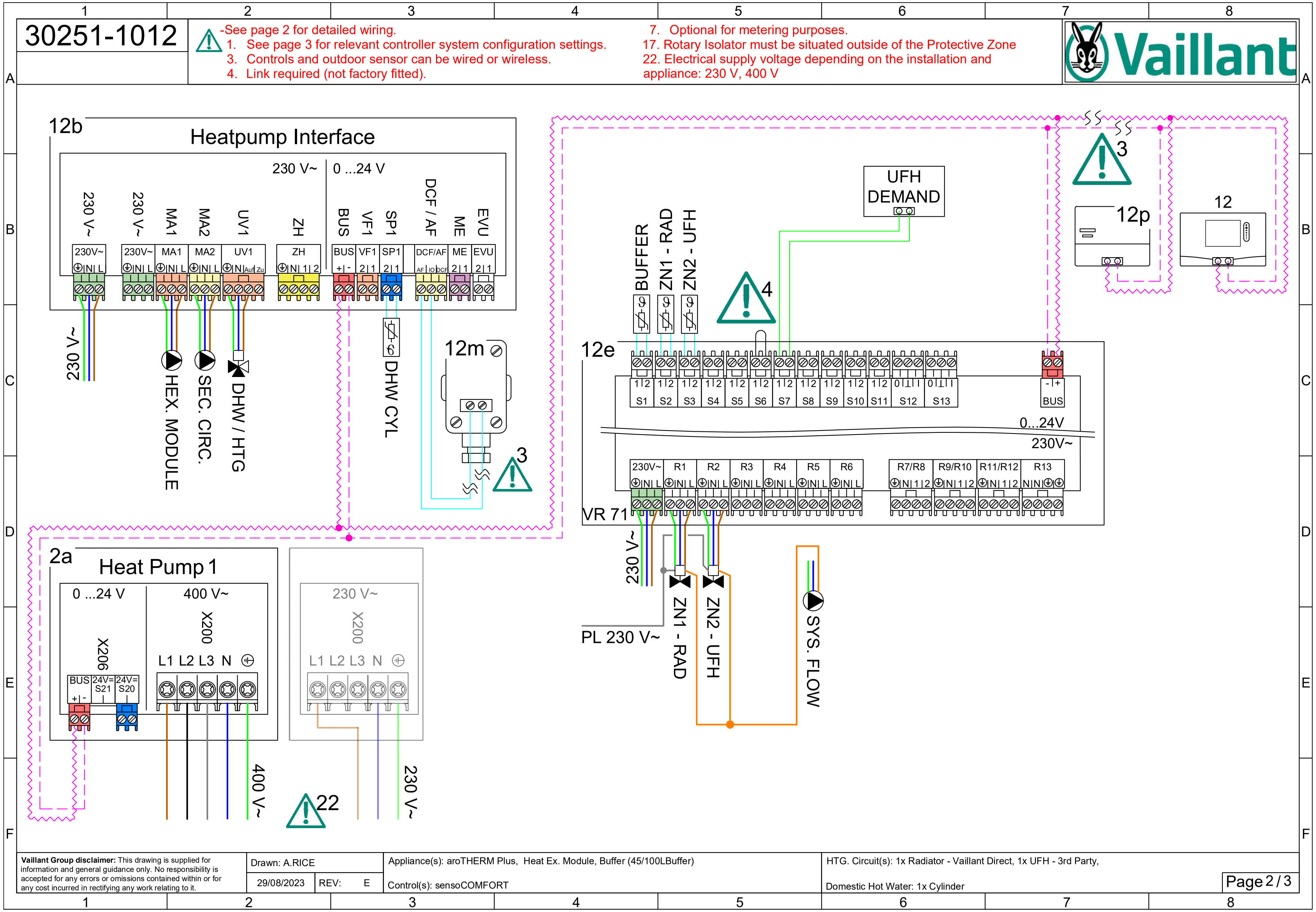
Drawn: A.RICE
25/08/2023 REV: G

Appliance(s): aroTHERM Plus, Buffer (45/100L),
Control(s): sensoCOMFORT,

HTG. Circuit(s): 1x Radiator - Direct, 1x UFH - 3rd Party, ----
Domestic Hot Water: 1x Cylinder

3.3 30251-1012 aroTHERM plus mono HEX, Buffer, Cylinder, 1 rad zone, 1 UFH 3rd Party




30251-1012
-See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
3. Controls and outdoor sensor can be wired or wireless.
4. Link required (not factory fitted).
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone
22. Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230 V~
MA1
MA2
UV1
ZH
BUS
VF1
SP1
DCF / AF
ME
EVU
230 V~
HEX. MODULE
SEC. CIRC.
DHW / HTG
DHW CYL
12m
UFH DEMAND
BUFFER
ZN1 - RAD
ZN2 - UFH
12p
12
12e
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13
BUS
0...24V
230V~
230V~ R1 R2 R3 R4 R5 R6 R7/R8 R9/R10 R11/R12 R13
VR 71
230 V~
PL 230 V~
ZN1 - RAD
ZN2 - UFH
SYS. FLOW
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
400 V~
230 V~
X200
L1 L2 L3 N
230 V~
22
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Drawn: A.RICE
29/08/2023
REV: E
Appliance(s): aroTHERM Plus, Heat Ex. Module, Buffer (45/100LBuffer)
Control(s): sensoCOMFORT
HTG. Circuit(s): 1x Radiator - Vaillant Direct, 1x UFH - 3rd Party,
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30251-1012

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sensoCOMFORT VRC 720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	HP + BUH Off
Back-up boiler:	Off
Conf. ext. input:	Open, deactiv.
Basic system diagram config.	
Basic system diagram code:	10
FM5 configuration:	3
FM5 MO:	Not working
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45° (Assumed)
Set-back mode:	Normal
Room temp. mod.:	Expanded

Setting	Value
Circuit 2	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45° (Assumed)
Set-back mode:	Eco
Room temp. mod.:	Inactive
Zone 1	
Zone activated:	Yes
Zone assignment:	Control
Zone 2	
Zone activated:	Yes
Zone assignment:	No assignmt
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

02	aroTHERM Plus
03e	Secondary Circulation Pump
03f	General Pump
05	uniSTOR DHW Cylinder
07f	45/100L Buffer
07h	HEX. Module
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
08g	Brine Expansion Vessel
09b	Zone Valve
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10f	Brine Collection Tank
10i	Flexible Connection
10j	Magnetic Filter
11	Immersion Heater
12b	Heat Pump Interface
12e	Wiring Centre - VR 71
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
16	Rotary Isolator
17	Electric Meter

REV	DATE	DESCRIPTION	ZONE
E	29/08/2023	Added aroTHERM Plus 400V Option	2,E
		ESCO set to default setting HP + BUH off	2,C

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

Indicates Cable Junction
Indicates No. of cable cores

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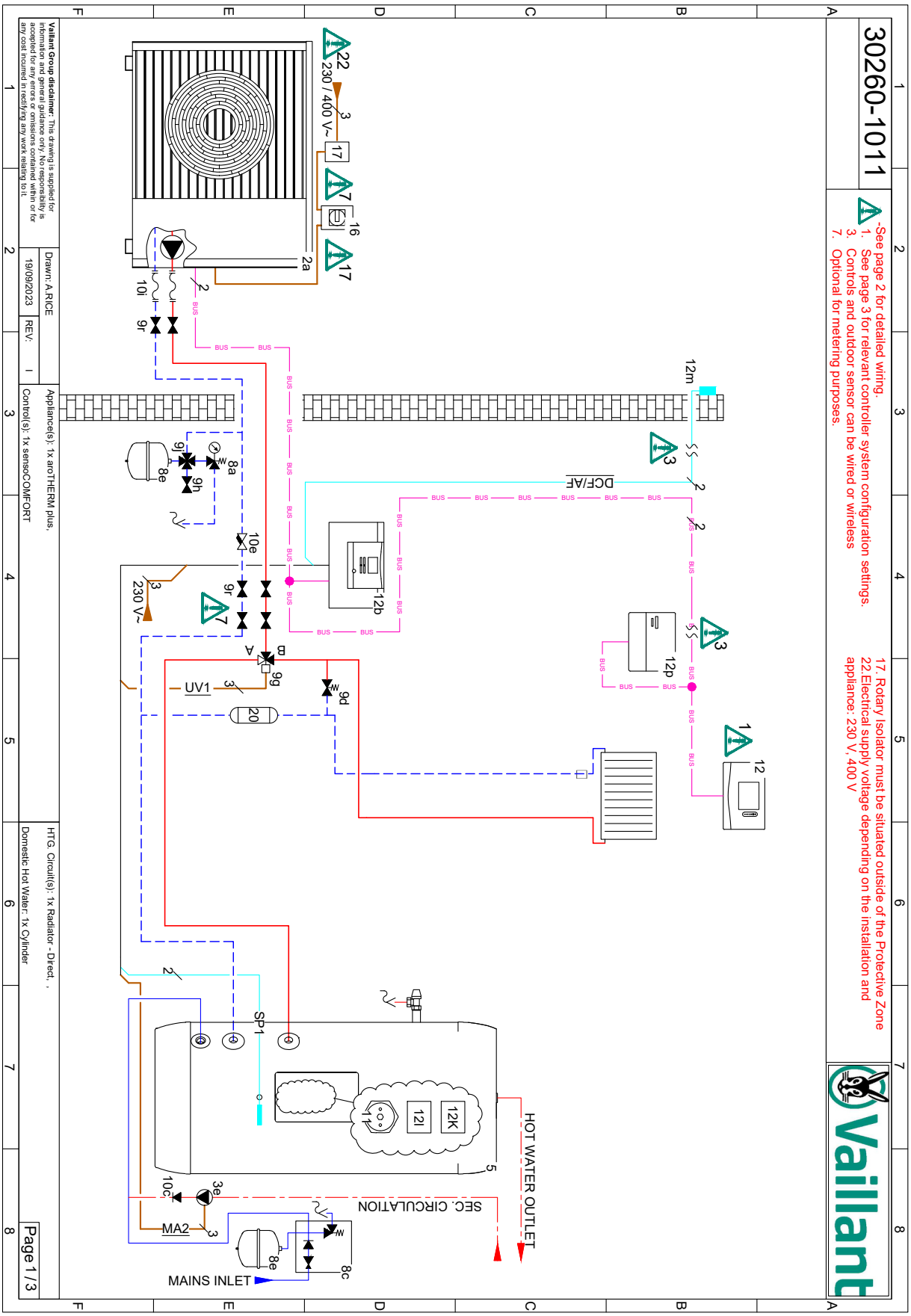
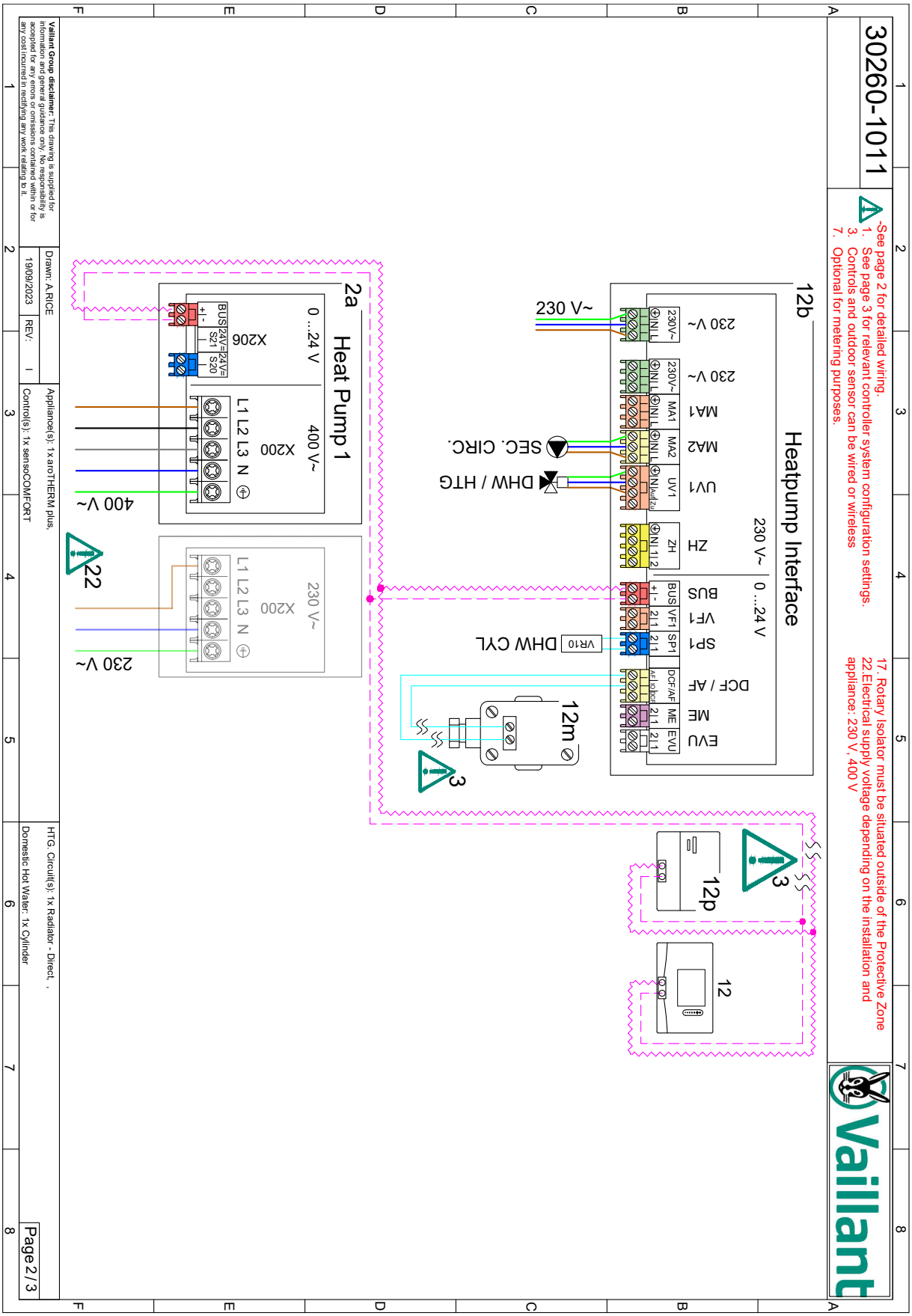
Drawn: A.RICE
29/08/2023 REV: E

Appliance(s): aroTHERM Plus, Heat Ex. Module, Buffer (45/100LBuffer)
Control(s): sensoCOMFORT

HTG. Circuit(s): 1x Radiator - Vaillant Direct, 1x UFH - 3rd Party,
Domestic Hot Water: 1x Cylinder

3.4 30260-1011 aroTHERM plus mono Direct, Cylinder, 1 Radiator zone




30260-1011
See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
3. Controls and outdoor sensor can be wired or wireless
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone
22.Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230 V~
230V~
MA1
MA2
UV1
ZH
BUS
VF1
SP1
DCF / AF
ME
EVU
230 V~
SEC. CIRC.
DHW / HTG
VR10 DHW CYL
12m
3
12p
12
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
BUS 24V= 24V= S21 S20
400 V~
22
230 V~
X200
230 V~
L1 L2 L3 N
230 V~
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Drawn: A.RICE
19/09/2023
REV:
I
Appliance(s): 1x aroTHERM plus,
Control(s): 1x sensoCOMFORT
HTG. Circuit(s): 1x Radiator - Direct, ,
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30260-1011

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sensoCOMFORT VRC 720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	HP + BUH Off
Back-up boiler:	Off
Basic system diagram config.	
Basic system diagram code:	8
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Normal
Room temp. mod.:	Expanded
Zone 1	
Zone activated:	Yes
Zone assignment:	Control
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

Vaillant

02	aroTHERM plus
03e	Secondary Circulation Pump
05	uniSTOR DHW Cylinder
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10i	Flexible Connection
11	Immersion Heater
12	sensoCOMFORT
12b	Heat Pump Interface
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
16	Rotary Isolator
17	Electric Meter
20	Volumiser

REV	DATE	DESCRIPTION
I	19/09/2023	Added aroTHERM plus 400V option

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

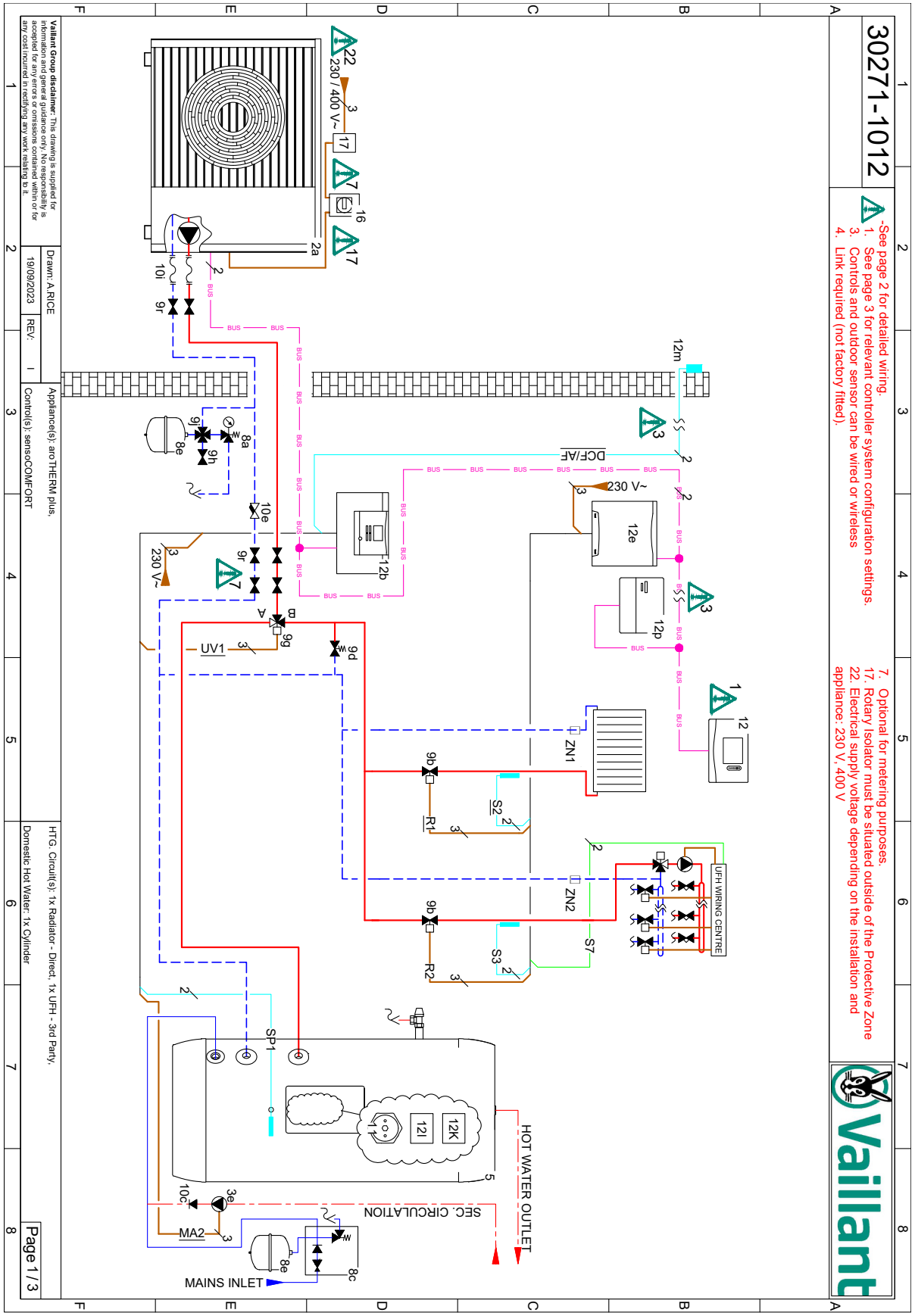
Indicates Cable Junction
Indicates No. of cable cores

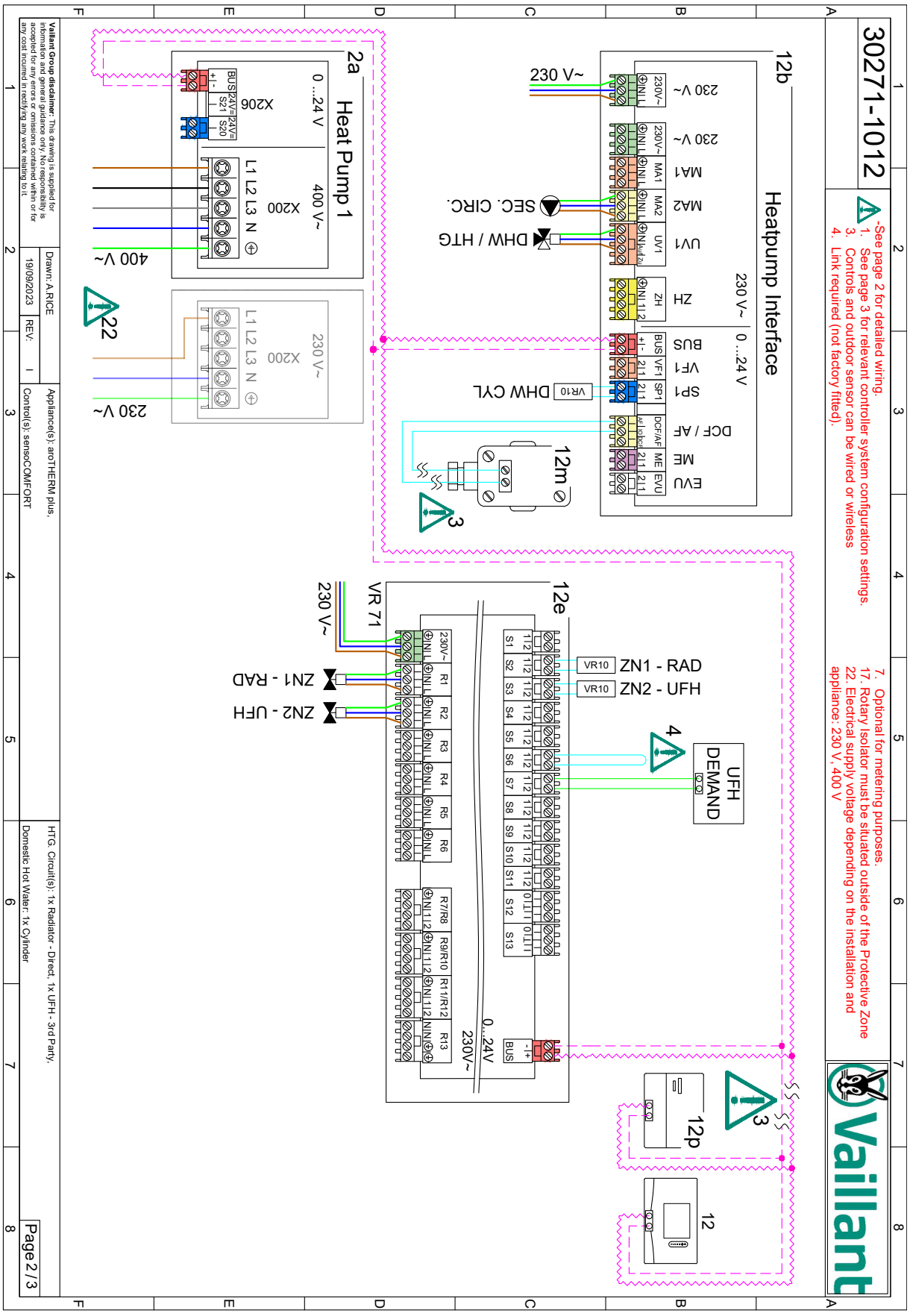
Drawn: A.RICE
19/09/2023 REV: I

Appliance(s): 1x aroTHERM plus,
Control(s): 1x sensoCOMFORT

HTG. Circuit(s): 1x Radiator - Direct, ,
Domestic Hot Water: 1x Cylinder

3.5 30271-1012 aroTHERM Mono 1 x Radiator direct, Cylinder, 1 x UFH with 3rd party control




30271-1012
See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
3. Controls and outdoor sensor can be wired or wireless
4. Link required (not factory fitted).
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone
22. Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230 V~
SEC. CIRC.
DHW / HTG
DHW CYL
12m
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
400 V~
230 V~
12e
VR 71
230 V~
ZN1 - RAD
ZN2 - UFH
VR10
ZN1 - RAD
VR10
ZN2 - UFH
UFH DEMAND
0...24V
230V~
12p
12
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Drawn: A.RICE
19/09/2023
REV: I
Appliance(s): aroTHERM plus.
Control(s): sensoCOMFORT
HTG. Circuit(s): 1x Radiator - Direct, 1x UFH - 3rd Party.
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30271-1012

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sensoCOMFORT VRC 720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	HP + BUH off
Back-up boiler:	Off
Conf. ext. input:	Open, deactiv.
Basic system diagram config.	
Basic system diagram code:	8
FM5 configuration:	3
FM5 MO:	Not working
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45° (Assumed)
Set-back mode:	Normal
Room temp. mod.:	Expanded

Setting	Value
Circuit 2	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45° (Assumed)
Set-back mode:	Eco
Room temp. mod.:	Inactive
Zone 1	
Zone activated:	Yes
Zone assignment:	Control
Zone 2	
Zone activated:	Yes
Zone assignment:	No assignmt
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

Vaillant

02	aroTHERM plus
03e	Secondary Circulation Pump
05	uniSTOR DHW Cylinder
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
09b	Zone Valve
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10i	Flexible Connection
11	Immersion Heater
12	sensoCOMFORT
12b	Heat Pump Interface
12e	Wiring Centre - VR 71
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
16	Rotary Isolator
17	Electric Meter

REV	DATE	DESCRIPTION	ZONE
I	19/09/2023	Added aroTHERM plus 400V option	2,E

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

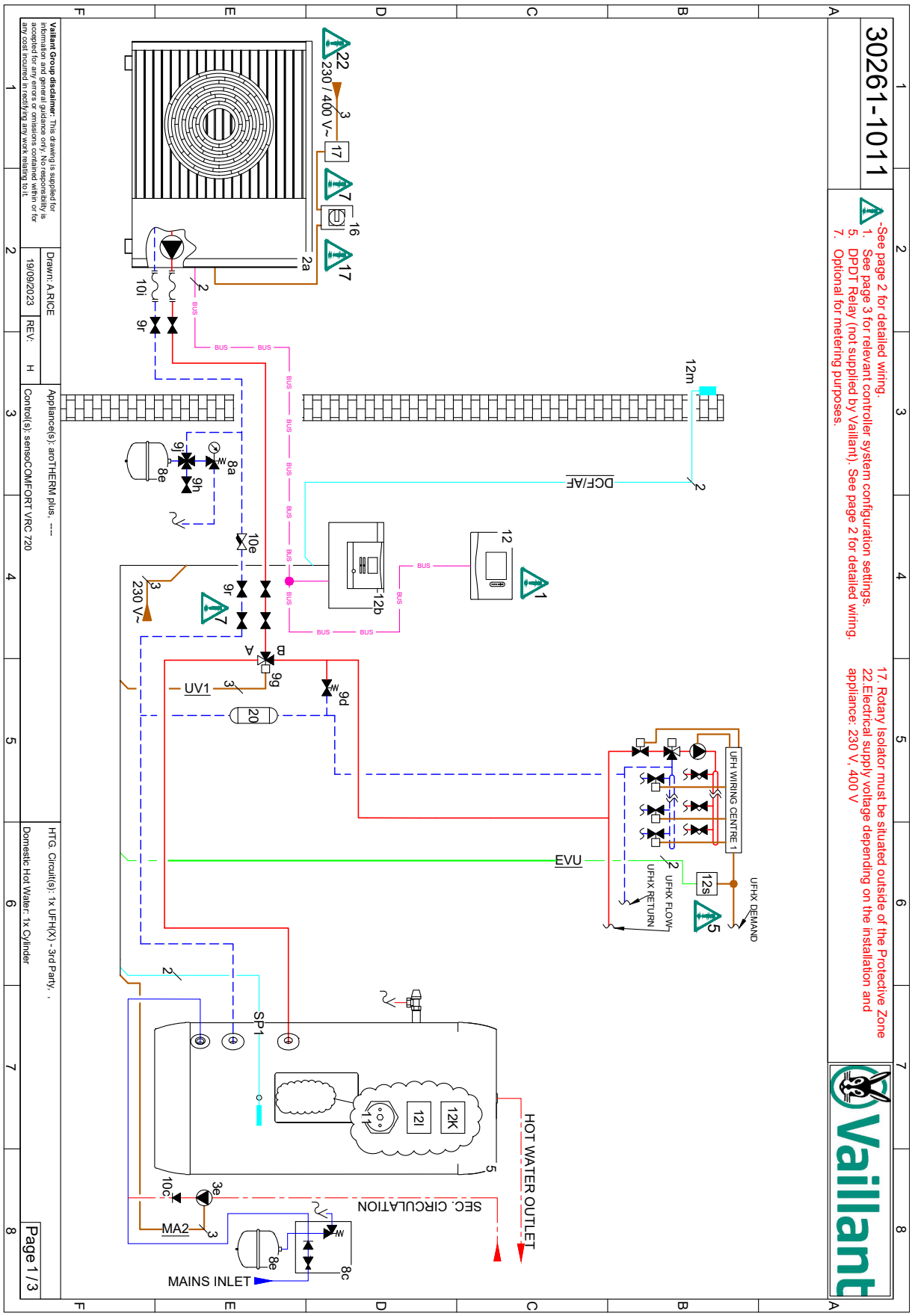
Indicates Cable Junction
Indicates No. of cable cores

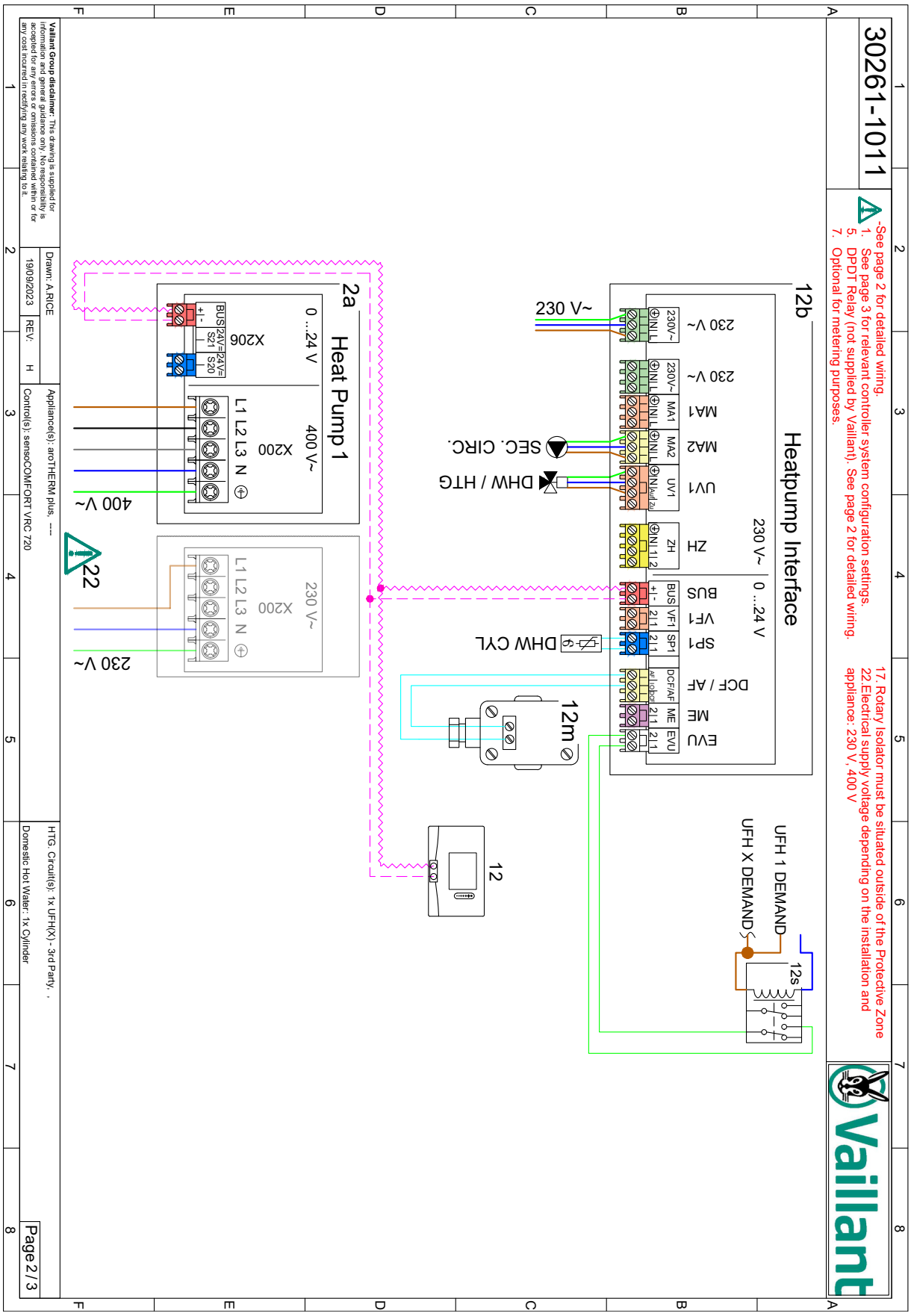
Drawn: A.RICE
19/09/2023 REV: I

Appliance(s): aroTHERM plus,
Control(s): sensoCOMFORT

HTG. Circuit(s): 1x Radiator - Direct, 1x UFH - 3rd Party,
Domestic Hot Water: 1x Cylinder

3.6 30261-1011 aroTHERM Mono Cylinder, 1 x UFH 3rd Party




30261-1011
-See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
5. DPDT Relay (not supplied by Vaillant). See page 2 for detailed wiring.
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone
22.Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230 V~
MA1
MA2
UV1
ZH
BUS
VF1
SP1
DCF / AF
ME
EVU
SEC. CIRC.
DHW / HTG
DHW CYL
12m
12
UFH 1 DEMAND
UFH X DEMAND
12s
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
400 V~
22
230 V~
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Drawn: A.RICE
19/09/2023
REV: H
Appliance(s): aroTHERM plus ---
Control(s): sensoCOMFORT VRC 720
HTG: Circuit(s): 1x UFH(X) - 3rd Party, ,
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30261-1011

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sensoCOMFORT VRC 720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	Heating off
Back-up boiler:	Off
Basic system diagram config.	
Basic system diagram code:	8
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Eco
Room temp. mod.:	Inactive

Setting	Value
Zone 1	
Zone activated:	Yes
Zone assignment:	No assignmt
DHW circuit	
Cylinder	active
Anti-legionella day	**User preference
Anti-legionella time	**User preference
Cylinder boost offset	15 K
DHW req. anti-cy time	5 min

02	aroTHERM plus
03e	Secondary Circulation Pump
05	uniSTOR DHW Cylinder
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10i	Flexible Connection
11	Immersion Heater
12	sensoCOMFORT
12b	Heat Pump Interface
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
16	Rotary Isolator
17	Electric Meter
20	Volumiser

REV	DATE	DESCRIPTION
H	19/09/2023	Updated settings Added aroTHERM plus 400V option

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

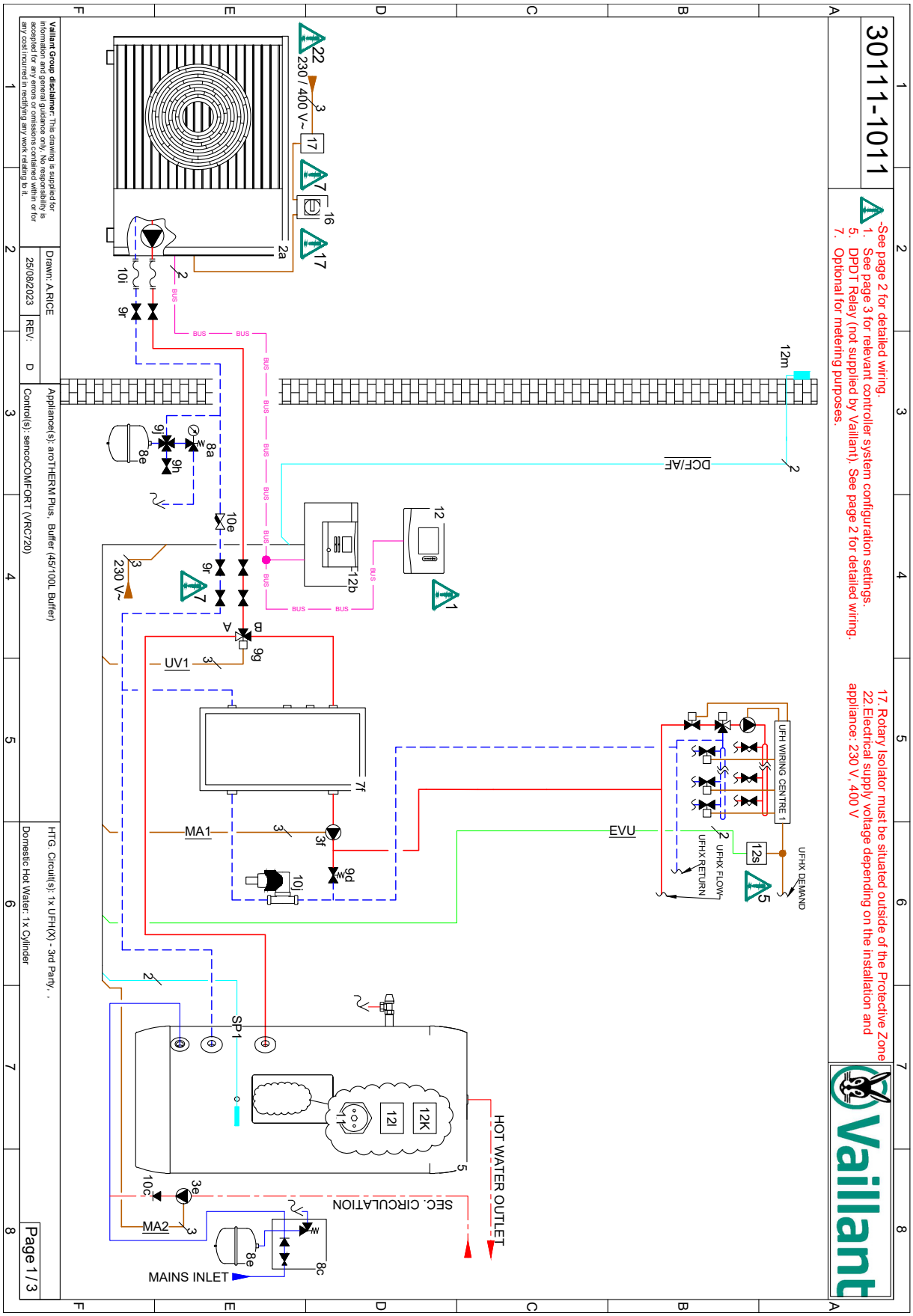
Indicates Cable Junction
Indicates No. of cable cores

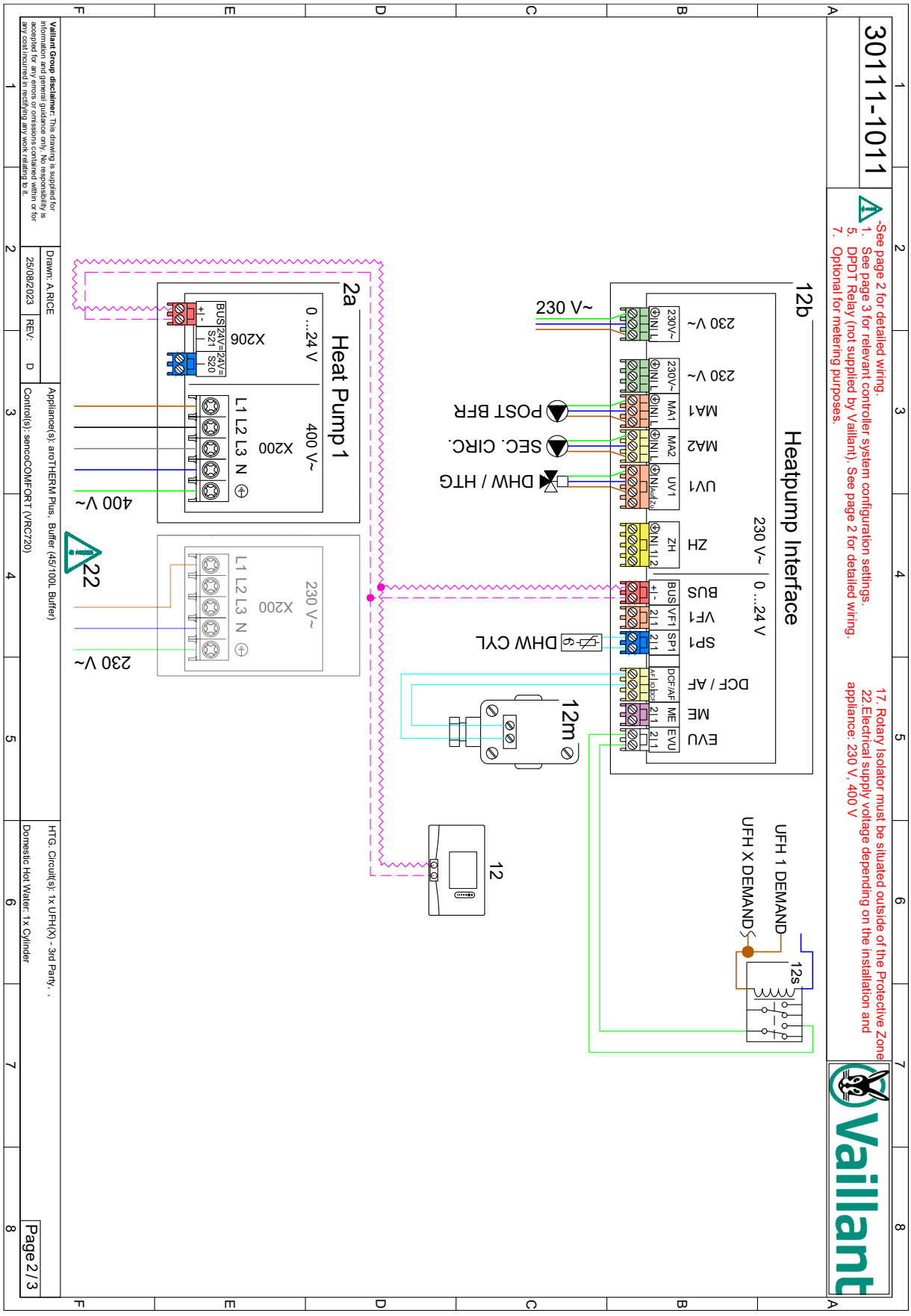
Drawn: A.RICE
19/09/2023 REV: H

Appliance(s): aroTHERM plus, ---
Control(s): sensoCOMFORT VRC 720

HTG. Circuit(s): 1x UFH(X) - 3rd Party, ,
Domestic Hot Water: 1x Cylinder

3.7 30111-1011 aroTHERM plus Mono Buffer, Cylinder, 1 x UFH 3rd Party




30111-1011
See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
5. DPDT Relay (not supplied by Vaillant). See page 2 for detailed wiring.
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone
22 Electrical supply voltage depending on the Installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230V~
MA1
MA2
UV1
ZH
BUS
VF1
SP1
DCF / AF
ME
EVU
230 V~
POST BFR
SEC. CIRC.
DHW / HTG
DHW CYL
12m
12
UFH 1 DEMAND
UFH X DEMAND
12s
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
BUS 24V= 24V= S21 S20
400 V~
22
230 V~
X200
L1 L2 L3 N
230 V~
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Drawn: A.RICE
25/08/2023
REV: D
Appliance(s): aroTHERM Plus Buffer (45/100L Buffer)
Control(s): sensoCOMFORT (VRC720)
HTG Circuit(s): 1x UFH(X) - 3rd Party, ,
Domestic Hot Water: 1x Cylinder
Page 2/3

30111-1011

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sensoCOMFORT VRC720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	Heating off
Back-up boiler:	Off
Basic system diagram config.	
Basic system diagram code:	10
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Eco
Room temp. mod.:	Inactive
Zone 1	
Zone activated:	Yes
Zone assignment:	No assignmt

Setting	Value
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

02	aroTHERM Plus
03e	Secondary Circulation Pump
03f	General Pump
05	uniSTOR DHW Cylinder
07f	45/100L Buffer
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10i	Flexible Connection
10j	Magnetic Filter
11	Immersion Heater
12	sensoCOMFORT
12b	Heat Pump Interface
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
16	Rotary Isolator
17	Electric Meter

REV	DATE	DESCRIPTION
D	25/08/2023	Added aroTHERM Plus 400V option
		-

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

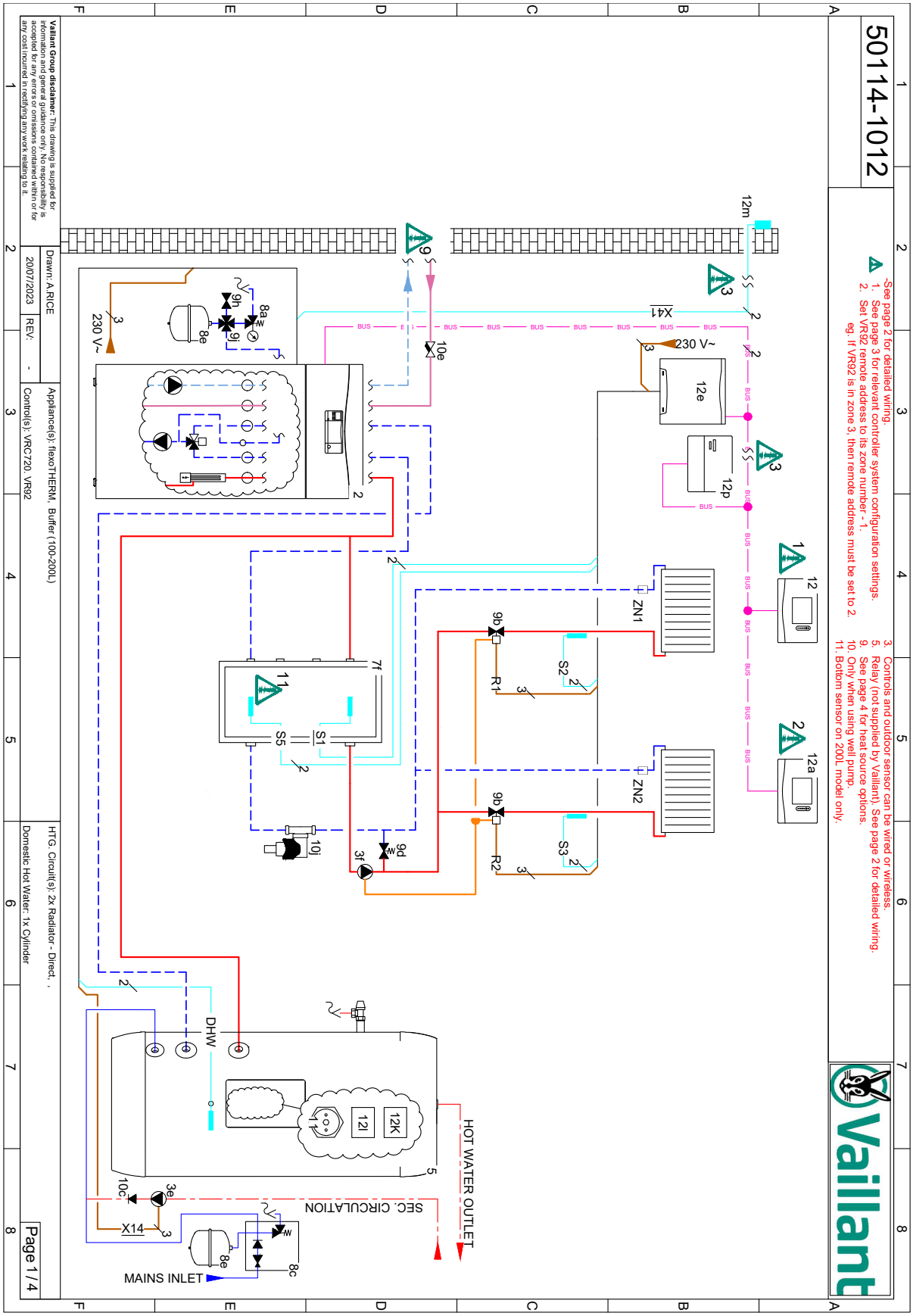
Indicates Cable Junction
Indicates No. of cable cores

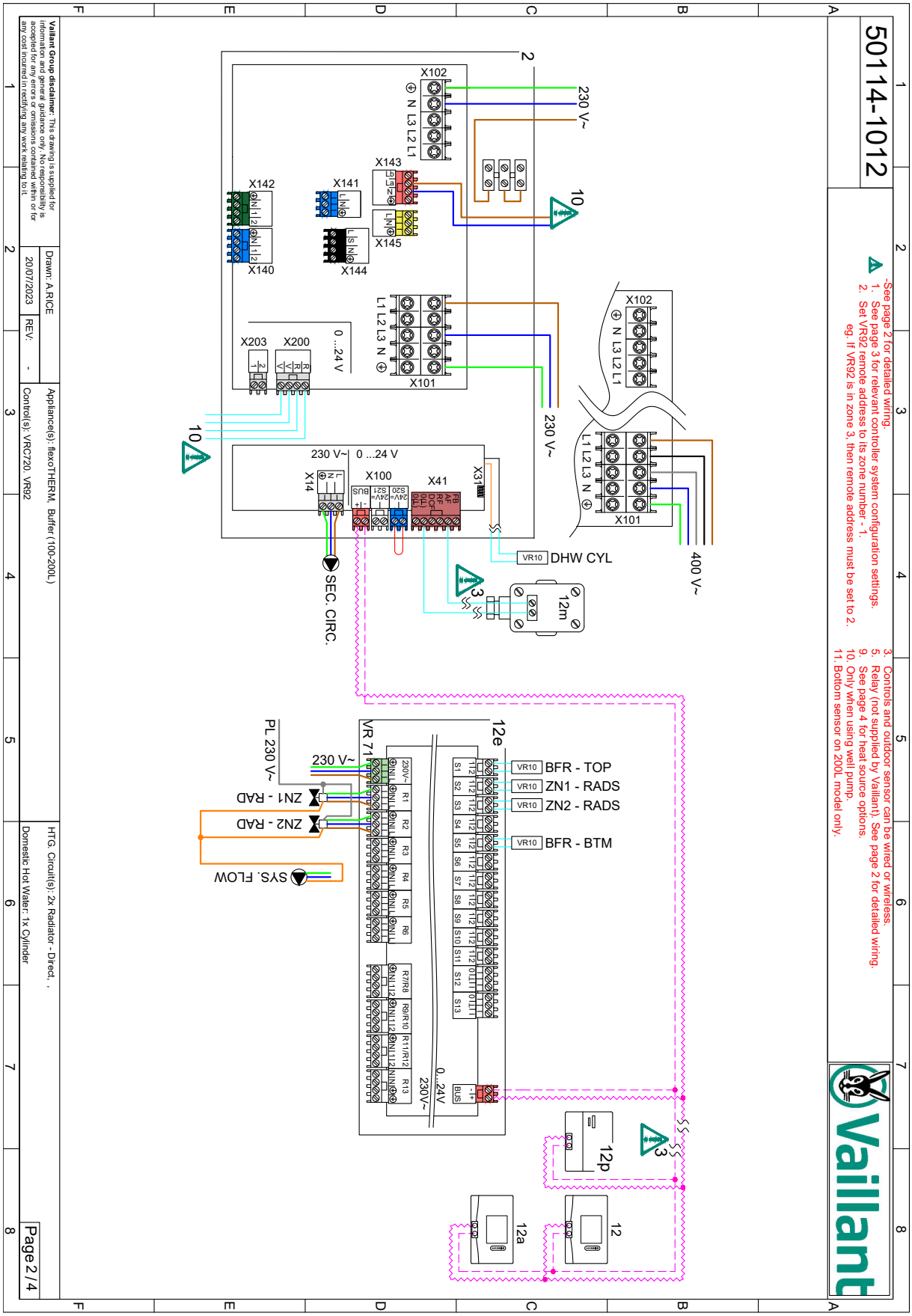
Drawn: A.RICE
25/08/2023 REV: D

Appliance(s): aroTHERM Plus, Buffer (45/100L Buffer)
Control(s): sencoCOMFORT (VRC720)

HTG. Circuit(s): 1x UFH(X) - 3rd Party, ,
Domestic Hot Water: 1x Cylinder

3.8 50114-1012 flexoTHERM Buffer Management, 1 x Radiator Direct 3rd Party, 1 x UFH 3rd Party




50114-1012
-See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
2. Set VR92 remote address to its zone number - 1.
eg. If VR92 is in zone 3, then remote address must be set to 2.
3. Controls and outdoor sensor can be wired or wireless.
5. Relay (not supplied by Vaillant). See page 2 for detailed wiring.
9. See page 4 for heat source options.
10. Only when using well pump
11. Bottom sensor on 200L model only.
Vaillant
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Drawn: A.RICE
20/07/2023
REV: -
Appliance(s): flexoTHERM, Buffer (100-200L)
Control(s): VRC720, VR92
HTG. Circuit(s): 2x Radiator - Direct, ,
Domestic Hot Water: 1x Cylinder
Page 2 / 4
X102
N L3 L2 L1
230 V~
X143
X142
X141
X140
X144
X145
X101
L1 L2 L3 N
0 ...24 V
X203
X200
230 V~
0 ...24 V
X14
X100
X41
X31
SEC. CIRC.
VR10 DHW CYL
12m
400 V~
PL 230 V~
230 V~
ZN1 - RAD
ZN2 - RAD
SYS. FLOW
VR 71
12e
VR10 BFR - TOP
VR10 ZN1 - RADS
VR10 ZN2 - RADS
VR10 BFR - BTM
12p
12a
12

50114-1012

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sensoCOMFORT System Configuration

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Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Automatic cooling:	Deactivaed
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	HP + BUH off
Back-up boiler:	Off
Conf. ext. input:	Bridge, deactiv.
Basic system diagram config.	
Basic system diagram code:	8
FM5 configuration:	3
FM5 MO:	Not working
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Normal
Room temp. mod.:	Expanded

Setting	Value
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Normal
Room temp. mod.:	Expanded
Zone 1	
Zone activated:	Yes
Zone assignment:	Control
Zone 2	
Zone activated:	Yes
Zone assignment:	Rem. contr. 1
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

Vaillant

02	flexoTHERM
02b	aroCOLLECT
03d	Well Pump
03e	Secondary Circulation Pump
03f	General Pump
05	uniSTOR DHW Cylinder
07a	Brine Filling Station
07f	Buffer (100/200L)
07h	fluoCOLLECT
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
08g	Brine Expansion Vessel
09b	Zone Valve
09c	Flow Regulator
09d	Bypass Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
10c	Non-return Valve
10e	Y Strainer
10f	Brine Collection Tank
10j	Magnetic Filter
11	Immersion Heater
12	sensoCOMFORT
12a	VR92
12e	Wiring Centre - VR 71
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
12s	DPDT Relay (3rd Party)

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Cooling Flow
Cooling Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS — BUS
Low Voltage Demand Signal
eBUS +
eBUS -

Indicates Cable Junction — BUS
Indicates No. of cable cores — 3

Drawn: A.RICE
20/07/2023 REV: -

Appliance(s): flexoTHERM, Buffer (100-200L)
Control(s): VRC720. VR92

HTG. Circuit(s): 2x Radiator - Direct, ,
Domestic Hot Water: 1x Cylinder

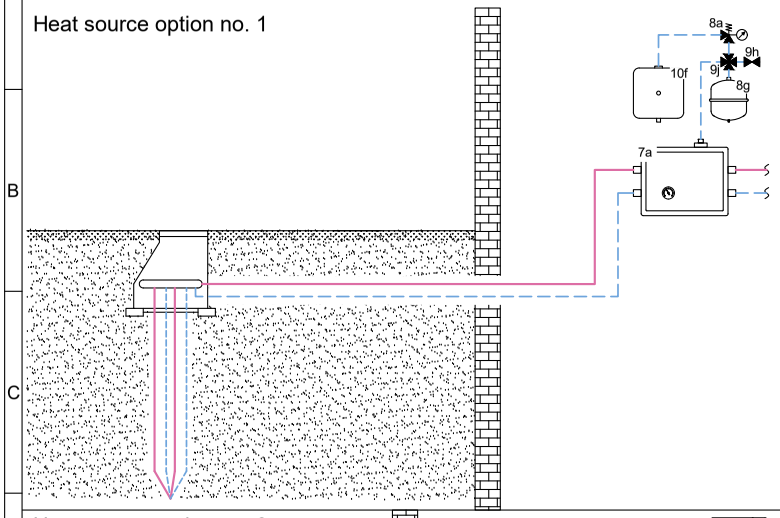
50114-1012

-See page 2 for detailed wiring.

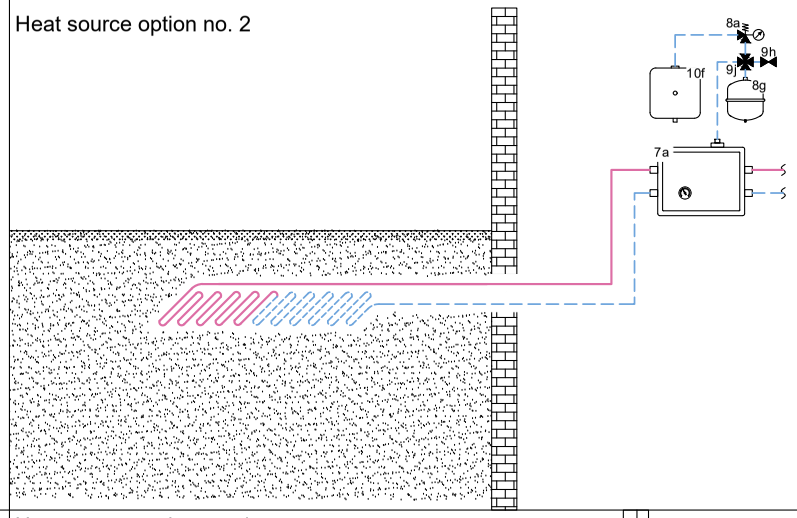
1. See page 3 for relevant controller system configuration settings.
2. Set VR92 remote address to its zone number - 1.
   eg. If VR92 is in zone 3, then remote address must be set to 2.
3. Controls and outdoor sensor can be wired or wireless.
5. Relay (not supplied by Vaillant). See page 2 for detailed wiring.
9. See page 4 for heat source options.
10. Only when using well pump.

Vaillant

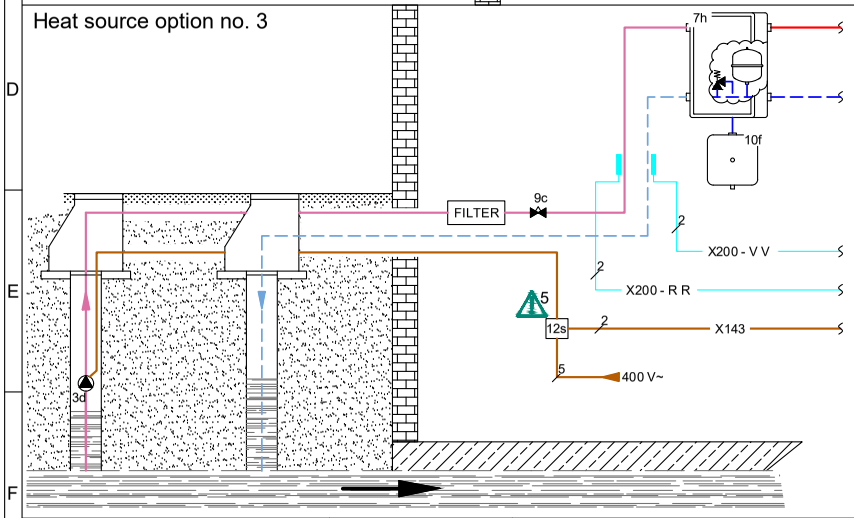
Heat source option no. 1



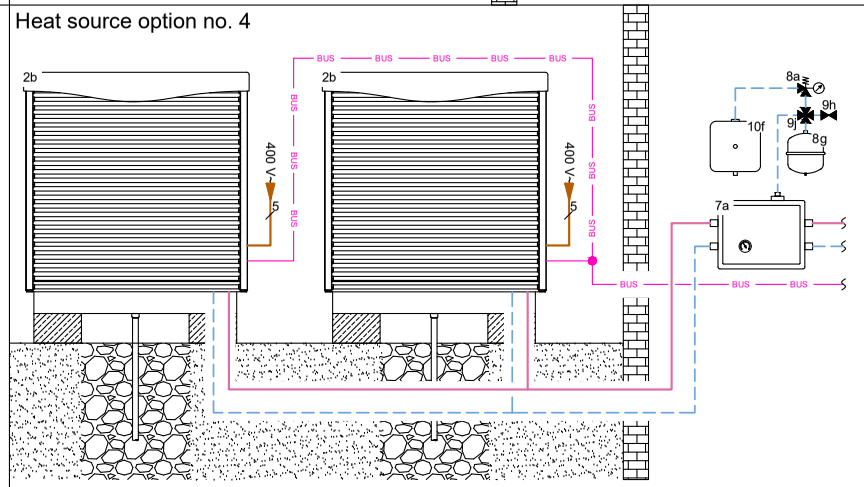
Heat source option no. 2



Heat source option no. 3



Heat source option no. 4



Drawn: A.RICE

20/07/2023 REV: -

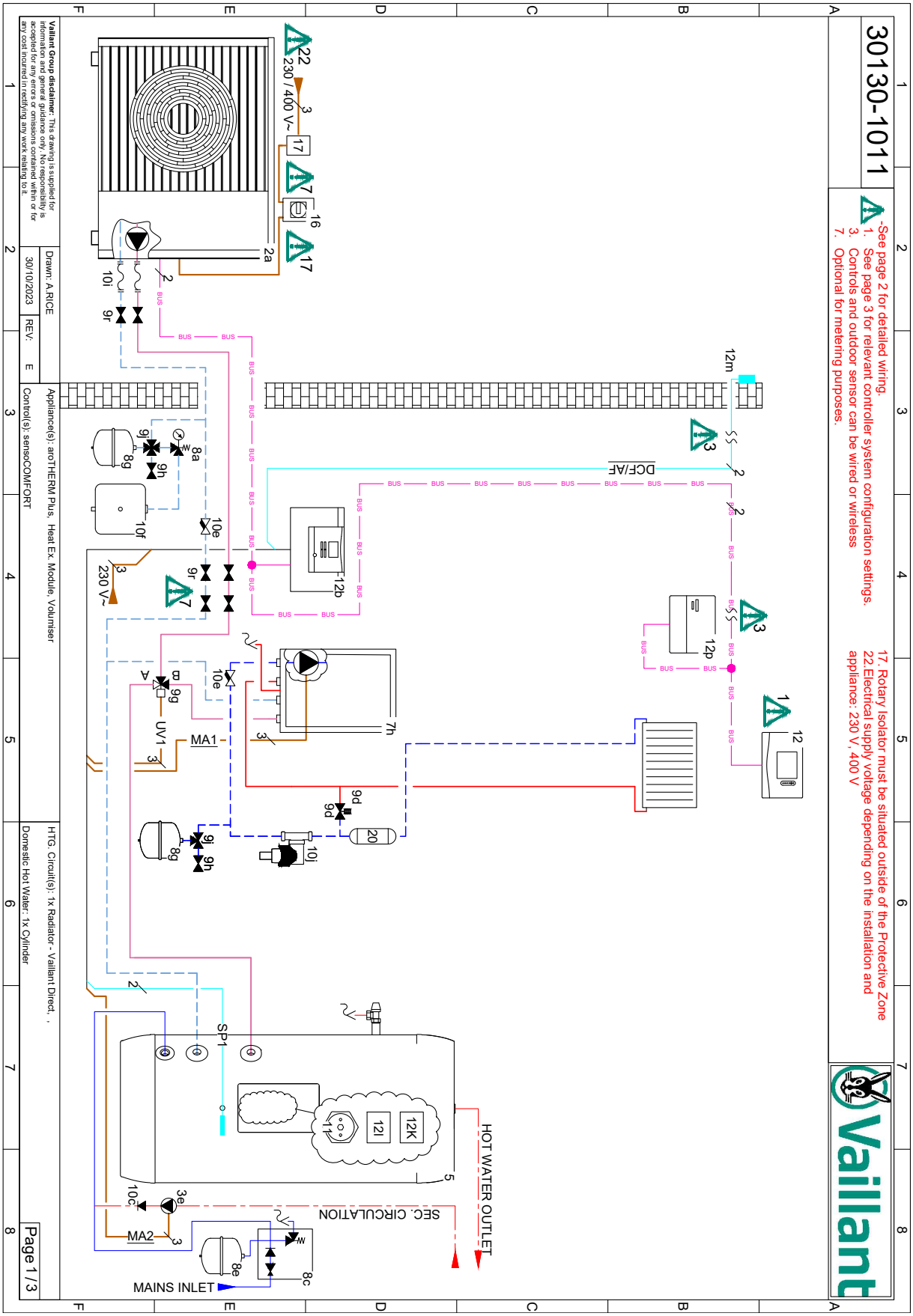
Appliance(s): flexoTHERM, Buffer (100-200L)

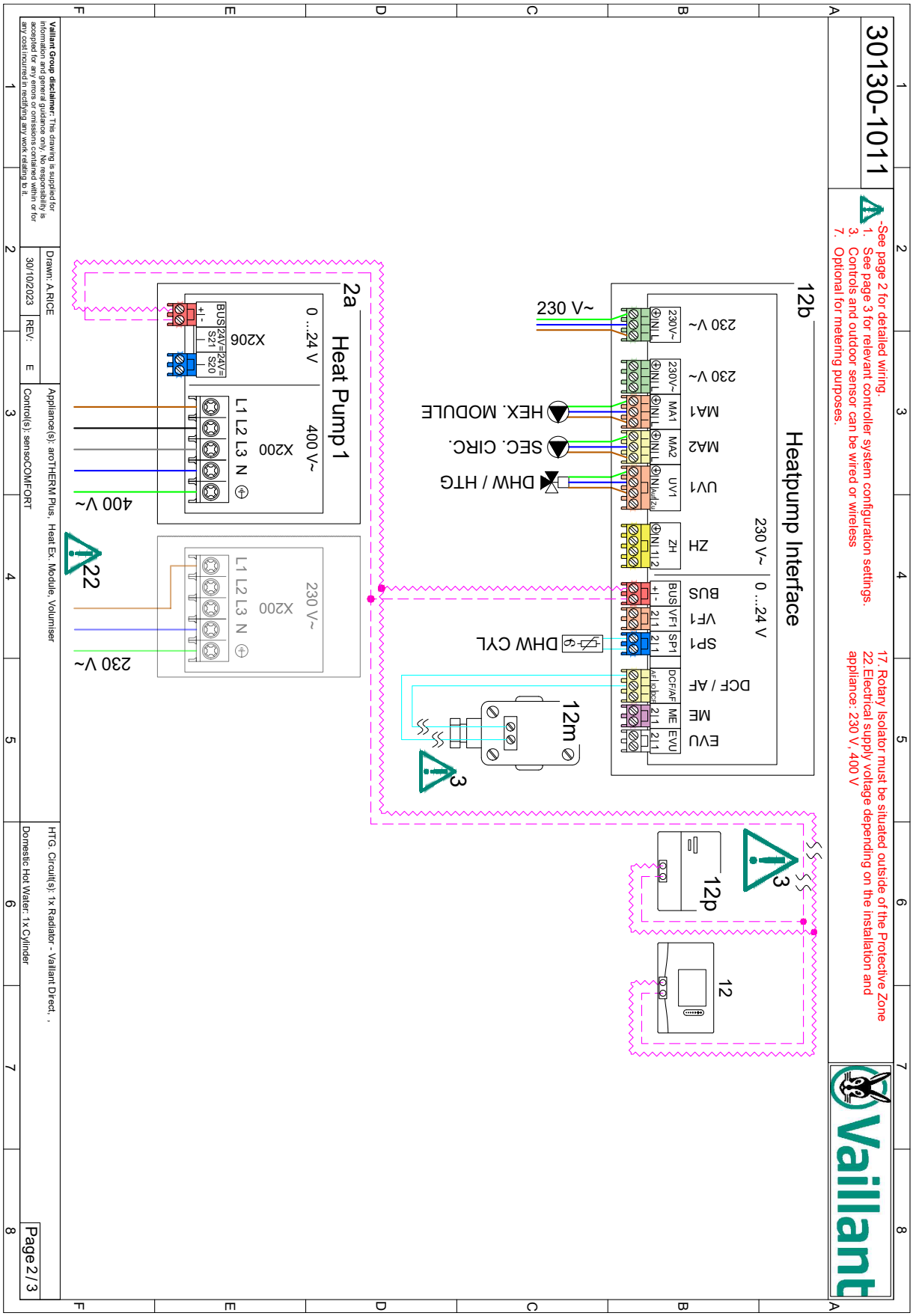
Control(s): VRC720. VR92

HTG. Circuit(s): 2x Radiator - Direct, ,

Domestic Hot Water: 1x Cylinder

3.9 30130-1011 aroTHERM Mono HEX, 1 x Cylinder, 1 x Radiator Direct




30130-1011
See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
3. Controls and outdoor sensor can be wired or wireless
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone
22. Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230 V~
230 V~
230 V~
HEX. MODULE
SEC. CIRC.
DHW / HTG
DHW CYL
12m
12p
12
2a
Heat Pump 1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
400 V~
230 V~
X200
L1 L2 L3 N
230 V~
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Drawn: A.RICE
30/10/2023
REV: E
Appliance(s): aroTHERM Plus. Heat Ex. Module. Volumiser
Control(s): sensoCOMFORT
HTG. Circuit(s): 1x Radiator - Vaillant Direct, ,
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30130-1011

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sensoCOMFORT VRC 720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	HP + BUH Off
Back-up boiler:	Off
Basic system diagram config.	
Basic system diagram code:	10
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45°
Set-back mode:	Normal
Room temp. mod.:	Expanded
Zone 1	
Zone activated:	Yes
Zone assignment:	Control
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

02	aroTHERM Plus
03e	Secondary Circulation Pump
05	uniSTOR DHW Cylinder
07h	HEX. Module
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
08g	Brine Expansion Vessel
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10f	Brine Collection Tank
10i	Flexible Connection
10j	Magnetic Filter
11	Immersion Heater
12b	Heat Pump Interface
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
16	Rotary Isolator
17	Electric Meter
20	System Volumiser

REV	DATE	DESCRIPTION
E	29/08/2023	Added aroTHERM Plus 400V option

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

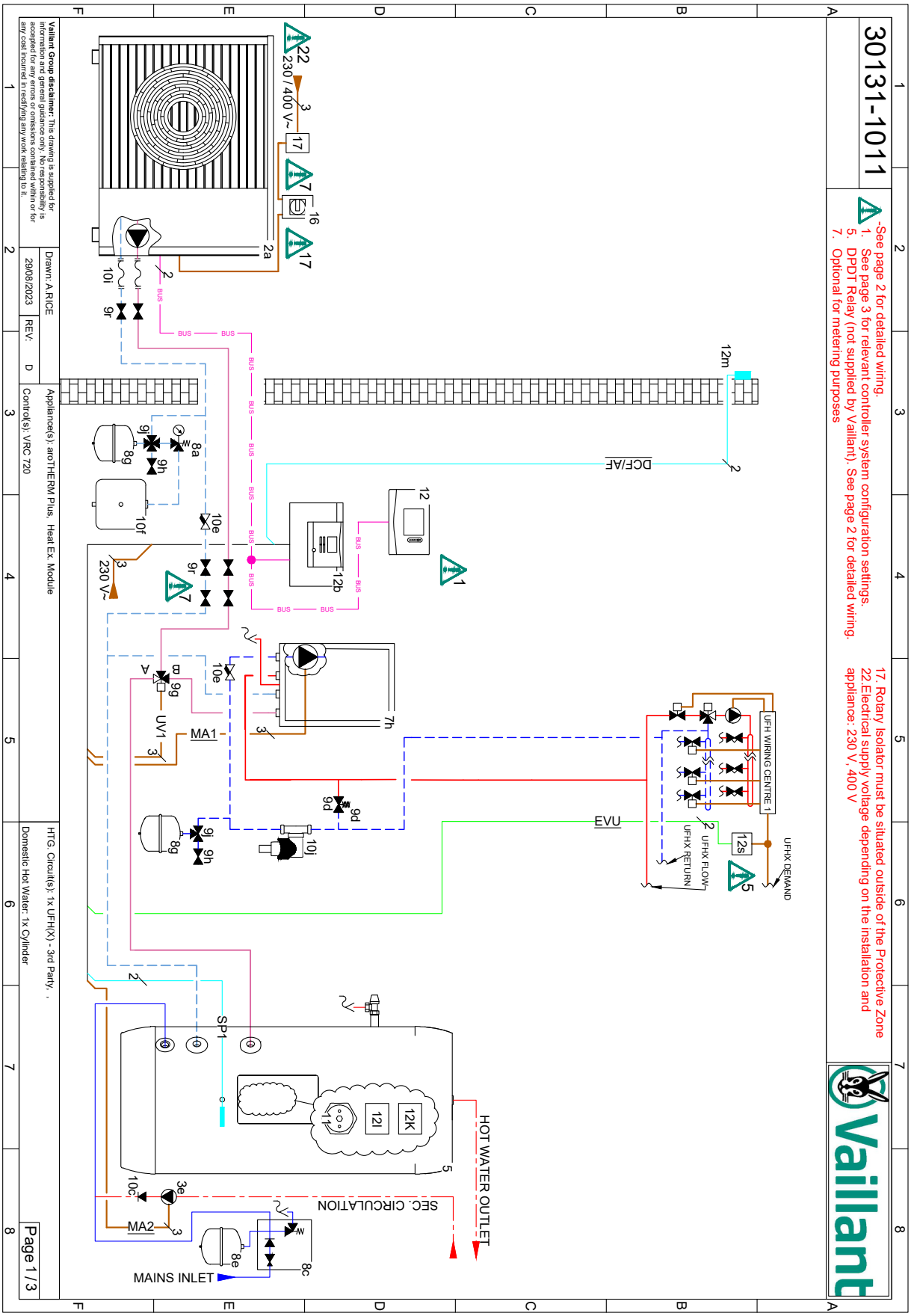
Indicates Cable Junction
Indicates No. of cable cores

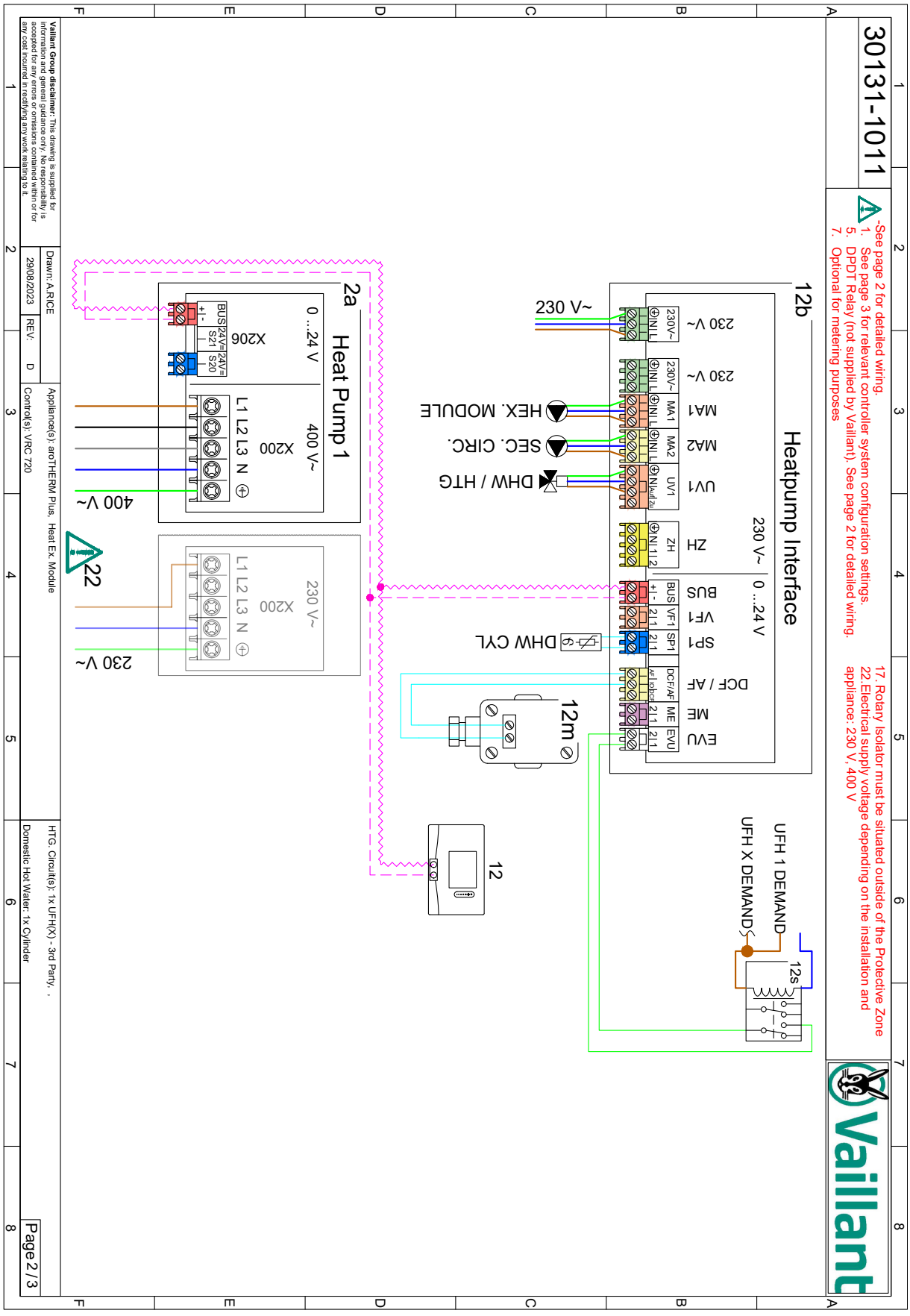
Drawn: A.RICE
30/10/2023 REV: E

Appliance(s): aroTHERM Plus, Heat Ex. Module, Volumiser
Control(s): sensoCOMFORT

HTG. Circuit(s): 1x Radiator - Vaillant Direct, ,
Domestic Hot Water: 1x Cylinder

3.10 30131-1011 aroTHERM Mono HEX, 1 x Cylinder, 1 x UFH 3rd Party




30131-1011
See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
5. DPDT Relay (not supplied by Vaillant). See page 2 for detailed wiring.
7. Optional for metering purposes
17. Rotary Isolator must be situated outside of the Protective Zone
22. Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b
Heatpump Interface
230 V~
0 ...24 V
230V~
230 V~
MA1
MA2
UV1
ZH
BUS
VF1
SP1
DCF / AF
ME
EVU
230 V~
HEX. MODULE
SEC. CIRC.
DHW / HTG
DHW CYL
UFH 1 DEMAND
UFH X DEMAND
12s
12m
12
2a
Heat Pump 1
0 ...24 V
400 V~
X206
BUS 24V= 24V= S21 S20
X200
L1 L2 L3 N
400 V~
22
230 V~
X200
230 V~
L1 L2 L3 N
230 V~
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Drawn: A.RICE
29/08/2023
REV: D
Appliance(s): aroTHERM Plus Heat Ex. Module
Control(s): VRC 720
HTG. Circuit(s): 1x UFH(X) - 3rd Party, .
Domestic Hot Water: 1x Cylinder
Page 2 / 3

30131-1011

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sensoCOMFORT VRC 720/2 System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
Heating bivalence point:	-20°
DHW bivalence point:	-20°
Alternative point:	Off
ESCO:	Heating off
Back-up boiler:	Off
Basic system diagram config.	
Basic system diagram code:	10
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45° (Assumed)
Set-back mode:	Eco
Room temp. mod.:	Inactive
Zone 1	
Zone activated:	Yes
Zone assignment:	No assignmt

Setting	Value
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

02	aroTHERM Plus
03e	Secondary Circulation Pump
05	uniSTOR DHW Cylinder
07h	HEX. Module
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
08g	Brine Expansion Vessel
09d	Bypass Valve
09g	Diverter Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10f	Brine Collection Tank
10i	Flexible Connection
10j	Magnetic Filter
11	Immersion Heater
12	sensoCOMFORT
12b	Heat Pump Interface
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
16	Rotary Isolator
17	Electric Meter

REV	DATE	DESCRIPTION
D	29/08/2023	Added aroTHERM 400V option

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

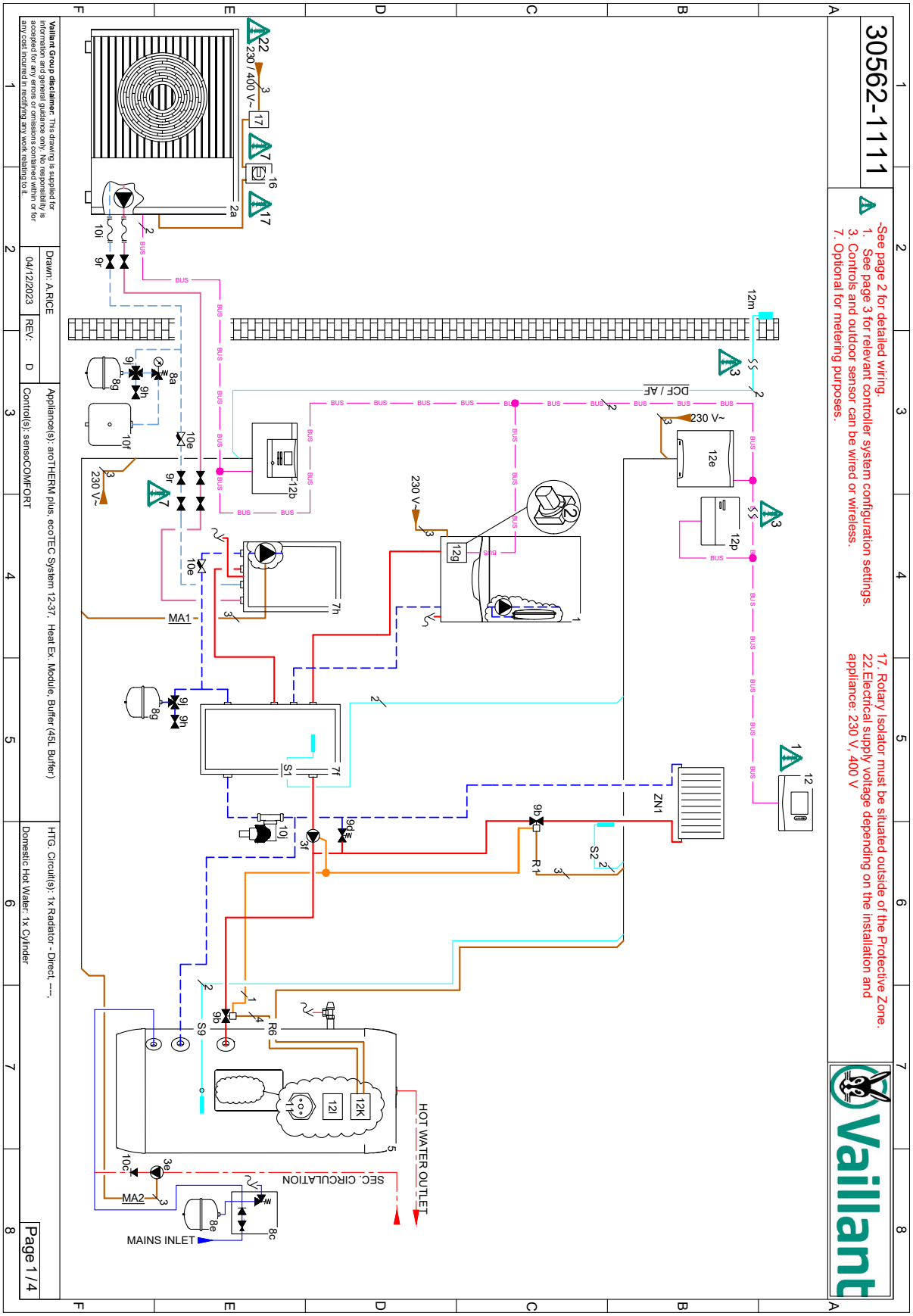
Indicates Cable Junction
Indicates No. of cable cores

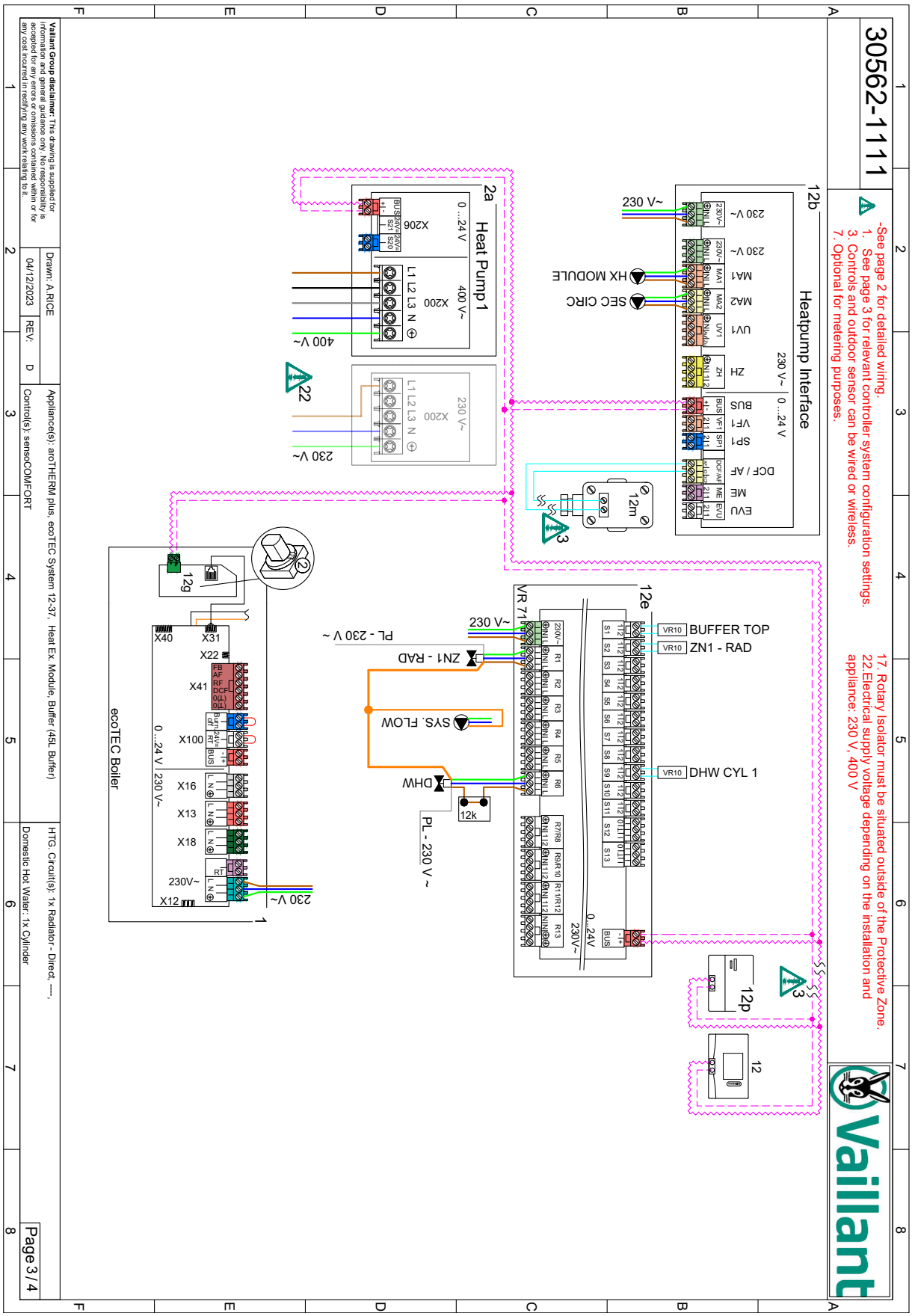
Drawn: A.RICE
29/08/2023 REV: D

Appliance(s): aroTHERM Plus, Heat Ex. Module
Control(s): VRC 720

HTG. Circuit(s): 1x UFH(X) - 3rd Party, ,
Domestic Hot Water: 1x Cylinder

3.11 30562-1111 Hybrid System aroTHERM plus, ecoTEC system boiler, HEX module, Buffer (45l)




30562-1111
-See page 2 for detailed wiring.
1. See page 3 for relevant controller system configuration settings.
3. Controls and outdoor sensor can be wired or wireless.
7. Optional for metering purposes.
17. Rotary Isolator must be situated outside of the Protective Zone.
22.Electrical supply voltage depending on the installation and appliance: 230 V, 400 V
Vaillant
12b Heatpump Interface
230 V~
0 ...24 V
HX MODULE
SEC CIRC
2a Heat Pump1
0 ...24 V
400 V~
X206
X200
L1 L2 L3 N
400 V~
230 V~
12m
12e
VR 71
BUFFER TOP
ZN1 - RAD
DHW CYL 1
SYS. FLOW
DHW
12k
PL - 230 V ~
ZN1 - RAD
12p
12
12g
ecoTEC Boiler
X40
X31
X22
X41
X100
X16
X13
X18
X12
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Drawn: A.RICE
04/12/2023
REV: D
Appliance(s): aroTHERM plus, ecoTEC System 12-37, Heat Ex. Module, Buffer (45L Buffer)
Control(s): sensoCOMFORT
HTG. Circuit(s): 1x Radiator - Direct, ---,
Domestic Hot Water: 1x Cylinder
Page 3 / 4

30562-1111

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sensoCOMFORT System Configuration

Not all settings are displayed, commissioning of the controller should be done diligently; going through each adjustable option with consideration to the property and system requirements.

Setting	Value
Installation	
Adapt. heat curve:	Deactivated
Hybrid manager:	Bivalence pt
ESCO:	HP + BUH Off
Back-up boiler:	DHW + heat.
Conf. ext. input:	Bridge, deactiv.
Basic system diagram config.	
Basic system diagram code:	16
FM5 configuration:	3
FM5 MO:	Not working
HP control module configuration	
MO 2:	Circulation pump
Circuit 1	
Circuit type:	Heating
OT switch-off threshold:	30°
Heat curve:	**Site specific
Min. target flow temperature:	15°
Max. target flow temperature:	45° (Assumed)
Set-back mode:	Normal
Room temp. mod.:	Expanded
Zone 1	
Zone activated:	Yes
Zone assignment:	Control

Setting	Value
Domestic hot water	
Cylinder:	Active
Anti-legio. day:	**User preference
Anti-legio. time:	**User preference
Cylinder charging offset:	15 K
Cyl. charg. anti-cycl. time:	5 min

01	Boiler
02	aroTHERM plus
03e	Secondary Circulation Pump
03f	General Pump
05	uniSTOR DHW Cylinder
07f	45L/100L Buffer
07h	HEX. Module
08a	Pressure Relief Valve
08c	DHW Inlet Safety Group
08e	Heating / DHW Expansion Vessel
08g	Brine Expansion Vessel
09b	Zone Valve
09d	Bypass Valve
09h	Fill / Drain Valve
09j	Expansion Vessel Service Valve
09r	Isolation Valve
10c	Non-return Valve
10e	Y Strainer
10f	Brine Collection Tank (If Applicable)
10i	Flexible Connection
10j	Magnetic Filter
11	Immersion Heater
12	sensoCOMFORT
12b	Heat Pump Interface
12e	Wiring Centre - VR 71
12g	eBUS Coupler - VR32/3
12K	High Limit Cut Out
12l	Cylinder Thermostat
12m	Outdoor Temperature Sensor
12p	Wireless Reciever
16	Rotary Isolator
17	Electric Meter

REV	DATE	DESCRIPTION	ZONE
D	04/12/2023	Added aroTHERM plus 400V option	4, E
		Updated information	-

Domestic Cold Water
Domestic Hot Water
Heating Flow
Heating Return
Cooling Flow
Cooling Return
Glycol Flow
Glycol Return

230/400V Wire
Low Voltage Sensor Wire
Low Voltage eBUS
Low Voltage Demand Signal
eBUS +
eBUS -

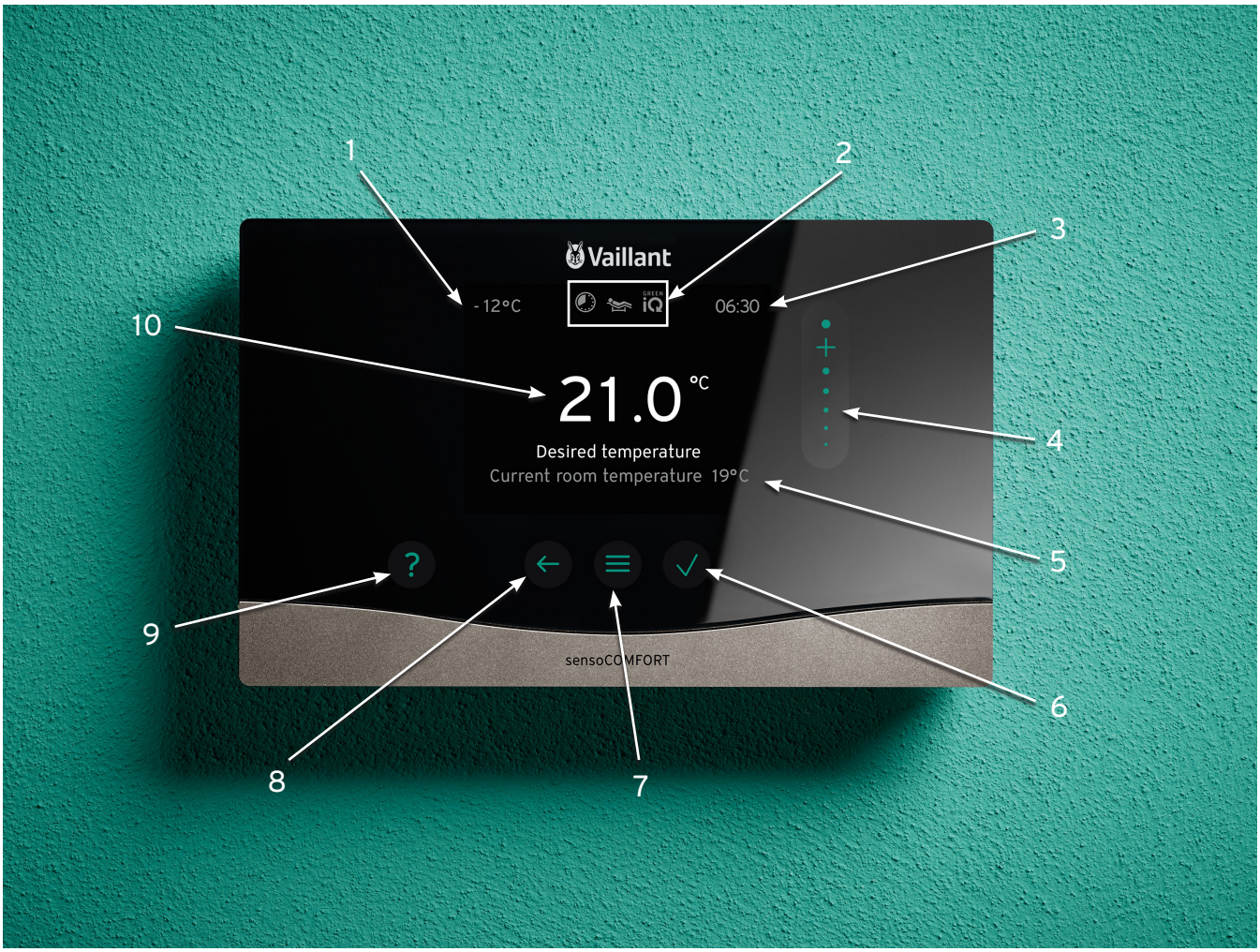
Indicates Cable Junction
Indicates No. of cable cores

Drawn: A.RICE
04/12/2023 REV: D

Appliance(s): aroTHERM plus, ecoTEC System 12-37, Heat Ex. Module, Buffer (45L Buffer)
Control(s): sensoCOMFORT

HTG. Circuit(s): 1x Radiator - Direct, ----,
Domestic Hot Water: 1x Cylinder

4 sensoCOMFORT VRC 720 easy user guide



1. Outdoor temperature
2. Current heating mode
3. Time
4. Navigation bar/increase decrease
5. Actual room temperature
6. Enter or confirm
7. Main menu
8. One level back or cancel input
9. Help and time programme assistant
10. Current target temperature

* These icons represent the current operating protocol of the control.

Anything that lights up green is available to be used with the current screen.

4.1 Quick guide to icons

	- Calling up the menu - Back to the main menu
	- Confirming a selection/change - Saving set values
	- One level back - Cancelling input
	- Navigating through the menu structure - Reducing or increasing the set value - Navigating to individual numbers/letters
	- Calling up the help - Calling up the time programme assistant
	- Switching on the display* - Switching off the display* The control element is located on the upper side of the control
	Battery state of charge*
	Signal strength*
	Button lock active*
	Time-controlled heating active
	Maintenance required
	Fault in the heating installation
	Contact the competent person
	Noise reduction mode active*
	Most energy-efficient heating mode active*

*Not all functions are available for all system combinations.

4.2 Selecting frequent functions

4.2.1 Over-riding the current time and room temperature

The room temperature is increased or decreased by up to 12 hours, e.g. for a party.

▶ 1 x ☰ → desired temperature • • • • • + • → ✓

▶ Time period • • • • • + • → ✓

Press once

Adjust up or down

Confirm new temperature

Adjust over-ride period and confirm

New over-ride setting

The display will now show the new desired temperature (21.5°C in this case), and what time the over-ride is due to finish (19:26 in this case).

The ← can be pressed at any time to cancel the over-ride and return to the normal timed requirement.

4.2.2 Switching off the heating

Heating is not required, domestic hot water generation and frost protection remain active, e.g. in the summer.

▶ 2 x ☰ → CONTROL ✓ → Zone 1 • • • • • + • → ✓ → heating • • • • • + •

▶ → ✓ → Mode: xxx ✓ → off • • • • • + • → ✓

Press twice

select “CONTROL“

Scroll to “Zone #” and press tick to confirm

Press tick to confirm

Select “Off” and press tick to confirm

Heating now “Off” press menu to return

4.2.3 Switching on the heating

The heating is switched on, e.g. in winter.

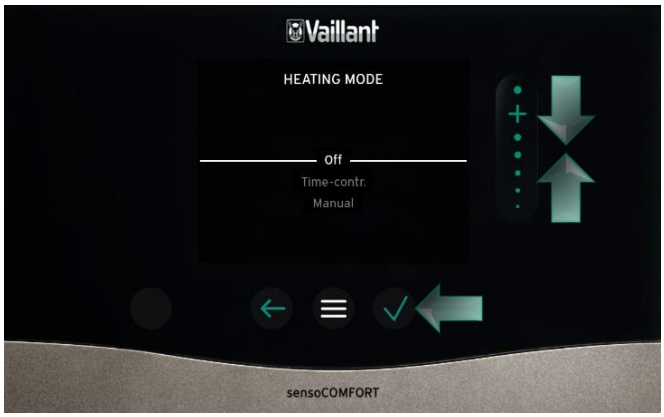
▶ 2 x → CONTROL → Zone 1 → heating

▶ → → modes: off → Mode: Manual / Time-contr. →

Press twice

Scroll to “Zone #” and press tick to confirm

Press tick to confirm



Scroll to “Time control” and press tick to confirm

Press menu button to return

Control now timed

4.2.4 Switching on the heating

Heat up domestic hot water onve outside of the set time period for domestic hot water generation off if domestic hot water generation is deactivated.

▶ 2 x ☰ → CONTROL ✓ → DHW boost • • • • • + • → ✓ → heating ✓

Press menu x 2

Select “Control”

Scroll to “Hot water boost” and press Tick

Press Tick to confirm

Hot water boost active

The display will now show that the “Hot water boost” function is active. The cylinder will be heated to the set temperature once.

← can be pressed at any point for the control to return back to normal operation.

4.2.5 Setting up absence periods

Heating and domestic hot water generation are not required, frost protection remains active, e.g. for holidays or days away.

▶ 2 x ☰ → Absence ✓ → All • • • • • + • → ✓

Press menu

Press tick to confirm

Scroll to “Absence” and press tick

Press tick to confirm

Select Absence date

Select Absence start time

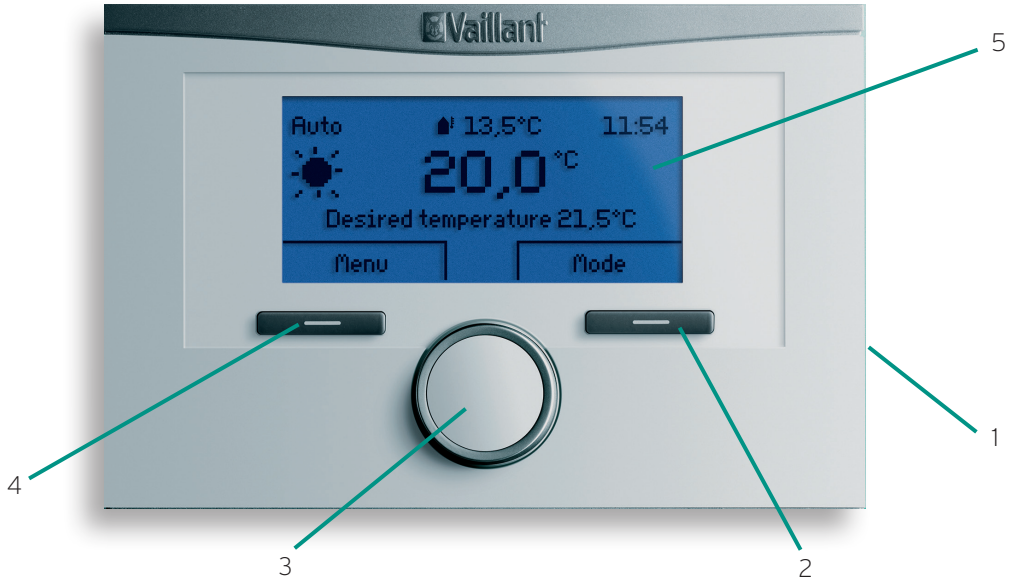
Select a return date

Select a return time

The Absence period is now set

5 VRC 700 control easy user guide

5.1 Basic display and symbols



Normal display of VRC 700

1. Diagnostics socket for competent person (with access to Vaillant software)
2. Right hand selection button for “Operating mode” (soft key)
3. Rotary knob (turn only)
4. Left hand selection button for “Menu” (soft key)
5. Display

5.1.1 Quick Guide to Icons

Auto mode (heating on)

Auto mode (heating off)

Day — Heating on constant (at selected temperature)

Off — Heating off (Frost protection running)

Outdoor temperature

5.2 Setting frequent functions

5.2.1 Overriding the current room temperature

Turn the control knob

Stop when new temperature is reached

Cancel 6-hour override at any time

5.2.2 Switching off the heating

Press “Op. mode“

Press “Change“

Select new mode setting and press “OK”

Use “Back” button to return to normal screen

5.2.3 Switching On the Heating

Press “Op. mode“

Select Absence start time

Select required setting (“Day” for constant on)

Press “Ok”

Press “Back” to return

Normal screen shows “Day” now active

5.2.4 Heating up domestic hot water once

Press “Op. mode“

Scroll to “Cylinder boost” and press Activate”

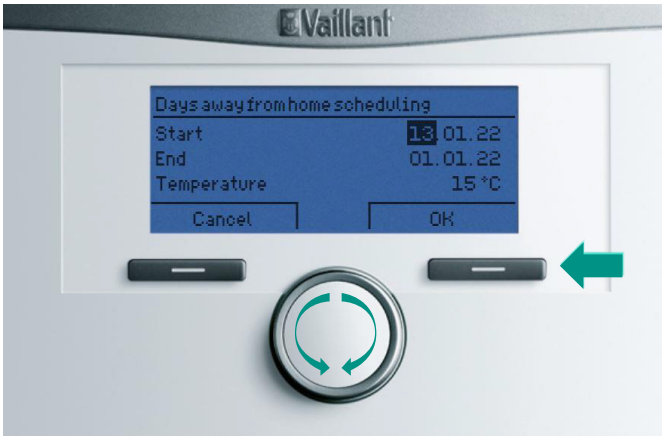
Cylinder boost now active. Press cancel if required at any point.

5.2.5 Setting up absence periods

Press “Menu”

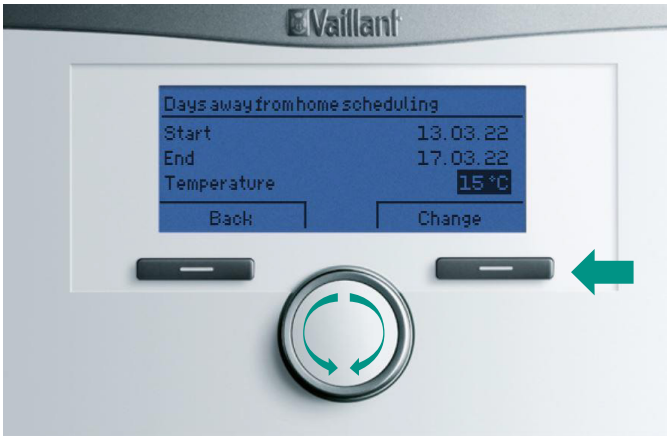
Scroll to “Days away from home scheduling” press “Select”

Press “Change”



Scroll to start day then “Ok” month “Ok” year “Ok”

Follow the same process for the end date (in this case start 13/3/24 end 17/3/24



Scroll to temperature and press “Change”

Select required temperature and press “Ok”

Away period now set, use the “Back” button to return

The heating demand temperature will be used for the whole time period. At midnight, the day before the end date, the domestic hot water cylinder will be heated to the set temperature in order to sterilize the volume of water. This only applies to a system or open vent boiler.

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

Advance support line
There's a Regional Business Manager near you to support your business, along with dedicated Advance support lines.
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Email us: **advance-support@vaillant.co.uk**

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**

System Sales and Design
At Vaillant, our expert System Sales and Design (SSAD) team provides installers with comprehensive heating system design support on their projects.
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