

4 in 1 Digital Thermostat Control

Models: VS10W and VS10B





INSTALLER / USER MANUAL

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Warranty Box Contents



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Important info



Your benefit

For latest PDF installation guide please go to www.salus-controls.com







VS10W VS10B

Product Compliance & Safety Information

INTRODUCTION

Thank you for purchasing the SALUS 4 in 1 digital room thermostat VS10. To maximise the features the unit, it should be used with the SALUS Wiring Centre KL10.

The unit can be configured to be a Programmable Thermostat (PRT), Group Control Thermostat, Group Thermostat or hot water timer. The units can communicate with each other (including VS05 Dial Thermostat) when connected to the wiring centre and using the communication connections. More information can be found on pages 9 and 10.



Product Compliance

This product is CE compliant and meets the following EC Directives Electro-Magnetic Compatibility directive 2004/108/EC Low voltage Directive 2006/95/EC



Safety Information

Use in accordance with the regulations The SALUS VS10 is to be used for for room control of heating and hot water systems inside the house.



SALUS Wiring Centre KL10

We hope you enjoy this product...

Product Compliance & Safety Information

These instructions are applicable to the SALUS model stated on the front cover of this manual only.



Warning

This product must be fitted by a competent person, and installation must comply with the guidance, standards and regulations applicable to the city, country or state where the product is installed. Failure to comply with the requirements of the relevant guidance, standards and regulations could lead to injury, death or prosecution.



Sources of danger

The thermostat must be disconnected from mains supply before removing the cover.



Emergency

Switch off the voltage to the individual thermostat wring centre or complete system.



230V AC



Warning

Always isolate the AC Mains supply before installing or working on any components that require 230 VAC 50Hz supply.



Installer parameter settings

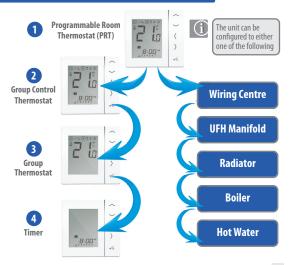
The SALUS VS10 is equipped with installer parameter section (see page 40) this must only be entered by the installer or competent person. Changing these parameters can have a serious effect on your heating system



For the installer

Please enter any parameter changes in the installer notes section (pages 72 - 74)

System Overview - Configuration Options



System Overview - Configuration Options

Programmable Room Thermostat (PRT)

When configured for PRT (see page 31) it mainly works by itself and allows the user to have separate Time and Temperature control of each zone on the wiring centre. Features like Vacation, Party frost mode have to set on each individual thermostat. The PRT can be configured for global Heat/Cool system changeover if your system supports this. This is achieved from a switched input from the wiring centre (see note 6 from the wiring centre installation guide). Communication Connection (see page 13) is required to use heat/cool changeover function

Group Control Thermostat

When configured for a group control thermostat (see page 33) this allows central control of up to 7 group thermostats see below, there can be a maximum of 2 groups per 8 zone wiring centre. Permanent temperature override, Holiday, Party, Frost modes, can be selected centrally from the Group Control Thermostat. Holiday will also be applied to a timer if applicable. Communication connections (see page 13) are required for grouping the group thermostats. Thermostats can be also globally changed from heating to cooling thermostats if you system supports this by using the switched input connection on the WC (see note 6 from the wiring center installation guide) along with the communications connections mentioned above

Group Thermostat

When configured for Group thermostat (see page 36) and in group mode the group thermostat will follow the time schedule and any override modes of the group thermostat. The Group thermostat can have its own programd temperatures, manual override and also be removed from the group temporarily or permanently. Communication connections required (see page 13).

Timer

When configured to timer (see pages 32 & 34) the unit will operate as a timer with no temp control. This can be used for example hot water control. The timer will also follow Holiday mode from the group control thermostat if applicable, communication connections required for this group function.



System Overview - Cables



Power and Switching Cable — used to power thermostats and drive output





Grouping and Communication cable



While the thermostats can function as stand alone Programmable or Timer's, Installing this Optional inexpensive Communication Cable allows the thermostats to communicate with each other. This allows the thermostats to assume convenient remote control of groups of thermostats. Bringing central control of features such as Time control, Holiday & Party functions as well as frost control. The individual group members can leave or re-enter group control at the push of a button





Communication cable can be used when units are used as individual PRT's for heat/cool changeover. Please refer to page 13 and note 5 on the wiring centre installation guide.



Cable size 1.5mm 3 core for L,N,SL and 0.5mm twin for the communication.



System Overview - Options

The systems below although not exhaustive show the main options. The maximum number of groups per KL10 wiring centre is two. The group selection communication cable must correspond to the group terminals on the KL10 WC. Please refer to note 5 on the KL10 installation guide.

All Digital Variants can be configured from V510. Groups must have a group control thermostat. 1 or 2 Groups can be used per wiring centre. HW Timer can be stand alone or part of a group. If using HW Timer as part of a group it must be in group 1.

Option 1 - Page 0

Option 1 - Unit is configured as individual PRT.



Option 2 - Page 10

Option 2 - Unit is configured as a Group Control Thermostat used to control a group(s) of Dial Stat(s)





Option 3 - Page 10

Option 3 - Unit is configured as a Group Control Thermostat used to control a group(s) of Digital Stat(s) configured as group thermostats.





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System Overview - Grouping and Communication

Option 1 - Page 31

FUNCTION	PRT	USING COMMUNICATION CONNECTION - PRT
Individual Room Control	V	✓
Individual Holiday Function	V	V
Individual Party Function	V	V
Individual Heating Program	V	v
Individual Frost Function	V	~
Group Holiday including HW	×	×
Group Party	×	*
Group Heating Program	×	×
Group Permanent Override	×	×
Group Temporary Override	×	×
Heat/Cool changeover	×	V



Note: The communication connection is only used for heat/cool changeover when using units configured to PRT's and using the relevant connection on the KL10 Wiring Centre. Please refer to note 6 on Wiring Centre installation guide.

System Overview - Grouping and Communication

Option 2 - Page 33 Option 3 - Page 35

FUNCTION	PRT	USING COMMUNICATION CONNECTION - GROUP CONTROL
Individual Room Control	V	~
Individual Holiday Function	V	V
Individual Party Function	V	V
Individual Heating Program	V	v
Individual Frost Function	V	V .
Group Holiday including HW	×	V ()
Group Party	×	~
Group Heating Program	×	V
Group Permanent Override	×	V
Group Temporary Override	×	V
Heat/Cool changeover	×	V



Note HW timer will only use HOLIDAY function when the communication connection is used. Also the HW timer must be connected to GROUP 1 communication terminals on wiring centre. See note 8 on Wiring Centre installation guide.

System Overview - Hot Water Option



When the unit is configured as a hot water timer (see page 34) there are two methods of connecting the cylinder thermostat

Unit configured to Hot Water Timer.





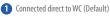
Cylinder thermostat options

- Connected direct to WC (Default)
- Connected direct to VS10 (requires additional parameter change. See page 40)

System Overview - Hot Water Option



For convenience there is a unique built in option allowing the cylinder thermostat to be connected to either the HW Timer or Wiring Centre.





2 Connected direct to VS10 (requires additional parameter change see page 40)





Please refer to note 1 on Wiring Centre guide and page 18 for more information.

Installation — Terminal Connections

Understanding your terminal connections















Sensor Terminals

Can be used for external AIR. Floor sensor when configured as thermostat. Can also be used for Cylinder thermostat when configured for HW.

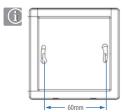
Installation — Thermostat Mounting







Carefully remove the front housing.



Installation — Thermostat Mounting



Mounting position and installation

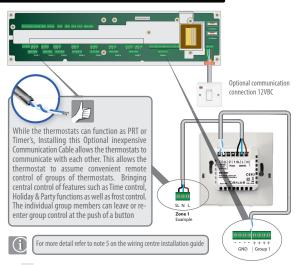
To ensure trouble free operation and efficient control, the unit is best positioned in a draft free area and at 130cm from the floor. Do not position the thermostat near any heat source, behind curtains, direct sunlight or an area of high humidity.





Not to be positioned on an exterior wall.

Installation – Thermostat Connections



Installation – Thermostat External Sensor

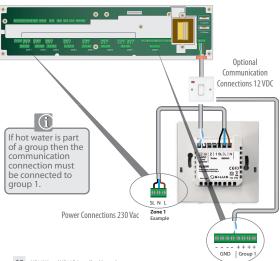


SALUS External sensor (Sold separately)



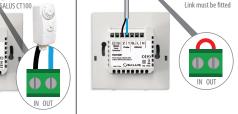
Note: If you are using an external sensor, the unit has to be configured for External Air Sensor or Floor Protection Sensor please see device parameter setting page 40.

Installation — Hot Water Timer wiring



Installation — Hot Water Timer Cylinder Thermostat





WC connected cylinder thermostat (Default)

HW Timer connected cylinder thermostat



Note: The unit can be configured for Cylinder thermostat or connected to the Hot Water Timer. Please see device parameters page 40. For additional Wiring Centre information refer to note 1 on Wiring Centre guide.

Installation – Thermostat Mounting



Check that the wiring is completed for:

- 1 Por
 - **Power Terminals**
- 2 Sensor Terminals (if applicable)
- Communication connections (optional but recommended)



You are ready to secure the rear housing to the wall box



Please use the screws provided



Ensure the orientation arrow is pointing upwards.



Installation — Thermostat Mounting



Fit the front housing to the rear housing



Ensure the pin connections are aligned



Align the front housing at the bottom edge.



Lightly press until you hear a positive click.

ICON	FUNCTION
	BOX means to select the mode e.g. \Longrightarrow means the current setpoint is Hi temp, \Longrightarrow means the Hi temp is not selected.
\	Sunny: Hi comfortable temperature.
كل	Cloudy: Middle comfortable temperature.
0	Moon: Low comfortable temperature.
Α	Programmable thermostat Program mode indicator: Indicates program is running, Auto On or Auto Off. For group thermostat this indicates that it is a member of a group.
I	Party indicator: When Party mode is active.
∳	Vacation indicator: When Vacation mode is active
**	Frost protection indicator: Frost protection is active, not available in cooling mode (if applicable)

ICON	FUNCTION
()	Heat indicator: Indicates heat is required.
*	Cool mode indicator: Indicates cooling is required (if applicable)
88 .8	Temperature indicator: Display the room temperature. Display the set-temp. Also used to show the other information.
E	Temporary manual override indicator: If the set temperature is changed when in program mode, the hand will appear until the next program start time.
12	Programs number indicator: In AUTO program mode or Temporary override is running, it means the current program running.
1234567	Day indication: 1 = Monday

ICON	FUNCTION
7	Hot Water (HW) indicator: Unit has been configured for HW Timer.
111	Hot Water (HW) indicator: Indicates that there is Hot Water demand.
A	HW Program mode indicator: Indicates program is running.
1	HW Mode indicator: Mode for 1 period of HW a day, from Program 1 ON to Program 3 OFF.
ON	HW Mode indicator: Indicates continuously On.
OFF	HW Mode indicator: Indicates continuously Off.
B	HW Mode indicator: Indicates Boost +1hr override.

ICON	FUNCTION
Q	Floor sensor probe indicator Show only when Air + Floor sensor is connected.
1	Low battery indicator: Batteries need to be replaced.
Ö	Setting indicator: Indicate the unit is in setting mode when program setting. Indicate the manual mode.
11 O	Keylock indicator: Shows that keys are inactive.

Installation — User Interface

KEY	FUNCTION
OR >	Increase or decrease setpoint temperature. Increase or decrease Day, Clock, Timer, Party, Holiday and Boost. Select installer parameter value.
< OR >	Mode selection. Long press to return to home display without saving. Short press to return to the previous screen when it is in user/installer setting mode.
√ ∘	OK key: Short press to confirm selection. Long press to save and exit. Long press to enter the user settings.
LONG PRESS	Lock/Unlock
O + C + C	Enter Installer parameter settings
LONG PRESS	Test mode

Installation – First Power Up





Installation — System Parameters

You are now ready to configure the unit using the system parameter table below.



SX	FUNCTION	SYSTEM SETTING	DEFINITION	DEFAULT
S01	System Unit Type	0	Programmable Stat (PRT) Digital Thermostat	0
	туре	2	HW Timer	0
S03	System	0**	PRT only with communication*	
	Communication	1*	Group control thermostat and group thermostat communication	1
		2	No Communication / Grouping required	



*503 setting 1 is used for Control Group options 2 & 3 see pages 33-36, communication connection must be used, global heat/cool changeover is also included if applicable to your system.

**503 setting 0 is used for option 1 (see page 31) when heat/cool changeover is required for individual PRT's, communication connections must be used for this function. 503 setting 0 is only available if setting 0 has been selected for S01. If no heat/cool changeover is required when using PRT's only then select setting 2 for 503

Installation - Options

Option 1 - Page 31

Option 1 - Unit is configured as individual PRT.



Option 2 - Page 33

Option 2 - Unit is configured as a Group Control Thermostat used to control a group(s) of Dial Stat(s)



Group '

Group 2

Ontion 3 - Page 34

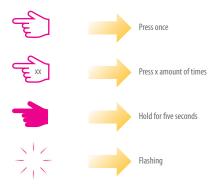
Option 3 - Unit is configured as a Group Control Thermostat used to control a group(s) of Digital Stat(s) configured as group thermostats.



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An additional Hot Water Timer can be used with any of the above options

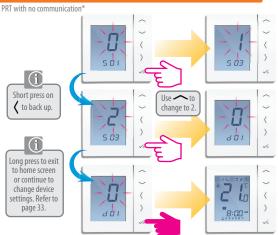
Installation - Graphics Key







Option 1 - Individual Programmable thermostat setup

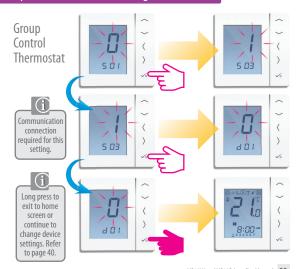


^{*}Select S03 setting 0 if communication is required for global heat/cool changeover. Your system must support this and the communication connection must be used. See page 13.

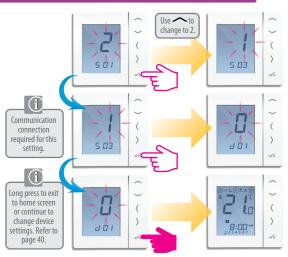
Option 1 - Hot Water Timer (Optional) Configuration

Hot water with no communication Use ~to change to 2. 501 Use ~to change to 2. Long press to exit to home screen or continue to change device settings. Refer to 001 page 40.

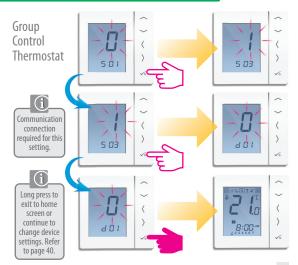
Option 2 - Thermostat Configuration



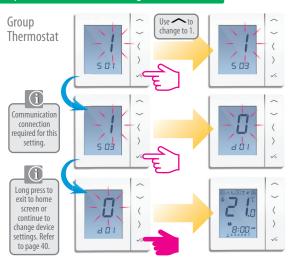
Option 2 - Hot Water Timer (Optional) Configuration



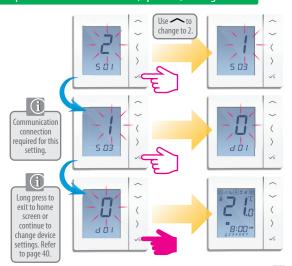
Option 3 - Thermostat Configuration



Option 3 - Thermostat Configuration

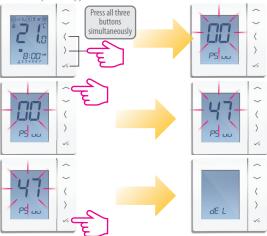


Option 3 - Hot Water Timer (Optional) Configuration

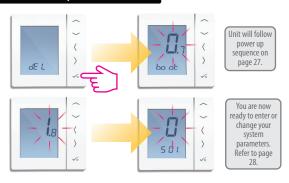


Installation - System Parameters

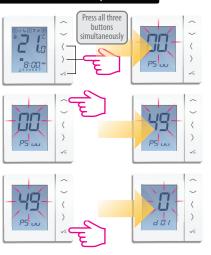
If you have made an error or need to change your system parameters please follow steps below. This should only be done by your installer.



Installation - System Parameters



Installation - Device parameters





Device parameters will follow system parameters on first power up. If you need to change device parameters follow the steps below.

Please note, your system parameters will be shown first but cannot be edited in this section. To change the system parameters please refer to the previous two pages.

Installation - Device Parameters

DX	FUNCTION	SYSTEM SETTING	DEFINITION	DEFAULT
D01	Heating Control	0 1 2	Pulse Width Modulation On-Off 0.5 Deg C +/- 0.25 Deg C On-Off 1.0 Deg C +/- 0.5 Deg C	0
D02	Room Temperature Offset	-3.0 to 3.0 Deg C	Temperature Offset from Measured Temperature to Compensate for any error	0 Deg C
D03	Sensor probe or Cylinder thermostat connection	1	Sensor/Cyl stat not Connected Sensor/Cyl stat Connected	0
D04	Sensor probe used as air sensor or floor sensor	1	D03 must be set to 1 then external sensor be used as Air sensor. There will be no internal temp measurement D03 must be set to 1 then external sensor used for floor protection. Internal temp is measured by stat	0
D05	Cooling Control	1 2	On-Off 0.5 Deg C +/- 0.25 Deg C On-Off 1.0 Deg C +/- 0.5 Deg C	2
D06	Actuator type	0	NO Normally Open NC Normally Closed	1
D07	Valve protection	0	Disable Enable	1

Installation - Device Parameters continued

DX	FUNCTION	SYSTEM SETTING	DEFINITION	DEFAULT
D08	Frost Set point Temperature	5-17 Deg C	Required Temperature for frost protection and holiday mode	5 Deg
D09	Hour Format	0	12 24	1
D10	N/A	N/A	N/A	N/A
D11	Daylight Saving Time (DST)	0	OFF ON	1
D12	Heating Set point Limit	5-35 Deg C	Maximum temp that can be set for heating	35 Deg C
D13	Cooling Set point Limit	5-40 Deg C	Maximum temp that can be set for Cooling	5 Deg C
D14	Floor sensor High Limit Temperature	6-45 Deg C	Output relay will be switched off when temp is reached for floor protection	27 Deg C
D15	Floor sensor Low Limit Temperature	6-45 Deg C	Output relay will be switched on when temp is reached for floor protection	10 Deg C
D16	Floor sensor Limit for cooling	6-45 Deg C	Output relay will be switched off when temp is reached for floor protection	6 Deg C

Installation - Error Codes

Error Code	Prog	Non-Prog	HW
01	Comm Connection link failure	Comm Connection link failure	Comm Connection link failure
02	Comm Connection link failure	Comm Connection link failure	Comm Connection link failure
03	Floor sensor open	Floor sensor open	-
04	Floor sensor short	Floor sensor short	-



If there is more than 1 error, then on Error page, press UP to show other error codes. e.g. Err 03 05 ===> 3 errors Error code 05 (1st one)

Press Up to show Err 03 08 ===> 3 errors Error code 08 (2nd one)

Press Up to snow Err U3 U8 ===> 3 errors Error code U8 (2nd one)

Press Up again to show Err 03 09 ===> 3 errors Error code 09 (3rd one)

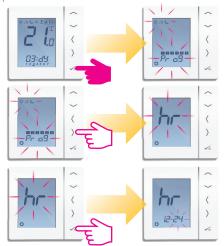
Press Up again to show Err 03 05 again.....

Press OK to exit Error page back to Home display.

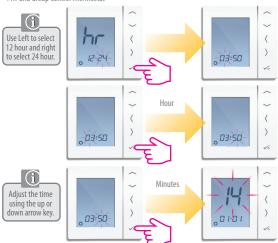


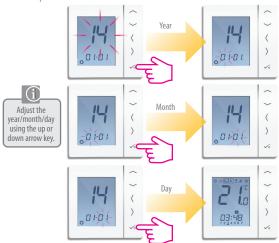
Installation - Technical Detail

Model	VS10W/VS10B
Туре	Electronic programmable room thermostat, digital room thermostat and hot water timer designed for 230V AC applications
Programming Modes	User selectable for 5/2, ALL and Individual day options
Program Number	1-6 Selectable
Modes	Party, Vacation, Program and Frost
Override	Permanent and temporary
Frost Protection	5°C Adjustable
Power Source	230V AC 50Hz
Rating	3 Amp
Communication Bus	12V DC
Temperature Scale	5 to 35°C, tolerance 0.5°C
Heat/Cool	Global changeover using communication bus and external input to the wiring centre
Sensor	Air or floor protection. Cylinder thermostat when configured for hot water timer.
Device Parameters	See page xx for full list of functions
Operating Temperature	0 to 50°C
Storage Temperature	-20 to 60°C



User Guide – Setting time and date





User Guide - Understanding Temperature Levels Heating

PRT, Group Control Thermostat and Group Thermostat



Highest Temperature typically used for early morning and early evening.

Typically 21 Deg C



Mid Temperature typically used for times of day when you are active around the home **Typically 19 Deg C**



Lower Temperature typically used for unoccupied or sleep times. Typically 17 Deg C for UFH or 15 Deg C for radiators



Frost Temperature typically used for Periods of long absence or holidays. **Typically 5 Deg**



Your thermostat comes preset for the above temperatures. These can be adjusted please see page 53 PRT, Group Control Thermostat and Group Thermostat



Cooling is only available if your system supports this and the relevant configurations and connections have been made to the unit.



Occupied Temperature, Typically 22°C



Unoccupied Temperature Typically 40°C This avoids cooling being active when the property is unoccupied.



Evening Temperature Typically 24°C

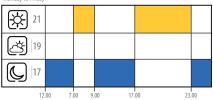


Your thermostat comes preset for the above temperatures. These can be adjusted please see page 53

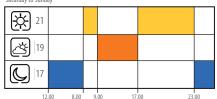
User Guide - Default Heating Schedule

PRT and Group Control Thermostat





Saturday to Sunday



If using grouping, the schedule from the group control thermostat will be applied to group members.

User Guide - Default Cooling Schedule

PRT and Group Control Thermostat



Saturday to Sunday

12.00

7.00 9.00

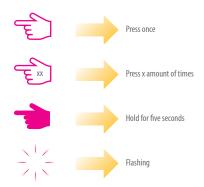


17.00

(i

If using grouping, the schedule from the group control thermostat will be applied to group members.

23.00







PRT, Group Control Thermostat and Group Thermostat

Setting the low temperature



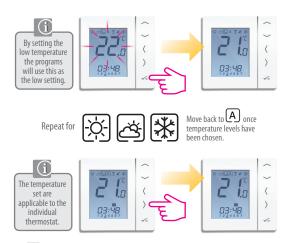


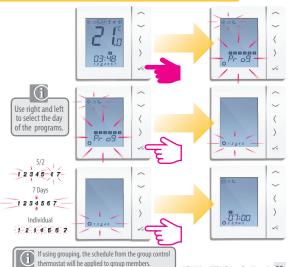




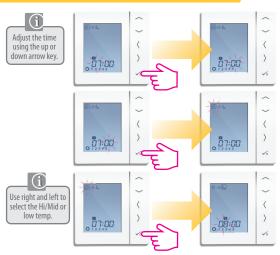
User Guide - Setting required temp levels

PRT, Group Control Thermostat and Group Thermostat





User Guide — Setting the Temperature Schedule





Repeat through to program 4. If you require a 5th or 6th program enter a time and select your temperature - 🖰 - 🛎 📞



To remove a program out set the time to --:--.



When you set the 🔆 🕳 temperature the schedule will respond to those temperatures see page 53 on how to change - C - C - C

User Guide - Temporary Override

PRT, Group Control Thermostat and Group Thermostat



Use the up or down arrow key to view your program set temperature.







The temporary override is applicable to the thermostat being changed only.



Temporary override allows you to increase the temperature or decrease it to the desired setting until it reverts back on the next program time.

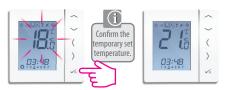


Use the up or down arrow key to adjust the temperature to the setting you desire.

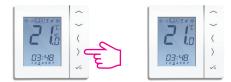




PRT, Group Control Thermostat and Group Thermostat







PRT and Group Control Thermostat

Setting permanent low temperature









Use the up or down arrow key to view your set temperature. See page 58.



Permanent override in a control group thermostat will also affect the group thermostats onless they are removed from the group. See page 64.







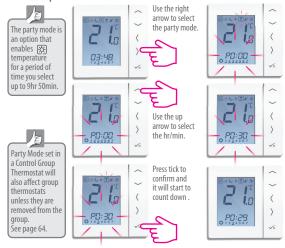


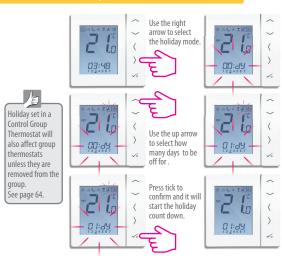


To adjust your permanent override temperature, follow the steps on page 58.

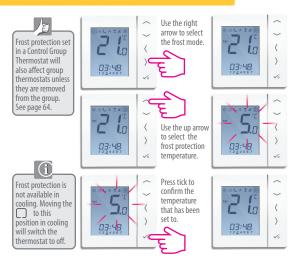


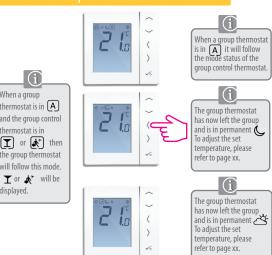
User Guide - Party Mode





User Guide - Frost Protection





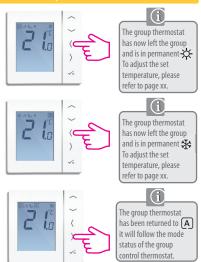
When a group thermostat is in (A)

thermostat is in

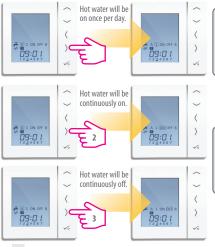
and the group control

the group thermostat

will follow this mode. **T** or ♣ will be displayed.



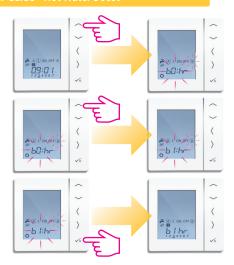
Mode selection



When A is selected, the hot water timer will follow the program schedule. See page 68.

Hot water will follow Holiday mode from the group control thermostat.

will be displayed.

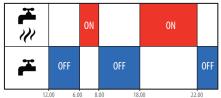


User Guide - Default Hot Water Schedule

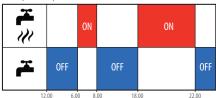


Your hot water timer comes preset with the times below. These can be adjusted. See next page.

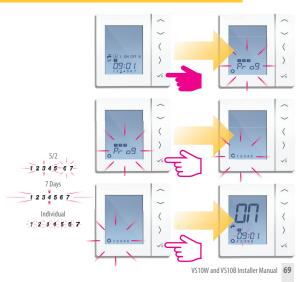
Monday to Friday



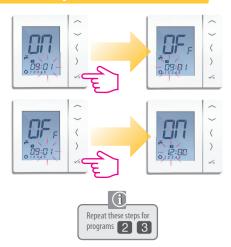
Saturday and Sunday

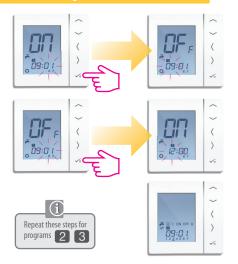


User Guide - Setting Hot Water Times



User Guide - Setting Hot Water Times





Installer Notes
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Installer Notes

Warranty

SALUS Controls warrants that this product will be free from any defect in materials or workmanship, and shall perform in accordance with its specification, for a period of five years from the date of installation. SALUS Controls sole liability for breach of this warranty will be (at its option) to repair or replace the defective product.

Customer Name:
Customer Address:
Post Code:
Tel No: Email:
Engineers Company:
Tel No: Email:
Instalation Date:
Engineers Name:
Engineers Signature:

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Maintaining a policy of continuous product development SALUS Controls plc reserve the right to change specification, design and materials of products listed in this brochure without prior notice.

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