4 in 1 Digital Thermostat Control Models: VS10W and VS10B





INSTALLER / USER MANUAL

Contents

Contents

Box contents Introduction Product Compliance System options overview Installation Parameter Settings Error Codes User Guide Installers notes Warranty

Box Contents



1 x Installer / User manual

Fixing screws

Icons used in this manual:



Important info

Your benefit

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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 VSOS 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.





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 center 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 thermostat 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.

Option 1 - Page 09

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.



All Digital Variants can be configured from VS10. 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.

System Overview - Grouping and Communication

Option 1 - Page 31

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



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	 ✓ 	 ✓
Individual Holiday Function	V	V
Individual Party Function	 ✓ 	V
Individual Heating Program	~	×
Individual Frost Function	V	
Group Holiday including HW	×	
Group Party	×	
Group Heating Program	×	V
Group Permanent Override	×	 ✓
Group Temporary Override	×	 ✓
Heat/Cool changeover	×	 ✓

i

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





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.









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

Installation – Terminal Connections

Understanding your terminal connections









Communication Terms 12VDC Two wire twisted pair can be used for Grouping Functions between PRT, Group Control Thermostat, Group Thermostat and HW Timer.

Power Terminals 230 Vac Used for supplying power to the unit and switched output.

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.



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 connect

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.

Link must be fitted

IN OUT

Installation – Thermostat Mounting







- Sensor Terminals (if applicable)
- Communication connections (optional but recommended)



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







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 p	ositive	e click.	

ICON	FUNCTION
	BOX means to select the mode e.g. ☆ means the current setpoint is Hi temp, ☆ means the Hi temp is not selected.
-ċċ-	Sunny: Hi comfortable temperature.
්	Cloudy: Middle comfortable temperature.
C	Moon: Low comfortable temperature.
А	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.
T	Party indicator: When Party mode is active.
Å ,→	Vacation indicator: When Vacation mode is active
**	Frost protection indicator: Frost protection is active, not available in cooling mode (if applicable)

ICON	FUNCTION
۵	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.
Fill	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
	Hot Water (HW) indicator: Unit has been configured for HW Timer.
11	Hot Water (HW) indicator: Indicates that there is Hot Water demand.
Ā	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.
	Low battery indicator: Batteries need to be replaced.
Q	Setting indicator: Indicate the unit is in setting mode when program setting. Indicate the manual mode.
n 0	Keylock indicator: Shows that keys are inactive.

Installation – User Interface

KEY	FUNCTION
R	 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.
√0	 OK key: Short press to confirm selection. Long press to save and exit. Long press to enter the user settings.
LONG PRESS	Lock/Unlock
\sim + $<$ + $>$ LONG PRESS	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	0	Programmable Stat (PRT)	
	Туре	1	Digital Thermostat	0
		2	HW Timer	
S03	System	0**	PRT only with communication*	
	Communication	1*	Group control thermostat and	1
			group thermostat communication	1
		2	No Communication /	
			Grouping required	

*S03 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)



Option 3 - Page 35

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



Installation - Graphics Key



Option 1 - Individual Programmable thermostat setup

PRT with no communication*



*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.

VS10W and VS10B Installer Manual 31

Option 1 - Hot Water Timer (Optional) Configuration

Hot water with no communication.



Option 2 - Thermostat Configuration



Option 2 - Hot Water Timer (Optional) Configuration



Option 3 - Thermostat Configuration



SYSTEM OPTION 3

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	0 1	Sensor/Cyl stat not Connected Sensor/Cyl stat Connected	0
D04	Sensor probe used as air sensor or floor sensor	0	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 1	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 1	12 24	1
D10	N/A	N/A	N/A	N/A
D11	Daylight Saving Time (DST)	0 1	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 erros Error code 05 (1 st one) Press Up again to show Err 03 08 ===> 3 erros Error code 08 (2nd one) Press Up again to show Err 03 09 ===> 3 erros 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 - Setting time and date



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



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

User Guide - Understanding Temperature Levels Cooling

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

JSER GUIDE

User Guide - Default Heating Schedule

PRT and Group Control Thermostat

Monday to Friday



User Guide - Default Cooling Schedule

PRT and Group Control Thermostat

Monday to Friday



User Guide - Graphics Key



User Guide - Setting required temp levels

PRT, Group Control Thermostat and Group Thermostat

Setting the low temperature

thermostat.



User Guide - Setting required temp levels

PRT, Group Control Thermostat and Group Thermostat



User Guide – Setting the Temperature Schedule



User Guide – Setting the Temperature Schedule



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 --:--.



User Guide - Temporary Override

PRT, Group Control Thermostat and Group Thermostat



User Guide - Temporary Override

PRT, Group Control Thermostat and Group Thermostat







User Guide - Permanent Override

PRT and Group Control Thermostat

Setting permanent low temperature



User Guide - Party Mode



User Guide - Holiday Mode



User Guide - Frost Protection



User Guide - Group Thermostat Overview



User Guide - Group Thermostat Overview



User Guide - Hot Water (Optional) Mode Selection

Mode selection



User Guide - Hot Water Boost



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



User Guide - Setting Hot Water Times



Installer Notes

Installer Notes

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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