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1. Introduction

1.1 Product Compliance

This product complies with the essential requirements and other relevant provisions of Directives 2014/53/EU and 2011/65/EU. The full text of the EU Declaration of Conformity is available at the following internet address: www.saluslegal.com.

1.2 Safety Informations

- Before starting installation work and before using the product, read the entire manual.
- The information contained in the instructions is essential for proper functioning.
- To avoid accidents resulting in personal injury and material damage, please follow all safety precautions, specified in this manual.
- The device should not be used by people with limited mental, sensory or mental abilities, without experience, of insufficient knowledge as well as children.
- Do not use an unassembled device (eg without a cover).
- The device may only be opened by a qualified person.
- Keep electrical devices out of the reach of children and ensure that they do not play with it. Children should not be left unattended. If necessary, disconnect the control system for the entire room.
- Do not leave the packaging, cabinet, or any loose parts of the device unattended, as they pose a risk to children.

WARNING!

- Installation must be carried out by a qualified person with appropriate electrical qualifications in accordance with standards and regulations in force in the given country and in the EU.
- Never try to connect the device other than as described in the manual.
- Before assembly, repair or maintenance as well as during any connection works it is absolutely necessary disconnect the mains supply and make sure that the terminals and electric wires are not live.
- The device may not be exposed to extreme temperatures, strong vibrations or subjected to mechanical shock.
- The device should not be used in unfavorable environmental conditions or in rooms where there is a concentration of flammable gases, fumes or dust.

WARNING!

- There may be additional protection requirements for the entire installation that the installer is responsible for maintaining.

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Care for the natural environment is of paramount importance to us. The awareness that we manufacture electronic devices obliges us to dispose of used electronic components and devices safely. Therefore the company has received a registration number issued by the Chief Inspector for Environmental Protection. The crossed out symbol the trash can on the product means that the product must not be disposed of with ordinary waste containers. Sorting waste for recycling helps to protect the environment. It is the user’s responsibility to surrender used equipment to a designated collection point for recycling waste from electrical and electronic equipment.
1.3 Product Overview

The VS35W/VS35B from SALUS Controls is a digital, wired and flush-mounted non programmable room thermostat, dedicated for surface heating / cooling control, characterized by high thermal inertia. It is connected to the wiring centre. The thermostat does not have the function of creating schedules - it lowers the set temperature via wiring centre after receiving the NSB signal from the weekly thermostat.

The room thermostat works by turning the heating system on and off as needed by measuring the air temperature. When the air temperature drops below the thermostat setting, it turns on the heating, and turns it off when the set temperature is reached.

Setting the thermostat to a higher temperature will not heat up the room faster. How quickly a room heats up depends on the designed heating system, for example the temperature of the heating medium. Likewise, reducing the temperature even more while cooling the room will not result in faster cooling.

By setting the thermostat to a lower setpoint, the room will be controlled at a lower temperature and will save energy.

The best way to find the temperature that is right for you is to set the room thermostat to a low temperature value - let's say 18°C - and then increase it one degree each day until you are comfortable.

Room thermostats need free airflow to sense the temperature and therefore must not be obstructed by curtains or obstructed by furniture. Nearby electrical heating devices, televisions, wall or table lamps, fireplaces or heaters may prevent the correct temperature measurement and thus the correct operation of the thermostat.

PRODUCT ADVANTAGES:

- has a PWM control algorithm
- protection against too high or too low temperature using an additional FS300 floor sensor
- valve protection function
- an input for the additional floor sensor
- working with actuators of both types - NC and NO
- mounting in a φ 60 mm wall box
2. Montage

2.1 Package content

1) VS35W/VS35B thermostat
2) Short instruction
3) Mounting screws

2.2 Proper thermostat location

⚠️ Please note:
The ideal position to thermostat mounting is about 1.5m under floor level far from heating or cooling sources. Thermostat can’t be exposed to sunlight or any extreme conditions like for example draft.

Because of fire and explosion risk there is not allowed to use thermostat in atmosphere of explosive gases and flammable liquids (eg coal dust). In case if any of listed dangers occur you have to use additional protection measures — anti-dust and explosive gases (tight cover) or prevent their formation. Furthermore, thermostat can’t be used in condensation of water vapor conditions and be exposed to water action.

2.3 Wall mounting

Mounting: to mount thermostat you can use accesories included with the set (mounting screws). Remove back cover to mount the plate to the wall. After this just attach thermostat to the plate right into designed holes in the plate. The VS35 thermostat has been designed for flush mounting in a standard electrical box with a diameter of 60 mm.
2.4 Connection description

Legend:

- **T30NC** - Thermal actuator

Symbols explanation:

- **L, N** - power supply 230V
- **- NSB** - Night temperature reduction (230V output)
- **- SL** - 230 V AC input signal
- **S1, S2** - additional temperature sensor eg. FS300
VS35W/VS35B works mainly as a SLAVE thermostat (group thermostat) which means that it can be controlled by a MASTER thermostat e.g. VS30W/VS30B. MASTER thermostat controls SLAVE thermostat only when SLAVE thermostat is in AUTO mode. Comfort (SUN) and economy (MOON) setpoint temperatures are set individually on each thermostat but switching between those temperatures is based on time schedule taken from VS30W/VS30B thermostat which works like a group controller. Functions such as: setpoint temperature change or frost protection mode are not managed by MASTER thermostat.
Legend:

- **Symbols explanation:**
  - L, N: power supply 230V
  - SL: 230 V AC actuator control signal
  - Fuse
  - Boiler: Boiler connection* (according to the boiler’s instructions)
  - T30NC: Thermal actuator
  - Pump
  - Boiler’s contacts for ON/OFF thermostat

- **Boiler - Boiler connection**: (230V output - in MASTER thermostat)
  (230V input - in SLAVE thermostat)

- **SLAVE**

- **MASTER**

- **1-8 Zones**

- **max 6 per zone**

- **e.g.**
  - VS30W/VS30B or VS35W/VS35B

- **Note:**
  - The diagram illustrates the connection and control signals for the SLAVE and MASTER thermostats, including power supply, actuator control, and boiler connections. The legend provides a key to understanding the symbols used in the diagram.
I B - 4 wire installation with KL06 wiring centre

**Power Supply**
230V AC

**Actuators wires**
2 x 0.75 mm²

**Pump control wires**
2 x 1 mm²

**Boiler control wires**
2 x 1 mm²

**KL06**

**MASTER**
- e.g. VS30W/VS30B

**SLAVE**
- VS35W/VS35B
- VS35W/VS35B

**T30NC230**

**THB23030**

**PUMP (optional)**

**BOILER**
Legend:

 Boiler - Boiler connection* - Boiler’s contacts for ON/OFF thermostat (according to the boiler’s instructions)

 Pump

 T30NC - Thermal actuator

 Symbols explanation:

 L, N - power supply 230V

 - NSB - night temperature reduction (230V output - in MASTER thermostat) (230V input - in SLAVE thermostat)

 - SL - 230 V AC actuator control signal

 NC, NO - voltage-free output

 - fuse
II - 3 wire installation with KL08NSB wiring centre

3 wire installation with KL08NSB wiring center. Description of the operation rule:
- VS35W/VS35B thermostat’s functionality is limited because of 3 wire installation. NSB function is disabled and VS35W/VS35B thermostat doesn’t work as a SLAVE group thermostat - no effect from potential MASTER thermostat, which means that it can be just a simple pump, boiler or actuator controller).

PLEASE NOTE!
The same operating rules apply to wiring center KL06.
**Legend:**

- **Boiler - Boiler connection** - Boiler's contacts for ON/OFF thermostat (according to the boiler’s instructions)
- **Pump**
- **T30NC** - Thermal actuator

**Symbols explanation:**

- **L, N** - power supply 230V
- **NSB** - Night temperature reduction (230V output)**
- **SL** - 230 V AC actuator control signal
- **-** - fuse

**- not used in 3 wire installation**
### III A - work with RM-16A relay module - heating source control

Connection of a 230 V AC voltage thermostat to a boiler (or other device) with an ON - OFF contact.

### III B - work with RM-16A relay module - connection to a solid fuel boiler controller

Connection of a 230 V AC voltage thermostat to a solid fuel boiler controller with an ON - OFF contact.

⚠️ **PLEASE NOTE!** Activate the thermostat in the solid fuel boiler controller.
III C - work with RM-16A relay module - connecting an electrical device with a higher power than the thermostat relay allows

**PLEASE NOTE!** The maximum current consumption of an electrical device shouldn't exceed 16A.

Symbols explanation:

- L, N - power supply 230V
- SL - 230 V AC actuator control signal
- NO, COM, NC - voltage-free output
- - fuse
3. Before you start (first power up)

3.1 LCD icon description

PLEASE NOTE!
The LCD screen can be activated by using any button.

3.2 Button description

<table>
<thead>
<tr>
<th>Button Description</th>
<th>Function</th>
</tr>
</thead>
</table>
| ▲ OR ▼ | 1. Increase or decrease setpoint temperature.  
2. Increase or decrease Day, Clock, Timer, Party and Holiday.  
3. Select installer parameter value. |
| < OR > | 1. Mode selection.  
2. Moving between parameters. |
| ✔ | 1. OK key: Short press to confirm selection.  
2. Long press to save and exit.  
3. When Main Screen – long press to enter the user settings. |
| ➞ + ➖ | Hold down these buttons to lock or unlock the keyboard. |
| ✔ + < > | Hold down these buttons to enter installer parameter settings. |
3.3 First power up sequence

1. To power on the thermostat you have to connect it to the 230V power supply then...

2. ...display will show all icons...

3. ...then thermostat will display the software version.

4. After all, the main screen will be displayed.
4. Work modes

VS35W/VS35B offers a few work modes. Frame on a given icon indicates which mode is currently active. In manual mode, only one temperature level is maintained. VS35W/VS35B follows MASTER thermostat when AUTO mode is active (‘A’ icon) - please refer to 2.5 connection description chapter. Detailed description of work modes is located below:

- **Frame** - means that the work mode is active (the icon of the work mode must be in the center of the frame). For example:
  - means that comfort temperature mode is active
  - means that comfort temperature mode is inactive

- **Comfort temperature mode** - pre-defined setpoint temperature. Usually set when we are indoors. The highest maintained temperature in heating mode or the lowest if thermostat works in the cooling system. Acting alone works as a manual mode. Temperature range: from 5°C to 35°C.

- **Standard temperature mode** - pre-defined setpoint temperature. Usually set during the day when we are around the house. Acting alone works as a manual mode.

- **Economic temperature mode** - pre-defined setpoint temperature. Usually set at night or when we are out of the house. Acting alone works as a manual mode. Temperature range: from 5°C to 35°C.

- **Automatic mode temperature (schedule)** - follows MASTER thermostat. It adopts it’s mode. You can override the auto mode by changing the temperature setpoint. - the hand icon will appear.

- **Frost protection mode** - usually used during extended periods of absence or during the holidays (only available in heating mode). Temperature range: from 5°C to 17°C.

**Example - comfort temperature mode setpoint editing:**

1. Use **or** buttons to switch between work modes. Choose **in this case.
2. Use **or** buttons set temperature setpoint.
3. Confirm by **button.
4. Thermostat will go back to the main screen after saving the settings.
5. User settings (basic settings)

5.1 Thermostat calibration

Thermostat calibration is a function which allows user to recalibrate internal thermostat’s temperature sensor by a given number of degrees (in the range from -3.0 °C to 3.0 °C in 0.5 °C steps). To calibrate thermostat’s temperature sensor please follow steps below:

1. Hold ✅ button for 3 seconds to enter the menu.

2. Confirm by ✅ button.

3. Set temperature calibration value using ✅ and ✅ buttons.

4. To increase/decrease value use ✅ and ✅ buttons.

5. Confirm by ✅ button.

6. Thermostat will go back to the main screen after saving the settings.
5.2 Heat/cool mode change

The heating / cooling mode for the thermostat can be changed manually.

1. Hold button for 3 seconds to enter the menu.

2. Use button to go to Heating/ Cooling choice screen.

3. Enter menu by button, choose Heating/Cooling mode using button and confirm selection by „OK“ button.

4. Thermostat will go back to the main screen after saving the settings.
6. Installer parameters

To enter installer parameters please follow steps below. Please refer to parameters table description before any changes. Use \( \lor \) or \( \land \) buttons to move up or down between all parameters. Every change/selection confirm by \( \rightarrow \) button:

1. Hold \( \lor + \( \rightarrow \) \) buttons for 5 seconds to enter the installer mode.

2. Use \( \lor \) or \( \land \) to choose code „49“.

3. Press \( \lor \) button to confirm.

4. Select installer parameter by \( \lor \) or \( \rightarrow \) buttons. Use \( \lor \) or \( \land \) buttons to change parameter value. Confirm choice by \( \rightarrow \) button.

<table>
<thead>
<tr>
<th>dXX</th>
<th>Function</th>
<th>Parameter Values</th>
<th>Description</th>
<th>Default Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>This parameter defines the algorithm of the room temperature control.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PWM (Pulse-width modulation) algorithm ensures reduction of overdrive states and economic operation of the system. It is an advanced algorithm designed to precisely maintain room temperature.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Control method temperature</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>SPAN ± 0.5°C (± 1°F)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>SPAN ± 1°C (± 1.5°F)</td>
<td></td>
</tr>
<tr>
<td>d01</td>
<td>Offset temperature</td>
<td>-3.0°C to + 3.0°C</td>
<td>Offset room temperature measuring is a function which allows user to recalibrate internal thermostat’s temperature sensor by a given number of degrees (in the range from -3.0°C to 3.0°C in 0.5°C steps).</td>
<td>0.0°C</td>
</tr>
<tr>
<td></td>
<td>Using a floor temperature sensor</td>
<td>0</td>
<td>No sensor</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(S1, S2)</td>
<td>1</td>
<td>Sensor is connected</td>
<td></td>
</tr>
<tr>
<td>dXX</td>
<td>Function</td>
<td>Parameter Values</td>
<td>Description</td>
<td>Default Values</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>-----------------</td>
<td>-------------</td>
<td>---------------</td>
</tr>
<tr>
<td>d04</td>
<td>External sensor used for air or floor temperature measurement (Function is active, when d03=1)</td>
<td>0</td>
<td>Thermostat measures the temperature only on the external sensor</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>The sensor is used as a protection against overheating the floor</td>
<td></td>
</tr>
<tr>
<td>d05</td>
<td>Cooling mode control method</td>
<td>1</td>
<td>Span ±0.5°C</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>Span ±1.0°C</td>
<td></td>
</tr>
<tr>
<td>d06</td>
<td>Type of thermoelectric actuator</td>
<td>0</td>
<td>NO - normally open</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>NC - normally closed</td>
<td></td>
</tr>
<tr>
<td>d07</td>
<td>Valve Protection</td>
<td>0</td>
<td>Enable/Disable. Valve protection function is intended to protect thermostatic valves against getting stuck or jamming (e.g. in summer time when heating system is disabled). If thermostat doesn’t send a signal for heating for a period of 7 days, then heating is turned on for a very short period of time just to move the actuators.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d08</td>
<td>Frost protection temperature</td>
<td>5°C - 17°C</td>
<td>In Frost protection mode the thermostat is displaying actual room temperature and maintain „frost protection” setpoint temperature specified in thermostat settings. When thermostat works in Frost protection mode then you have no possibilities to change temperature setpoint.</td>
<td>5.0°C</td>
</tr>
<tr>
<td>d12</td>
<td>Heating temperature limit</td>
<td>5°C - 35°C</td>
<td>The maximum heating temperature that can be set by the user</td>
<td>35°C</td>
</tr>
<tr>
<td>d13</td>
<td>Cooling temperature limit</td>
<td>5°C - 40°C</td>
<td>The minimum cooling temperature that can be set by the user</td>
<td>5°C</td>
</tr>
<tr>
<td>d14</td>
<td>Maximum floor temperature (this function is active in heating mode when d04 = 1)</td>
<td>6-45°C</td>
<td>In order to protect the floor from overheating, heating will be turned OFF, when the maximum temperature of the floor sensor will be reached</td>
<td>27°C</td>
</tr>
<tr>
<td>d15</td>
<td>Minimum floor temperature (this function is active in heating mode when d04 = 1)</td>
<td>6-45°C</td>
<td>In order to protect the floor, heating will be turned ON, when the minimum temperature of the floor sensor will be reached</td>
<td>10°C</td>
</tr>
<tr>
<td>d16</td>
<td>Lower floor temperature limit for cooling (this function is active when d04 = 1)</td>
<td>6-45°C</td>
<td>In order to protect the floor, cooling will be turned OFF, when the minimum temperature will be reached</td>
<td>6°C</td>
</tr>
<tr>
<td>d18</td>
<td>Operating mode HEATING / COOLING</td>
<td>0</td>
<td>Heating system</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Cooling system</td>
<td></td>
</tr>
</tbody>
</table>
### 7. Factory Reset

To **RESET** VS35W/VS35B thermostat to its factory default settings please follow steps below:

1. Hold + buttons for 5 seconds to enter the installer mode.
2. Use or buttons to choose code „47“.
3. Press button to confirm.
4. Select „del“ and confirm choice by pressing button.
5. Wait few moments to finish factory reset procedure...
6. ...thermostat will display the software version...
7. ...after all - main screen will appear. Thermostat has been successfully reseted.
8. Error codes

Thermostat constantly monitors the operation of connected sensors. If it detects any failure then following error codes can be displayed.

<table>
<thead>
<tr>
<th>Error code</th>
<th>ERROR DESCRIPTION</th>
<th>TROUBLESHOOTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Err02</td>
<td>The maximum / minimum floor temperature has been exceeded</td>
<td>• Set the heating / cooling medium temperature or change D14 / D15 parameter.</td>
</tr>
<tr>
<td>Err03</td>
<td>Floor sensor is faulty</td>
<td>• If floor sensor is connected to S1/S2 input, check the wiring.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If floor sensor is not connected, check the D03/D04 parameters settings.</td>
</tr>
<tr>
<td>Err04</td>
<td>Floor sensor is shorted</td>
<td>• Check floor sensor wire insulation for any damages. Sensor resistance for 25°C=10kΩ.</td>
</tr>
</tbody>
</table>
9. Cleaning and Maintenance

The **VS35W/VS35B thermostat** requires no special maintenance. Periodically, the outer casing can be wiped clean using a dry cloth (please DO NOT use solvents, polishes, detergents or abrasive cleaners, as these can damage the thermostat). There are no user serviceable parts within the unit; any servicing or repairs could only be carried out by **Salus Controls** or their appointed agents.

10. Technical Informations

<table>
<thead>
<tr>
<th>Power supply</th>
<th>230 V AC 50 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating max</td>
<td>3 A</td>
</tr>
<tr>
<td>Switched output</td>
<td>230 V AC 50 Hz</td>
</tr>
<tr>
<td>Temperature range</td>
<td>5°C – 35°C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>86mm x 86mm x 42mm</td>
</tr>
</tbody>
</table>
11. 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.
DISTRIBUTOR OF SALUS CONTROLS:
QL CONTROLS Sp. z o.o., Sp. k.
Rolna 4,
43-262 Kobielice,
Poland

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United Kingdom

www.salus-controls.com

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