SALUS®
CONTROLS

Wired Digital Thermostat
Model: AHTR5024

INSTALLER MANUAL

Contents of the box

Icons used in this manual:

⚠️ Safety

ℹ️ Important info

👍 Your benefit

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AHTR5024 Thermostat

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Product Compliance and Safety Info

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Product Compliance and Safety Info Continued

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Product Compliance and Safety Info Continued

⚠️ Safety Information

Use in compliance with safety regulations. The unit is to be used for the control of room temperature inside the house.

⚠️ Installation

This accessory 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 relevant standards could lead to prosecution.

Product Description

Thank you for purchasing the SALUS AHTR5024 Thermostat. This thermostat is a device that lets you customize the heating and cooling of your home as needed.

The AHTR5024 device from SALUS North America is a stylish and accurate digital room thermostat that is fitted with a large easy to read LCD screen and one touch buttons. You can now simply adjust your home temperature as desired in order to create a comfortable home environment.

We hope you enjoy our product.

Installing the unit

Install the AHTR5024 digital room thermostat roughly about 1.5m above floor level. It should be mounted in a location where the thermostat is easily accessible and away from direct sunlight. You can mount the thermostat directly on the wall or you can install it on top of a wall-box.

1. Mounting the Thermostat
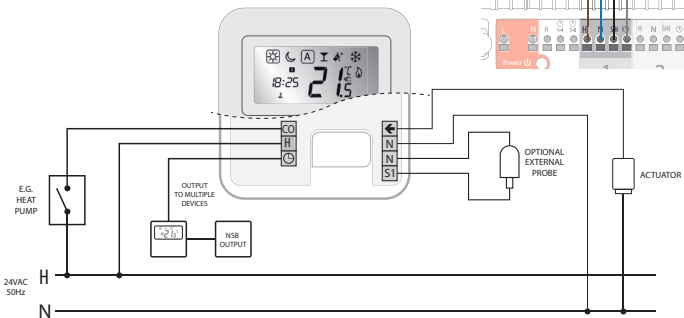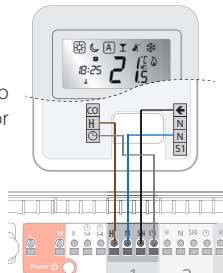

Gently remove front housing.

Without floor sensor

With floor sensor

2. Terminal Connection

Note: You can wire the thermostat directly to the AKL08 wiring centre or to an actuator (purchased separately).

E.G. HEAT PUMP

OUTPUT TO MULTIPLE DEVICES

NSB OUTPUT

OPTIONAL EXTERNAL PROBE

ACTUATOR

24VAC 50Hz

H

N

3. Thermostat Icons

☐	BOX means to select mode. e.g. ☀ means Hi temp is selected ☀ means the Hi temp is not selected.
☀	Sunny: Hi comfortable temperature
☽	Moon: Low comfortable temperature
A	Indicates AUTO ON or AUTO OFF
🍸	Indicates that the Party Mode is active
🏃	Indicates that the Holiday Mode is ON.
❄	Frost Protection Indicator: Frost protection is active, not available in cooling mode.
🔥	Heat Mode indicator: Indicates heating is running

☼	Cool Mode indicator: The icon is flashing when cooling mode is active
88.8 ℃	Temperature indicator • Display the room temperature • Display the set temp
⬱	Temporary override indicator: The hand will appear until the next programs starting time.
1 2 3 4 5 6	Programs number indicator.
88:88 AM PM	Indicates the time.
1 2 3 4 5 6 7	Indicates the the day of the week

5. Button Functions

Note: LCD backlight is activated by pressing any key.

<	Mode selection. Long press to return home without saving.
✓	OK key. Short press to confirm selection. Long press to save and return home. Long press to enter Temperature offset Heat/Cool.
⌄ OR ⌃	Decrease or increase Setpoint Temperature.

Note: For changing the temperature display from °C to °F , go to Installer Mode Menu and change d00 value to 1.

6. Setting Date and Time

When you first power up your device you will have to set up the date and time.

❶

❷
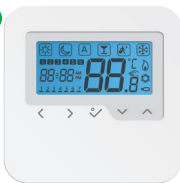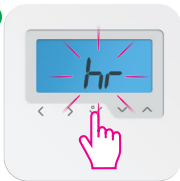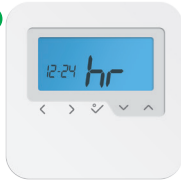
❸ Press ✓ to confirm.

❹ Press ‹ or › to choose 12/24 hr then press ✓ to confirm.

6. Setting Date and Time

Set the hour by using ⌄ or ⌃

Set the minutes by using ⌄ or ⌃. Press ✓ to confirm.

Set the date using the ⌄ or ⌃. Press ✓ to confirm.
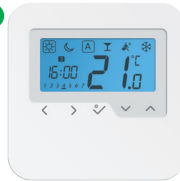
Note: You can access the date and hour by long pressing ✓. After that press ›
and ✓ to confirm.

7. Setting Your Programs

You can customise your programs by long pressing ✔ when on the program screen.

1
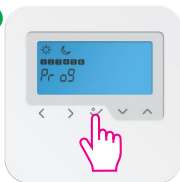
2

3

Set the hour using ⌄ or ⌃. Press ✔ to confirm. Repeat the procedure for setting the minutes.

4

Select the desired program ☀ or ☾ by pressing ‹ or ›. Press ✔ to confirm.

Note: If you want to select another Program Profile (from the available 5), please enter in Installer Mode, choose option d17 and after that select the desired program.

7. Setting Your Programs

You can select and customise any of the following programs:

Program Profile 1

5 days (Monday to Friday)			
Program	Program Time	Heat set point	Cool set point
1	6:00	Sunny	Sunny
2	9:00	Moon	Moon
3	16:00	Sunny	Sunny
4	23:00	Moon	Moon
5	--:--	--:--	--:--
6	--:--	--:--	--:--

2 days (Saturday to Sunday)			
Program	Program Time	Heat set point	Cool set point
1	7:00	Sunny	Sunny
2	23:00	Moon	Moon
3	--:--	--:--	--:--
4	--:--	--:--	--:--
5	--:--	--:--	--:--
6	--:--	--:--	--:--

7. Setting Your Programs

Program Profile 2

5 days (Monday to Friday)			
Program	Program Time	Heat set point	Cool set point
1	6:00	Sunny	Sunny
2	22:30	Moon	Moon
3	--:--	--:--	--:--
4	--:--	--:--	--:--
5	--:--	--:--	--:--
6	--:--	--:--	--:--

2 days (Saturday to Sunday)			
Program	Program Time	Heat set point	Cool set point
1	7:00	Sunny	Sunny
2	23:00	Moon	Moon
3	--:--	--:--	--:--
4	--:--	--:--	--:--
5	--:--	--:--	--:--
6	--:--	--:--	--:--

7. Setting Your Programs

Program Profile 3

5 days (Monday to Friday)			
Program	Program Time	Heat set point	Cool set point
1	5:00	Sunny	Sunny
2	8:00	Moon	Moon
3	14:00	Sunny	Sunny
4	22:00	Moon	Moon
5	--:--	--:--	--:--
6	--:--	--:--	--:--

2 days (Saturday to Sunday)			
Program	Program Time	Heat set point	Cool set point
1	7:30	Sunny	Sunny
2	22:30	Moon	Moon
3	--:--	--:--	--:--
4	--:--	--:--	--:--
5	--:--	--:--	--:--
6	--:--	--:--	--:--

7. Setting Your Programs

Program Profile 4

5 days (Monday to Friday)			
Program	Program Time	Heat set point	Cool set point
1	6:00	Sunny	Sunny
2	9:00	Moon	Moon
3	15:00	Sunny	Sunny
4	22:30	Moon	Moon
5	--:--	--:--	--:--
6	--:--	--:--	--:--

2 days (Saturday to Sunday)			
Program	Program Time	Heat set point	Cool set point
1	7:30	Sunny	Sunny
2	23:00	Moon	Moon
3	--:--	--:--	--:--
4	--:--	--:--	--:--
5	--:--	--:--	--:--
6	--:--	--:--	--:--

7. Setting Your Programs

Program Profile 5

5 days (Monday to Friday)			
Program	Program Time	Heat set point	Cool set point
1	6:00	Sunny	Sunny
2	10:00	Moon	Moon
3	16:00	Sunny	Sunny
4	23:00	Moon	Moon
5	--:--	--:--	--:--
6	--:--	--:--	--:--

2 days (Saturday to Sunday)			
Program	Program Time	Heat set point	Cool set point
1	7:30	Sunny	Sunny
2	23:30	Moon	Moon
3	--:--	--:--	--:--
4	--:--	--:--	--:--
5	--:--	--:--	--:--
6	--:--	--:--	--:--

8. How to reset the thermostat

Press the indicated keys together for 3 seconds.

Select P47 if you want to reset to factory settings.

Press ✓ to confirm.
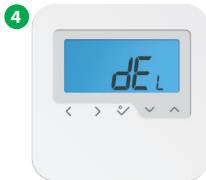
Press ✓ to confirm.
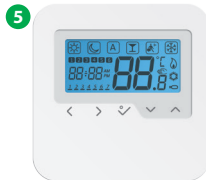
9. Installer Mode

1
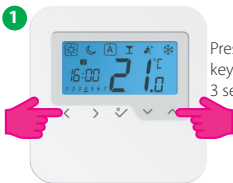
Press the indicated keys together for 3 seconds.

2
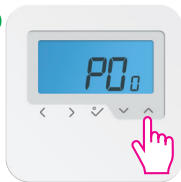
Select P49 if you want to enter Installer Mode.

3

Press ✓ to confirm.

4

You have reached the Installer Mode. Select your option by using ‹ or › . Press ✓ to confirm.

Note: This function allows you to customise your thermostat as you desire. In order to do this please consult the tables on the next pages.

10. Functions explained

dxx	D setting function	Parameter/ Values	Definition	Default value
d00	Select ºC/ºF	0	Select ºC	0
		1	Select ºF	
d01	Heating Control	0	PWM (Pulse-width modulation)	0
		1	ON-OFF: 0.5ºC (± 0.25ºC) / 32.9 ºF (±32.45 ºF)	
		2	ON-OFF: 1.0ºC (± 0.5ºC) / 33.8 ºF (± 32.9 ºF)	
d02	Room temp. offset	-3.0ºC to + 3.0ºC 26.6 ºF to 37.4 ºF	Offset room temp measuring error (in 0.5ºC / 32.9 ºF)	0.0ºC / 32 ºF
d03	OUT sensor probe (S1/S2)	0	Out sensor probe not connected	0
		1	Out sensor probe connected	
d04	Air sensor or Floor sensor	0	A: if d03 = 0, IN sensor controls Tr A: if d03 = 1, IN disabled and OUT controls Tr	0
		1	F: if d03 = 0, IN sensor controls Tr F: if d03 = 1, IN disabled and OUT controls Tr Floor Protection	
d05	Cooling Control	1	ON-OFF: 0.5ºC (± 0.25ºC) / 32.9 ºF (±32.45 ºF)	2
		2	ON-OFF: 1.0ºC (± 0.5ºC) / 33.8 ºF (± 32.9 ºF)	
d07	Valve Protection	0/1	0 = VP disabled 1 = Enable	1
d08	Frost Setpoint	5ºC - 17ºC 41 ºF - 62.6ºF		5.0ºC / 41 ºF

10. Functions explained

d09	12/24 Hour Format	0	12hr		1
		1	24hr		
d11	Daylight Saving Time	0	Off		1
	(DST)	1	On		
d12	Maximum limitation of	5ºC - 35ºC			35 ºC
	heating setpoint	41 ºF - 95 ºF			95 ºF
d13	Maximum limitation of	5ºC - 40ºC			5 ºC
	cooling setpoint	41 ºF - 104 ºF			41 ºF
d14	Floor sensor protection limit	11ºC - 45ºC	Turn off relay output when floor sensing temp >		27 ºC
	(heating high limit-HL)	51.8 ºF - 113 ºF	protecting limit, step is 0.5ºC (32.9 ºF)		80.6 ºF
d15	Floor sensor protection limit	6ºC - 40ºC	Turn on relay output when floor sensing temp <		10 ºC
	(heating low limit-LL)	42.8 ºF - 104 ºF	protecting limit, step is 0.5ºC (32.9 ºF)		50 ºF
d16	Floor sensor protection limit	6ºC - 45ºC	Turn off relay output when floor sensing temp <		6ºC
	(cooling)	42.8 ºF - 113 ºF	protecting limit, step is 0.5ºC (32.9 ºF)		42.8 ºF

10. Functions explained

d17	Preset program selection	1-5	Select one of these 5 default programs. Once selected, default program will overwrite present program. Selected default program can be edited by the user in the User Setting Mode.	1
d18	Heat/Cool Mode Selection	0 or 1	0: No connection 1: Connection	0
d19	Cooling Blocked	0 or 1	0: Cooling allowed 1: Cooling disabled	0
d20	Actuators loading selection for different temperature compensation.	1 to 5	1: x 1 actuator loading 2: x 2 actuators loading 3: x 3 actuators loading 4: x 4 actuators loading 5: x 5 actuators loading	1

11. Cooling Blocked

When When the thermostat is set on Cooling Disabled (d19-->1) it will block the cooling function for single rooms until the device will receive the heating command. During the periods of cooling blocked no special indicator will be displayed on the LCD screen. Ice flake will also be turned off.

Note: d19 will be available only if d18 is set on 1 (Heat/Cool Mode selection Connected).

12. Party Mode

1

Press ◁ or ▷ to select Party Mode.

2

Press ⌄ or ⌃ to select the time for Party Mode.

3
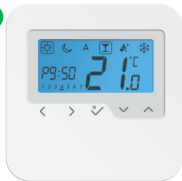
The maximum time allowed on the Party Mode is 9 h 50 min and can be set from 0-10 min.

If you want to exit Party Mode, press ◁ or ▷ to move the ☐ (box) to a different program. Once Party Mode ends the countdown automatically resets to 0.

13. Vacation Mode
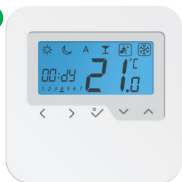
Press ◁ or ▷ to select Vacation Mode.
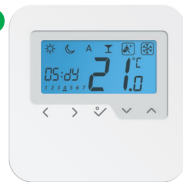
Press ⌄ or ⌃ to select the number of vacation days.

Note: Vacation Modes ends when it reaches day 0. After that the device goes back to Auto Mode.

14. Frost Mode

Press ◁ or ▷ to select Frost Mode. Press ✓ to confirm.
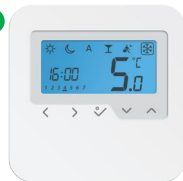
Press ⌄ or ⌃ if you want to change the Frost Mode temp. Press ✓ to confirm.

15. Temperature Offset
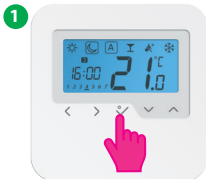
Long press ⌄ in order to enter Settings Mode.

Press ⌄ to enter Setting Mode.
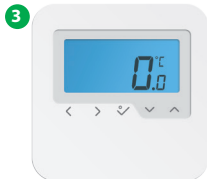
Press ⌄ or ⌃ in order to set the Temperature Offset.

The Temperature Offset can be set at any value between -3ºC (26.6 ºF) and +3ºC(26.6 ºF). Press ⌄ to confirm.

Technical Specification

Model:	AHTR5024
Voltage	24 VAC, +/-10%, 50/60 Hz
Operating performance	24 V, 18W
Temperature setback	Adjustable
Temperature range	5℃ – 35℃ (41ºF - 95ºF)
Span	+/-0,5℃(32,9ºF)OR+/-0,25℃ (32,45ºF)
Storage temperature	-20℃ to +60℃ (-4ºF to +140ºF)
Ambient temperature	0 ℃ up to 45 ℃ (32ºF up to 113ºF)
Degree of protection	P 30
Conformity according to	FCC and IC
Housing material	PC, V2
Color	RAL 9010 pure white
Connection	Screw terminal
Weight	125 g net / 170 g gross (4.40oz/5.99oz)
Puls-wide-modulation (PWM)	Yes
Clock, Timer	Yes, programmable
Profile Modes	3 (Sun, Moon, Automatic)
Heating and Cooling	Yes, automatically Change Over on the Wiring Centre
Parameter adjustment	Yes, in Installer Mode
Dimensions	85mm*85mm*25mm (3.34in*3.34in*0.98in)

Notes

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Warranty

SALUS North America warrants that this product (AHTR5024) 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 North America 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: ....

www.salusna.com

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