HARVIA XENIO
CX180S, CX180M, CX180L

EN

Control unit

19092016/CN

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These instructions for installation and use are intended for owners of saunas, heaters and control units, persons in charge of managing saunas, heaters and control units, and for electricians responsible for installing heaters and control units. Once the control unit is installed, these instructions of installation and use are handed over to the owner of the sauna, heater and control unit, or to the person in charge of maintaining them.

CONTROL UNIT HARVIA XENIO (CX180)
Control unit's purpose of use: the control unit is meant for controlling the functions of a sauna heater. It is not to be used for any other purpose.

Congratulations on making an excellent choice!

CONTENTS

1. HARVIA XENIO

1.1. General

The purpose of Harvia Xenio control unit is to control an electric sauna heater within an output range of 2.3–18 kW. The control unit consists of a con-trol panel, a power unit and a temperature sensor. See figure 1.

The control unit regulates the temperature in the sauna room based on information given by the sensor. The temperature sensor and the overheat protector are located in the temperature sensor box. The temperature is sensed by an NTC thermistor and the overheat protector can be reset (▷3.4.).

An additional sensor is available as an option. By using two sensors, it is possible to acquire more accurate temperature readings from the sauna room.

The control unit can be used to preset the start of the heater (pre-setting time). See figure 3a.

1.2. Technical Data

Control panel:

- Temperature adjustment range: 40–110 °C.
- On-time adjustment range: family saunas 1–6 h, public saunas in apartment buildings 1–12 h. *For longer operating times consult the importer/manufacturer.*
- Control of lighting
- Dimensions: 85 mm x 24 mm x 110 mm
- Length of data cable: 5 m (10 m extension cables available, max. total length 30 m)

Power unit:

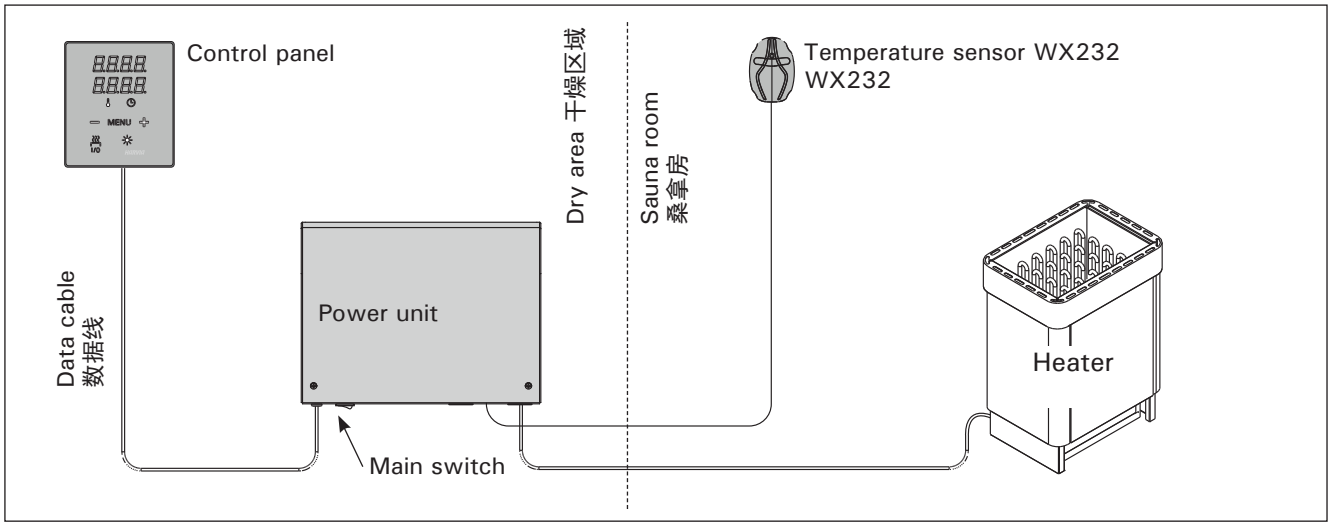
- Supply voltage: 400 V 3N~
- Max. load: 180S(8kW), M(13.5kW), L(18kW)
- Lighting control, max. power: 100 W, 230 V 1N~
- Fan control, max. power: 100 W, 230 V 1N~
- Dimensions:
  180S, 180M :300 mm x 110 mm x 240 mm
  180L: 260mm x 135mm x3 65mm

Sensors:

- The temperature sensor is equipped with a resettable overheat protector and a temperaturesensing NTC thermistor (22 kΩ/ T = 25 °C).
- Weight: 175 g with leads (ca 4 m)
- Dimensions: 51 mm x 73 mm x 27 mm

Figure 1. System components

1.



1.3. Troubleshooting

If an error occurs, the heater power will cut off and the control panel will show an error message "E (number)", which helps troubleshooting the cause for the error. Table 1.

Note! All service operations must be done by professional maintenance personnel. No user-serviceable parts inside.

	Description/	Remedy/
E1	Temperature sensor's measuring circuit broken.	Check the red and yellow wires to the temperature sensor and their connections (see figure 6) for faulties.
E2	Temperature sensor's measuring circuit short-circuited.	Check the red and yellow wires to the temperature sensor and their connections (see figure 6) for faulties.
E3	Overheat protector's measuring circuit broken.	Press the overheat protector's reset button (▷3.4.). Check the blue and white wires to the temperature sensor and their connections (see figure 6) for faulties.
		▷
E9	Connection failure in the system.	Switch the power off from the main switch (figure 1). Check the data cable, sensor cable/s and their connections. Switch the power on.

Table 1. Error messages. Note! All service operations must be done by professional maintenance personnel.

2. INSTRUCTIONS FOR USE

2.1. Using the Heater

When the control unit is connected to the power supply and the main switch (see figure 1) is switched on, the control unit is in standby mode and ready for use. I/O button's background light glows on the control panel.

WARNING! Before switching the heater on always check that there isn't anything on top of the heater or inside the given safety distance.

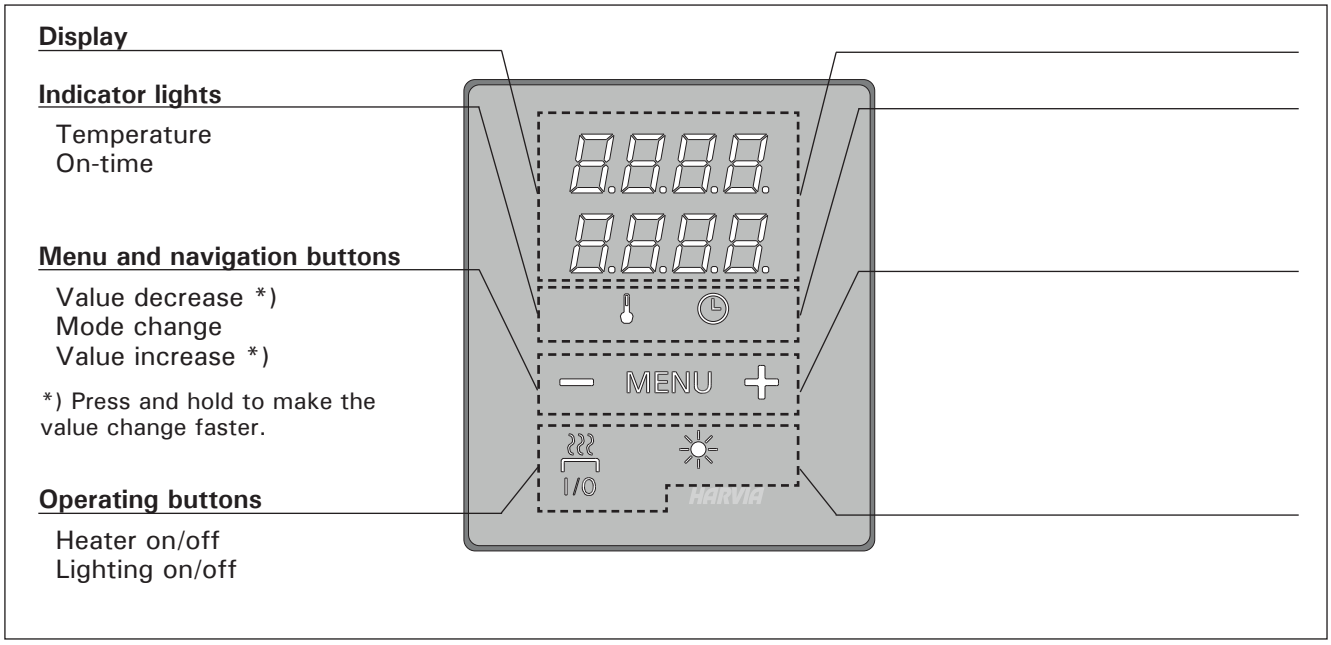


Figure 2. Control panel

2.1.1. Heater On

Start the heater by pressing the heater I/O button on the control panel.

When the heater starts, the top row of the display will show the set temperature and the bottom row will show the set on time for five seconds.

When the desired temperature has been reached in the sauna room, the heating elements are automatically turned off. To maintain the desired temperature, the control unit will automatically turn the heating elements on and off in periods.

If the heater efficiency is suitable and the sauna has been built correctly, the sauna takes no more than an hour to warm up.

2.1.2. Heater Off

The heater turns off and the control unit switches to standby-mode when

- the I/O button is pressed
- the on-time runs out or
- an error occurs.

NOTE! It is essential to check that the control unit has cut off power from the heater after the on-time

has elapsed, the dehumidification has ended or the heater has been switched off manually.

2.2. Changing the Settings

The settings menu structure and changing the settings is shown in figures 3a and 3b.

The programmed temperature value and all values of additional settings are stored in memory and will also apply when the device is switched on next time.

2.3. Using Accessories

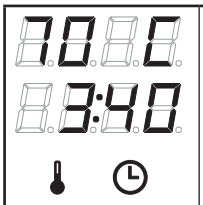
Lighting can be started and shut down separately from other functions.

2.3.1. Lighting

The lighting of the sauna room can be set up so that it can be controlled from the control panel. (Max 100 W.)

Switch the lights on/off by pressing the control panel button.

BASIC SETTINGS/



Basic mode (heater on)

The top row shows the sauna room temperature. The bottom row shows the remaining on-time. Both indicator lights glow.

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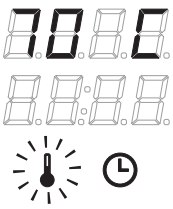
Press the MENU button to open the settings menu.

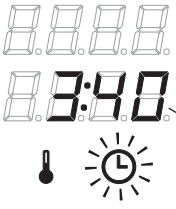


Sauna room temperature

The display shows the sauna room temperature setting. Temperature indicator light blinks.

- **Change the setting to the desired temperature with the – and + buttons.** The range is 40–110 °C.

Press the MENU button to access the next setting.



Remaining on-time

Press the + and – buttons to adjust the remaining on-time.

Example: the heater will be on for 3 hours and 40 minutes.

Press the MENU button to exit.

Figure 3a. Settings menu structure, basic settings

ADDITIONAL SETTINGS

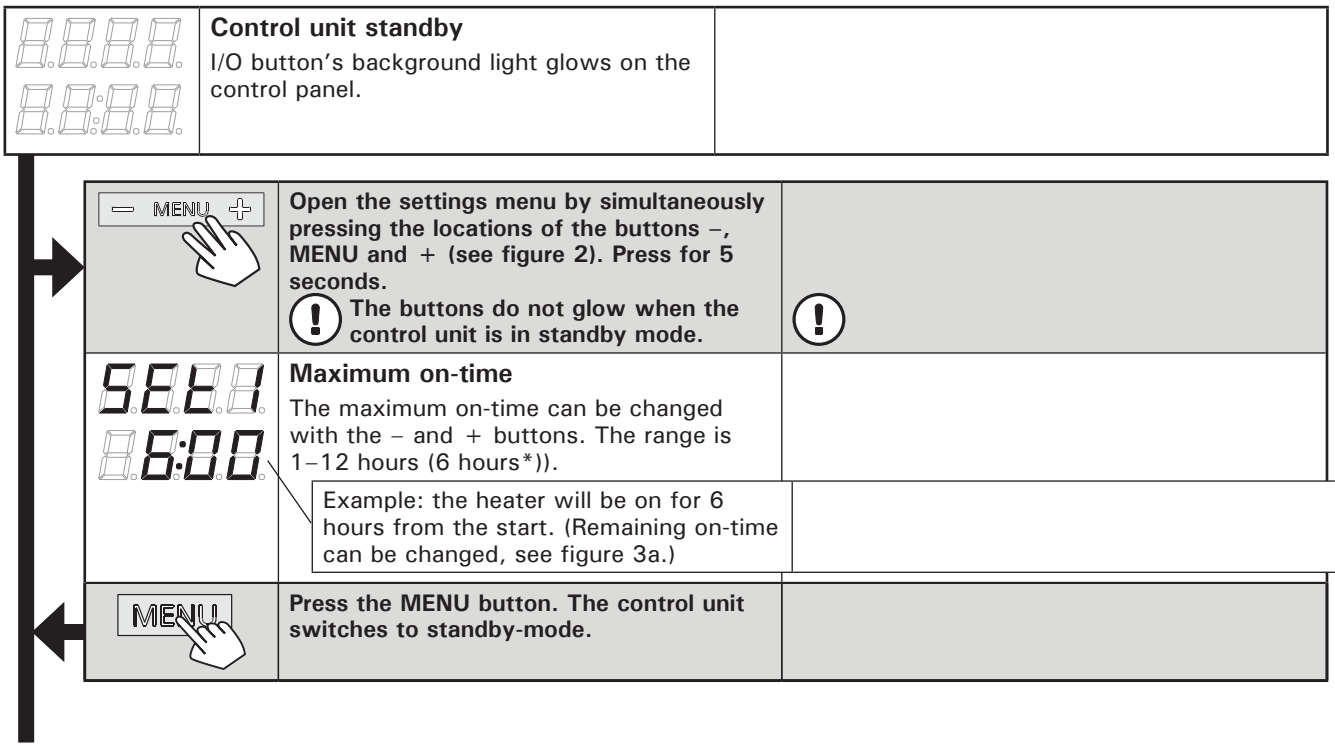


Figure 3b. ***Settings menu structure, additional settings***

*) Factory setting

3. INSTRUCTIONS FOR INSTALLATION

The electrical connections of the control unit may only be made by an authorised, professional electrician and in accordance with the current regulations. When the installation of the control unit is complete, the person in charge of the installation must pass on to the user the instructions for installation and use that come with the control unit and must give the user the necessary training for using the heater and the control unit.

3.1. Installing the Control Panel

The control panel is splashproof and has a small operating voltage. The panel can be installed in the washing or dressing room, or in the living quarters. If the panel is installed in the sauna room, it must

1. Thread the data cable through the hole in the back cover.
2. Fasten the back cover to a wall with screws.
3. Push the data cable to the connector.
4. Press the front cover into the back cover.

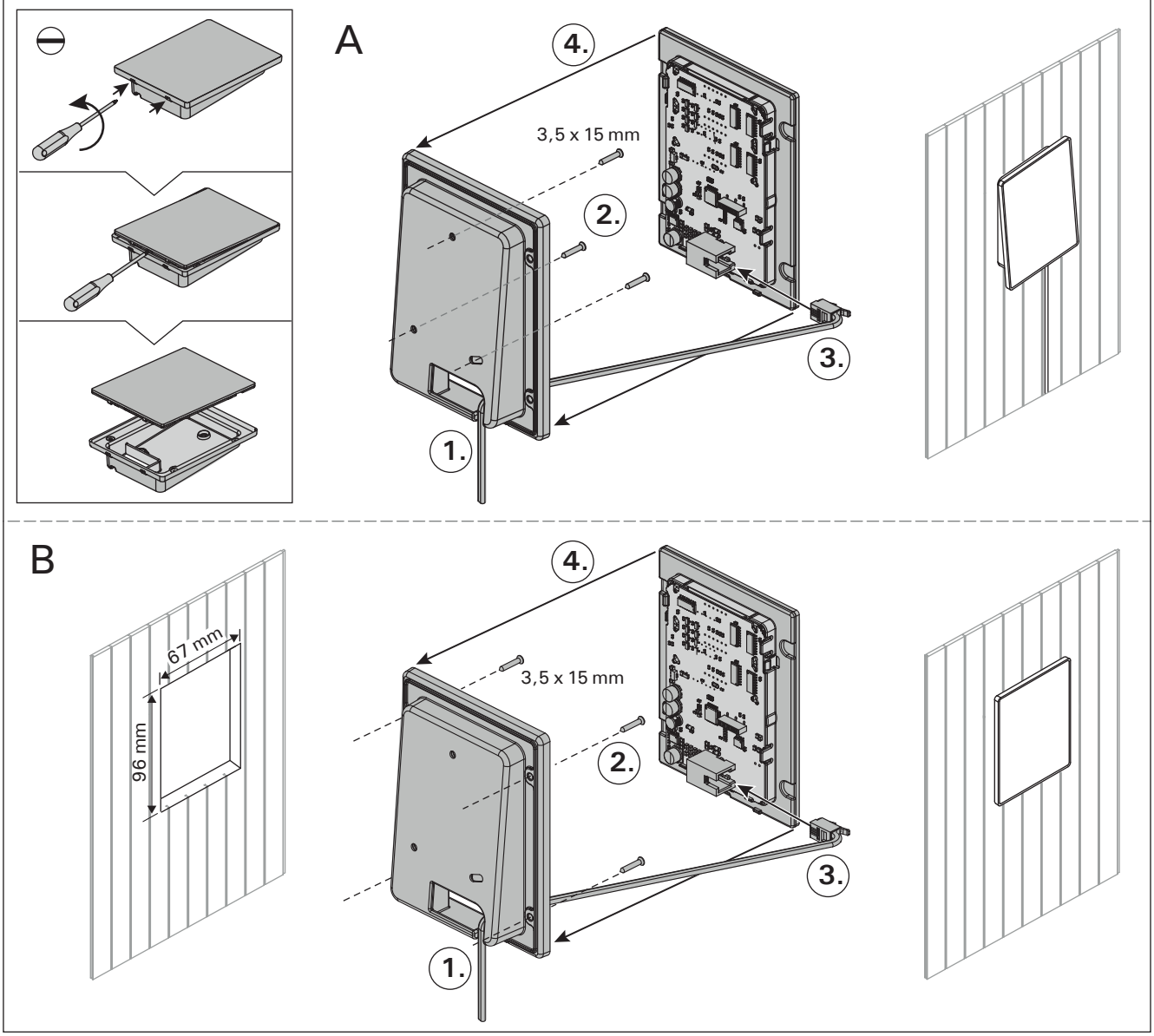


Figure 4. Fastening the control panel

be at the minimum safety distance from the heater and at a maximum height of one metre from the floor. Figure 4.

Conductor tubing (ø 30 mm) inside the wall structure allows you to thread the data cable hidden within the wall – otherwise the installation will have to be on the wall surface. We recommend you to install the control panel embedded in to the wall and far away from possible splashes.

3.2. Installing the Power Unit

Install the power unit to a wall outside the sauna room, in a dry place with an ambient temperature of >0 °C. See figure 5 for instructions on how to open the power unit cover and how to fix the unit to the wall.

Note! Do not embed the power unit into the wall, since this may cause excessive heating of the internal components of the unit and lead to damage. See figure 5.

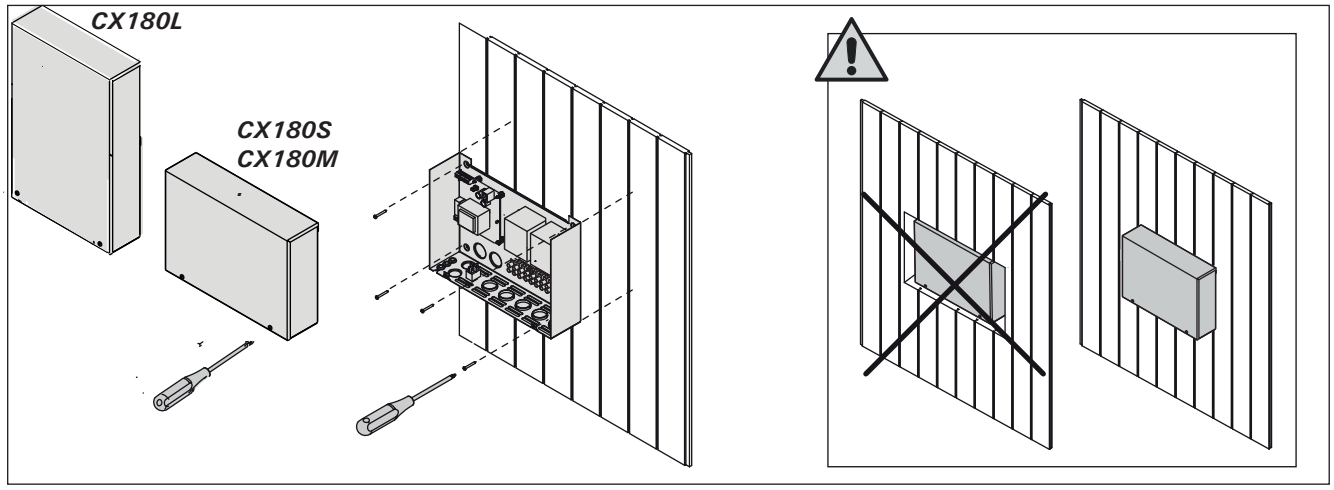


Figure 5. Opening the power unit cover and mounting the unit to a wall

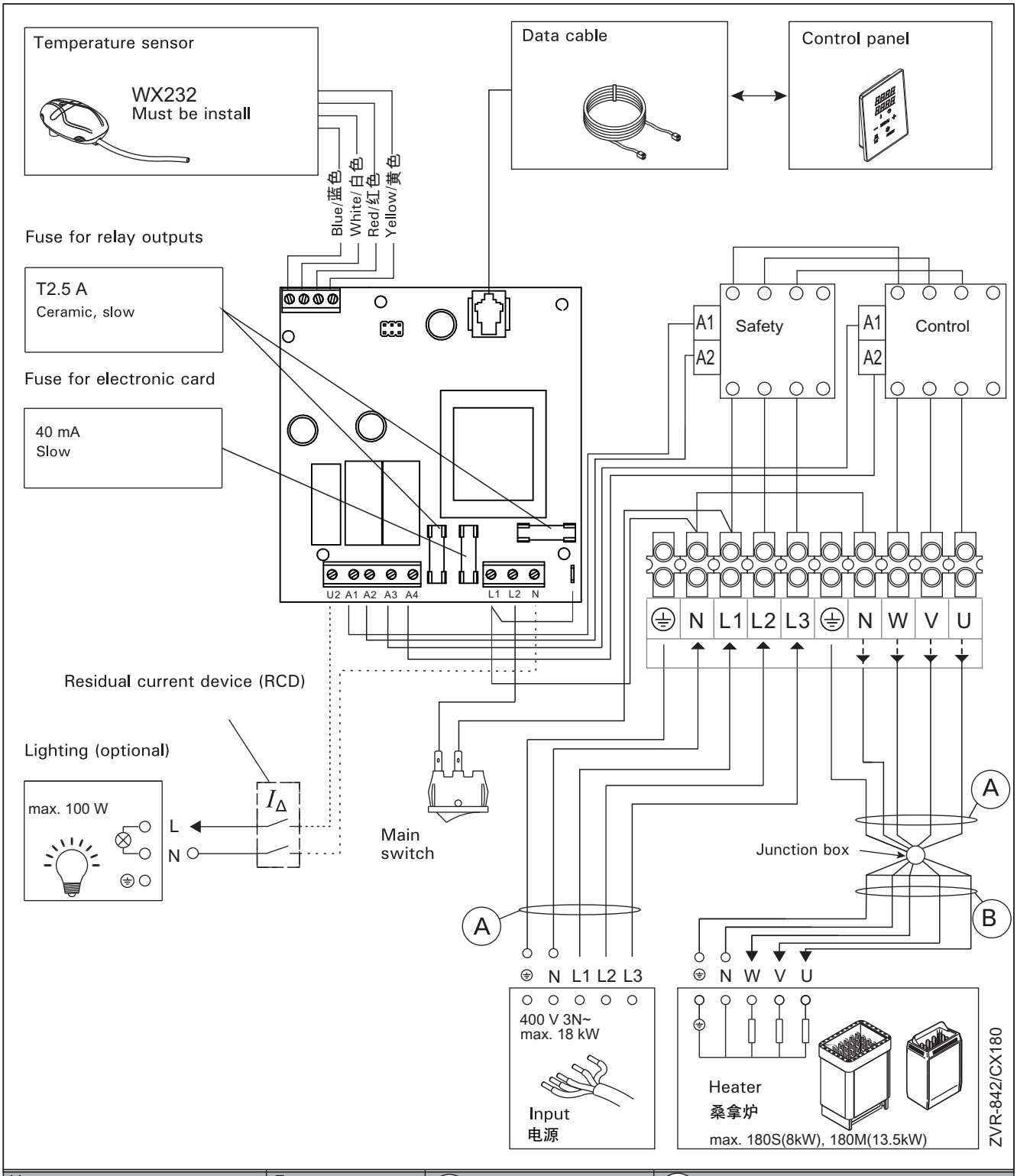
3.2.1. Electrical Connections

Figure 6 shows the electrical connections of the power unit. For more detailed installation instructions see the instructions for installation and use of the selected heater model.

3.2.2. Power Unit Fuse Faults

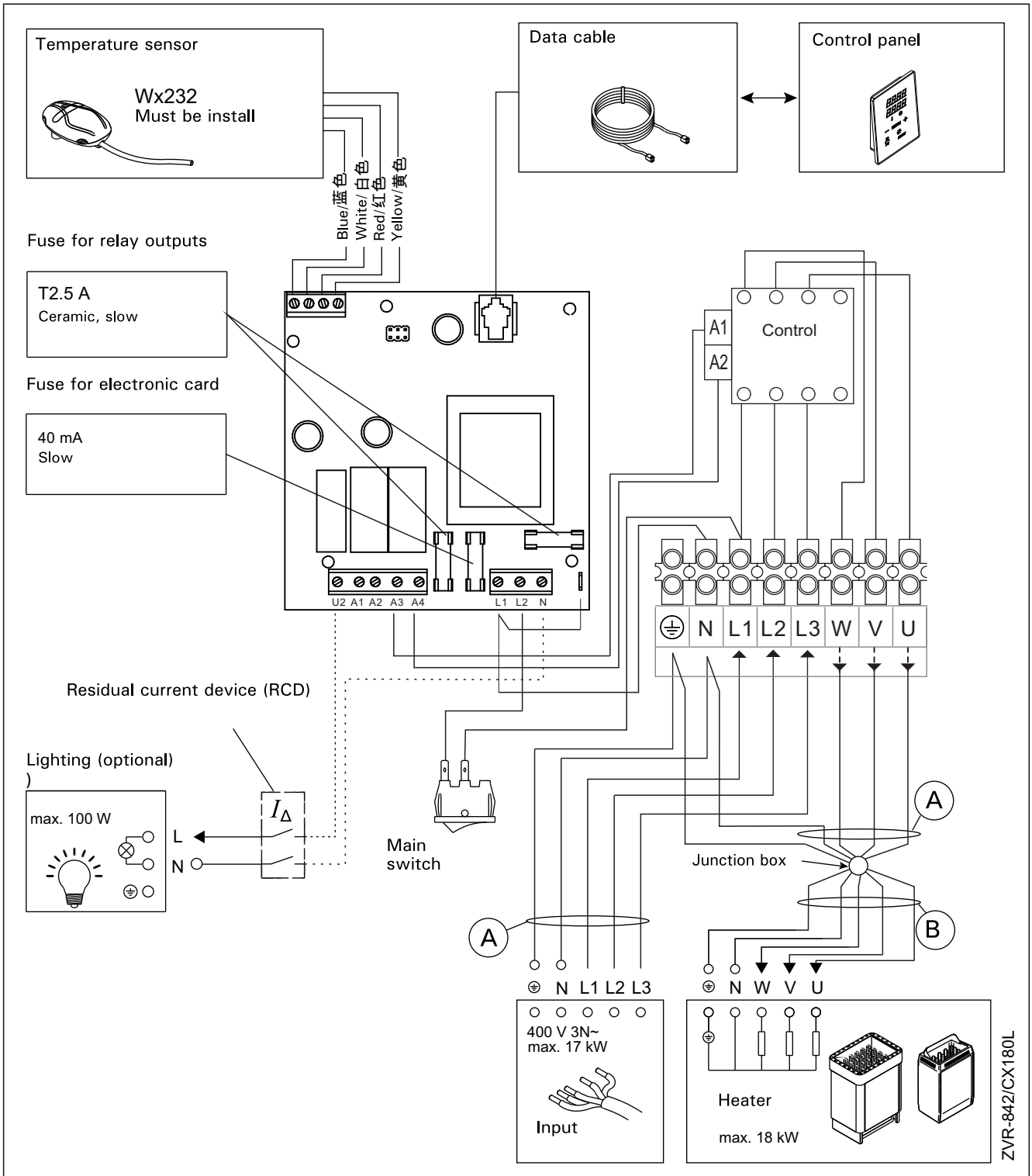
Replace a blown fuse by a new one with the same value. The placement of the fuses in the power unit is shown in figure 6.

- If the fuse for the electronic card has blown, there is likely a fault in the power unit. Service is required.
- If the fuse in the line U2 has blown, there is a problem with lighting. Check the wiring and functioning of lighting and fan.



Heater output kW	Fuse A	A mm²	B mm²
0-6	3 x 10	5 x 1,5	5 x 1,5
<6-11	3 x 16	5 x 2,5	5 x 1,5
<11-17	3 x 25	5 x 6	5 x 2,5
<17-18	3 x 32	5 x 6	5 x 4

Figure 6a. CX180S, CX180M Electrical connections
6a. CX180S, CX180M



Heater output kW	Fuse A	A mm²	B mm²
0-6	3 x 10	5 x 1,5	5 x 1,5
<6-11	3 x 16	5 x 2,5	5 x 1,5
<11-17	3 x 25	5 x 6	5 x 2,5
<17-18	3 x 32	5 x 6	5 x 4

Figure 6b. CX180L Electrical connections
6b. CX180L

3.3. Installing the Temperature Sensors

Note! Do not install the temperature sensor closer than 1000 mm to an omnidirectional air vent or closer than 500 mm to an air vent directed away from the sensor. See figure 9. The air flow near an air vent cools down the sensor, which gives inaccurate temperature readings to the control unit. As a result, the heater might overheat.

3.3.1. Installing the Temperature Sensor WX232

Check the correct location for the temperature sensor from the heater's instructions for installation and use.

Wall-mounted heaters (see figure 7)

- Fasten the temperature sensor on the wall above the heater, along the vertical centre line running parallel to the sides of the heater, at a distance of 100 mm from the ceiling.

Floor-mounted heaters (see figure 8)

- Option 1: Fasten the temperature sensor on the wall above the heater, along the vertical centre line running parallel to the sides of the heater, at a distance of 100 mm from the ceiling.
- Option 2: Fasten the temperature sensor to the ceiling above the heater, at a distance of 100–200 mm from the vertical centre line of the heater's side.

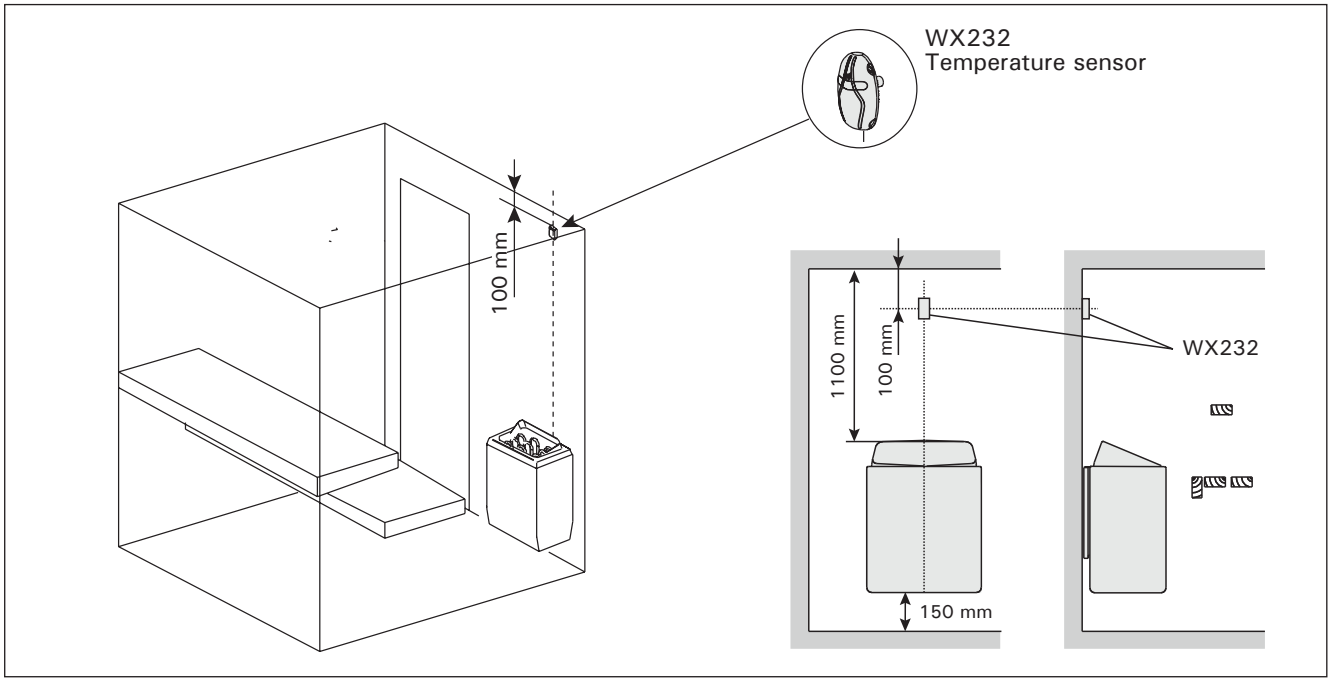
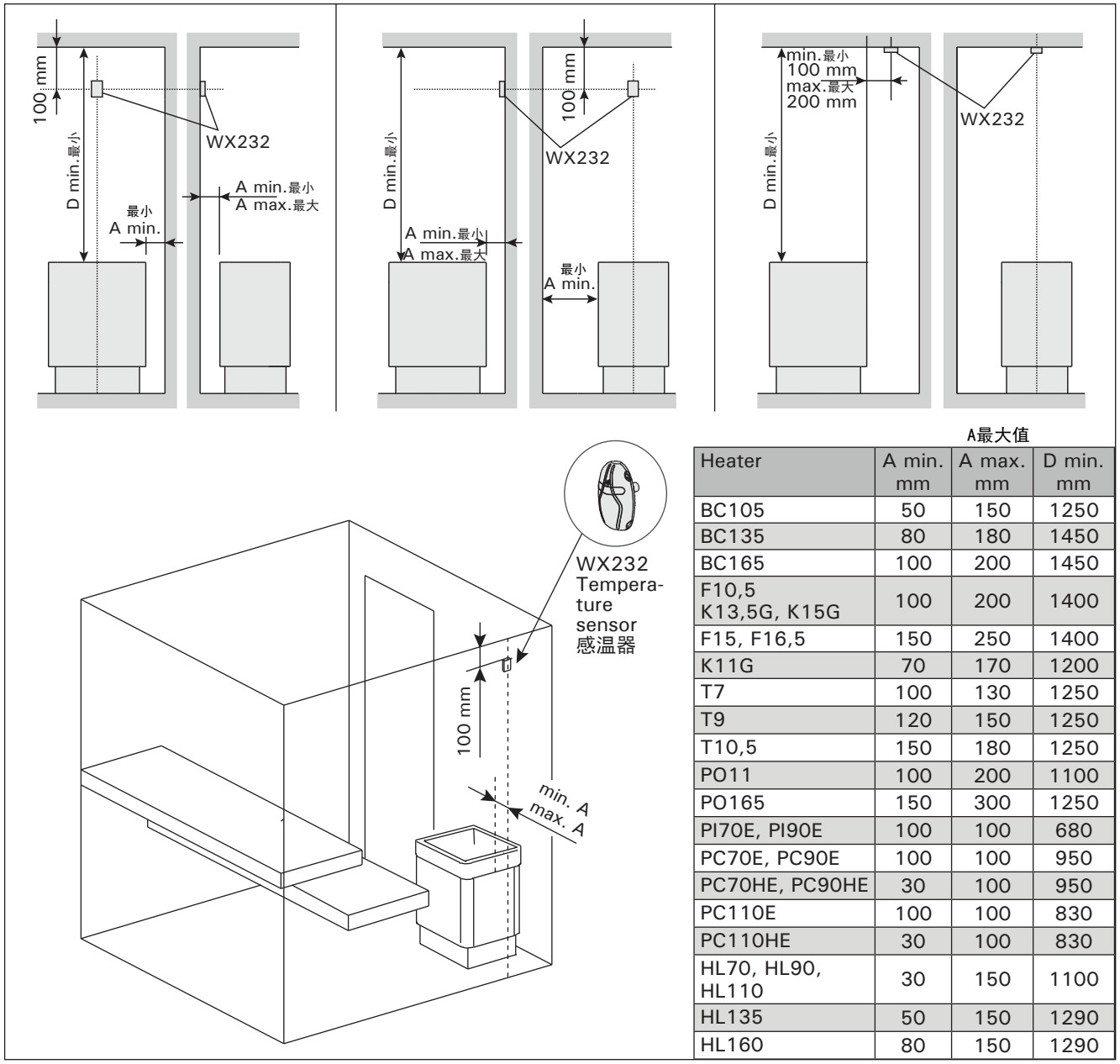


Figure 7. The place of the temperature sensors in connection with wall-mounted heaters



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Heater	A min. mm	A max. mm	D min. mm
BC105	50	150	1250
BC135	80	180	1450
BC165	100	200	1450
F10,5 K13,5G, K15G	100	200	1400
F15, F16,5	150	250	1400
K11G	70	170	1200
T7	100	130	1250
T9	120	150	1250
T10,5	150	180	1250
PO11	100	200	1100
PO165	150	300	1250
PI70E, PI90E	100	100	680
PC70E, PC90E	100	100	950
PC70HE, PC90HE	30	100	950
PC110E	100	100	830
PC110HE	30	100	830
HL70, HL90, HL110	30	150	1100
HL135	50	150	1290
HL160	80	150	1290

Figure 8. ***The place of the temperature sensors in connection with floor-mounted heaters***

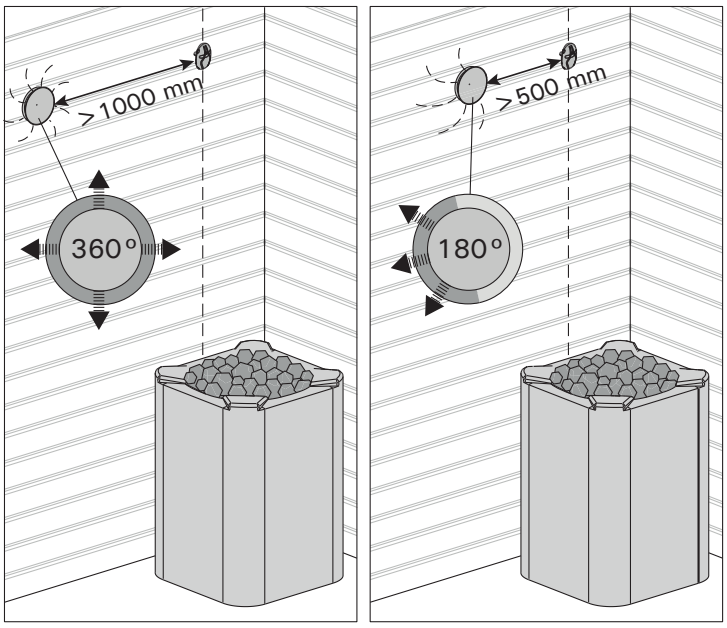

Figure 9. ***Sensor's minimum distance from an air vent***

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3.4. Resetting the Overheat Protector

The sensor box (WX232) contains a temperature sensor and an overheat protector. If the temperature in the sensor's environment rises too high, the overheat protector cuts off the heater power. Resetting the overheat protector is shown in figure 10.

Note! The reason for the going off must be determined before the button is pressed.

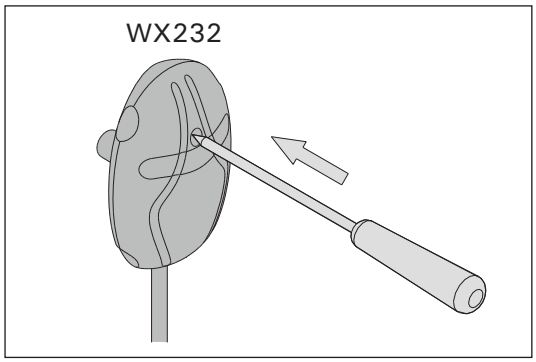
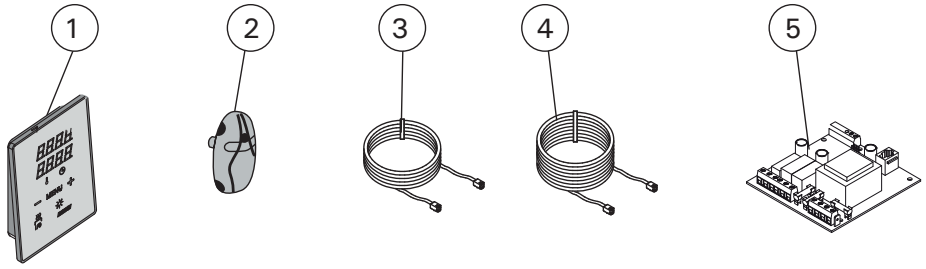


Figure 10. Reset button of the overheat protector

4. SPARE PARTS



1	Control panel (CX180)		
2	.Temperature sensor	WX232 3	
3.	Data cable 5 m WX311		
4	Data cable extension 10 m (optional) WX313		
5	Circuit boardWX386		

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