

EOS InfraTec Premium

Control unit for infrared cabins



EN Installation and operating instruction

Made in Germany



English

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Specifications

Voltage:	230 V 1N AC 50 Hz
Fuse:	1 x 16 A
Power rating:	max. 3500 W
Output circuits:	3 separate circuits (front, back, foot area) <ul style="list-style-type: none">• Front and back individually dimmable, max. 1500 W• Switchable foot area, cannot be controlled via sensor, max. 500 W
Temperature control range:	<ul style="list-style-type: none">• According to room temperature, control range 30 - 70 °C• According to feelings through individual dimmable zones 1 and 2
Control characteristics:	Digital output control (channels 1 and 2)
Sensor system:	KTY sensor (main sensor, cabin temperature) KTY sensor (heating foil sensor, optional)
Heating time limitation:	1 - 99 minutes / 0 -12 hours
Ambient temperature:	-10 to 40° C
Dimensions control panel, HxBxT:	130 x 118 x 24 mm
Dimensions relay box, HxBxT:	240 x 230 x 70 mm
Weight control panel:	ca. 120 g
Weight relay box:	ca. 1,5 kg

Scope of delivery

(subject to changes)

Included in control unit scope of delivery:

- Relay box
- Control panel of the control unit, incl. 2 decorative strips
- Control panel, incl. 5 m connection cable
- Plastic bag containing four mounting screws 4 x 20 mm
- Temperature sensor, two mounting screws 3 x 25 mm, sensor cable 2 m red
- Installation and operating instruction

Dear customer,

with the purchase of this IR control unit, you have opted for a superior quality and an innovative electronic device which has been developed and manufactured according to the highest standards and norms.

Please read the guidelines in these instructions carefully so that you can familiarise yourself quickly and easily with the unit.

General information

The IR control unit is designed for power supply 230 V 1N 50 Hz AC and shall be protected with a separate 16 A fuse.

The installation and connection of the sauna facilities and other electrical operating equipment may only be carried out by a specialist from an authorised specialist electrical company; here VDE 0100 Part 703/2006-2 must be observed.

Please read the following installation and operating instructions through carefully so that your IR system can be operated without malfunctions. Please also follow the information and instructions provided by the IR cabin manufacturer.

General safety precautions

- The unit may only be used for its intended purpose as a control for IR radiators or IR heating foils up to max. 3.5 kW.
- The electrical installation may only be performed by an authorized electrician.
- You must comply with the regulations of your utility company as well as the standard VDE-guidelines (DIN VDE 0100).
- **CAUTION!** Danger of death, never carry out repairs and installations yourself. Only a qualified technician may remove the housing cover.
- **Caution:** The control power element may not be installed in enclosed switching cabinets or be enclosed in wooden panelling!

- The unit may only be used for its intended purpose as a control for IR radiant heaters.
- The system must be disconnected at all poles from the mains during all installation and repair work, meaning that you must switch off all fuses or the main switch.
- Follow the safety and installation information provided by the manufacturer.
- This unit is not intended for use by persons (including children) with restricted physical, sensory or mental capacity or by persons without the necessary experience and/or knowledge unless they are supervised by someone responsible for their safety or receive instructions from them on how to use the unit.
- Children are to be supervised in order to ensure that they do not play with this device.
-  Only IR radiators acc. DIN 60335 or IR heating foils with integrated overheating protection (140°C) may be connected.
- Follow the safety and installation information provided by the IR radiant heater manufacturer.

Installation

Relay box

The relay box may only be installed outside the cabin. It is advisable to select the outside wall of the cabin or the cabin ceiling for the installation. If ductwork is provided for the electrical installations then the position of the power switchgear is predetermined by that. Please follow the instructions for installation:

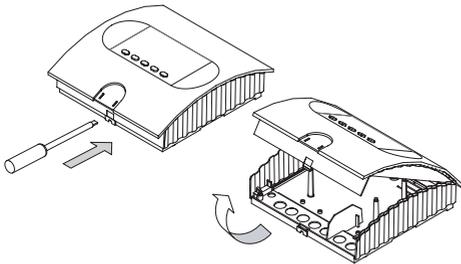


Fig. 1

1. Remove the cover of the power element. To do this, push the retaining tang to the inside with a flat screwdriver and pivot the housing top upwards (Fig. 1).

The 5 mm diameter boreholes for the supplied wood screws 4 x 20 mm are drilled according to the dimensions shown in Fig. 2.

2. Insert one of the wood screws into the top center hole. The power element is hooked onto this screw. Therefore, leave the screw out by ca. 3 mm (Fig. 3).
3. Hook the power element to the 3 mm protruding screw in the upper mounting hole

Insert the supplied rubber grommet into the openings at the rear wall of the housing and insert the connecting cable through these openings.

Fasten the bottom section of the housing firmly to the cabin wall or cabin ceiling by inserting the screws into the two lower boreholes (Fig. 4).

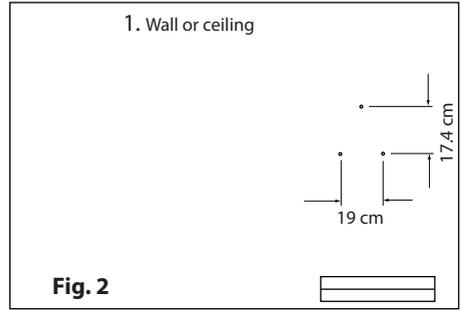


Fig. 2

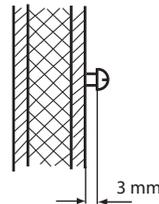
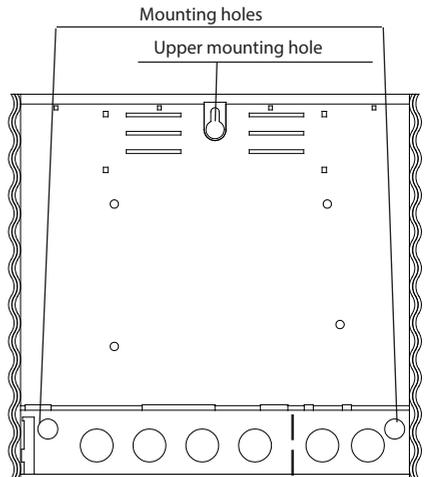


Fig. 3



Feed-throughs for:
Mains supply line
IR radiant heater /
IR heating foils
Lamp

Feed-through
for sensor
lines

Fig. 4

Installation

Control panel

The control panel should be mounted outside the cabin. If the control panel is mounted inside the cabin it may not be placed in the direct range of the IR-beam and the maximum room temperature may not exceed 60°C. If ductwork is already provided for electrical installations then the position of the control panel is predetermined by that. The installation is done into the cabin wall. Please follow the instructions for installation:

The mounting position must be specified first for installation outside the cabin.

Inside the cabin select a mounting position that is preferably underneath an IR-beam.

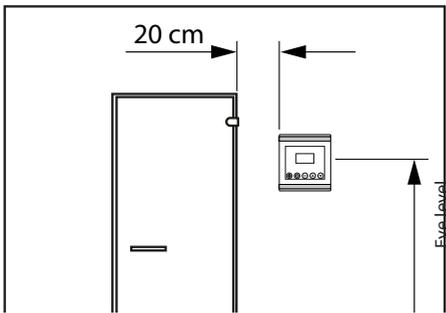


Fig. 5

Make a wall opening to a size of 105 mm (width) X 90 mm (height) X 25 mm (min. depth).

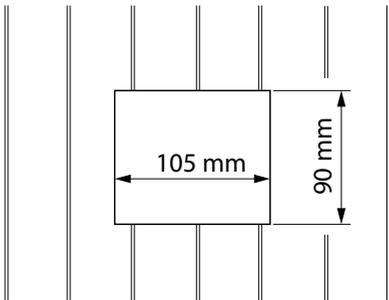


Fig. 6

Connection cables

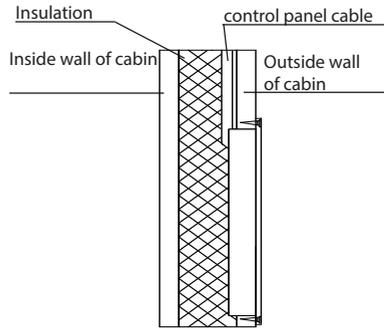


Fig. 7

Lay the connection cable from the control panel to the relay box.

The connection cable may only be laid between the insulation and the outside wall of the cabin (Fig. 7). The insulation must be designed for max. outside temperature of 75 °C.

Mount the control panel in the wall opening and fix it with the 4 screws enclosed.

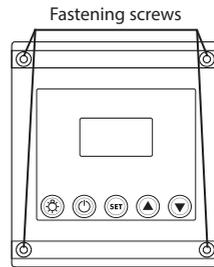


Fig. 8

Finally glue the self-adhesive decorative strips into the horizontal grooves of the control panel.

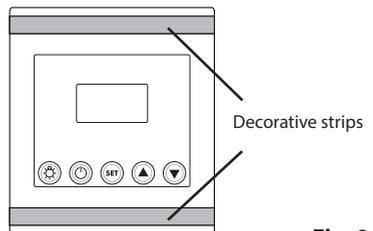


Fig. 9

Electrical Connection

The electrical connection may only be done by a certified electrician in compliance with the guidelines of the local utility company and the VDE.

Mains connection is carried out using a Schuko type plug, to be mounted by the customer, to a separate Schuko type socket with a 16A fuse.

Because of the higher starting current has the unit to be fused by a 16A circuit breaker with K characteristic.

All electrical installations and all connection lines that are installed inside the cabin must be suitable for an ambient temperature of at least 170 °C.

Lay the connection cables (max. 5 m length) from the separate IR radiators to the relay box and connect according to the connection diagram.

If more than one IR-radiator is to be connected per heating circuit, the respective connection lines from these radiators must be connected in junction boxes provided by the customer outside the power unit. Only one cable line may be connected to the terminals of each power output circuits.

Lay the connection cable from the control element to the power switchgear and produce the plug connections according to the connection diagram.

Adapting the control to the installed components.

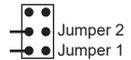
On the circuit board of the IR control power unit you will find a pin block for three jumpers



The type of emitters used is set using the jumpers 1 + 2.

IR radiant heater

If exclusively IR radiant heaters are installed, both jumpers remain open



IR heating foil

If IR heating foils are installed, Jumper 1 is connected and Jumper 2 remains open.



A radiant heater for the legs can also be installed

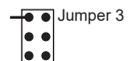
IR radiant heater & IR heating foil

If both IR radiant heaters - except for the radiant heater for legs - and IR heating foils are installed, Jumper 2 is connected and Jumper 1 remains open.



You can set the maximum heating time with Jumper 3

Maximum heating time 99 minutes
Jumper 3 open

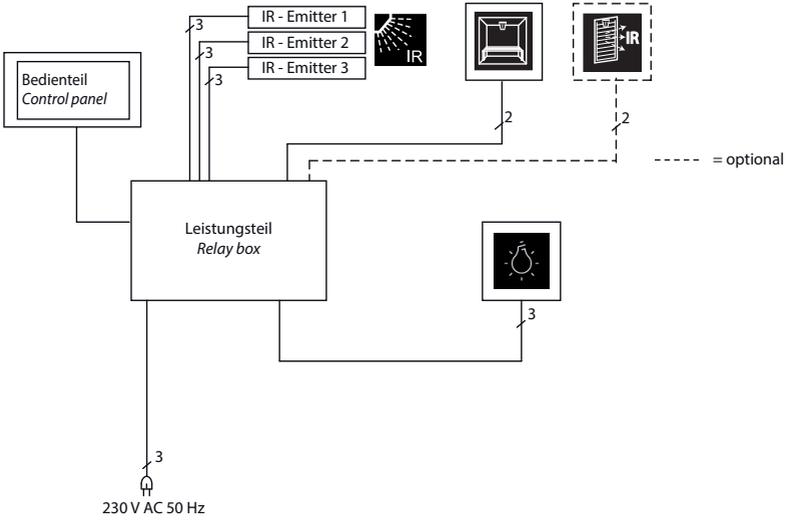


Maximum heating time 12 hours
Jumper 3 closed



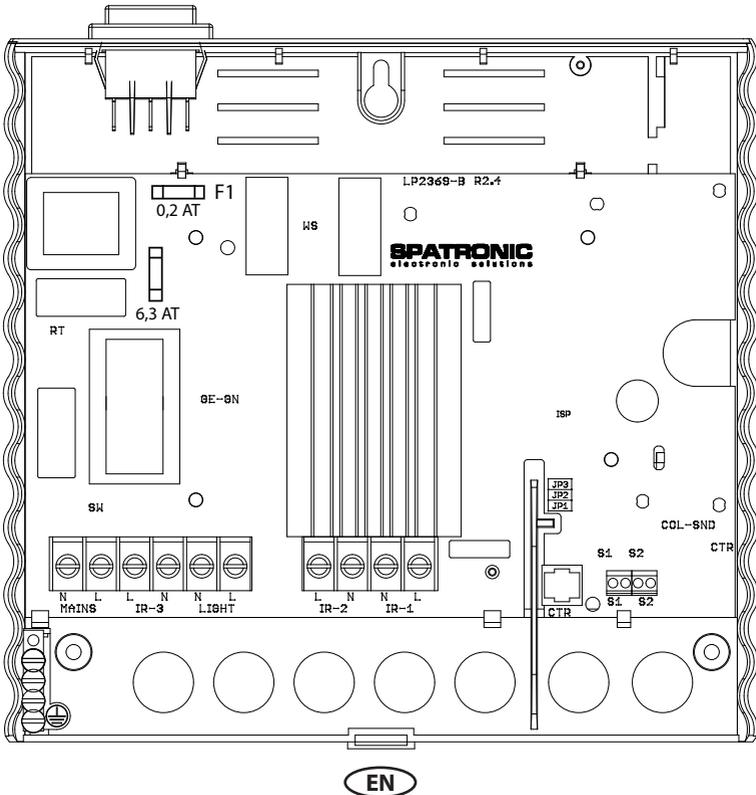
Notice: by connection of IR heating foils the optional 2nd sensor (surface sensor for heating foils) shall be connection and activated through the jumper setting.

Installation diagram

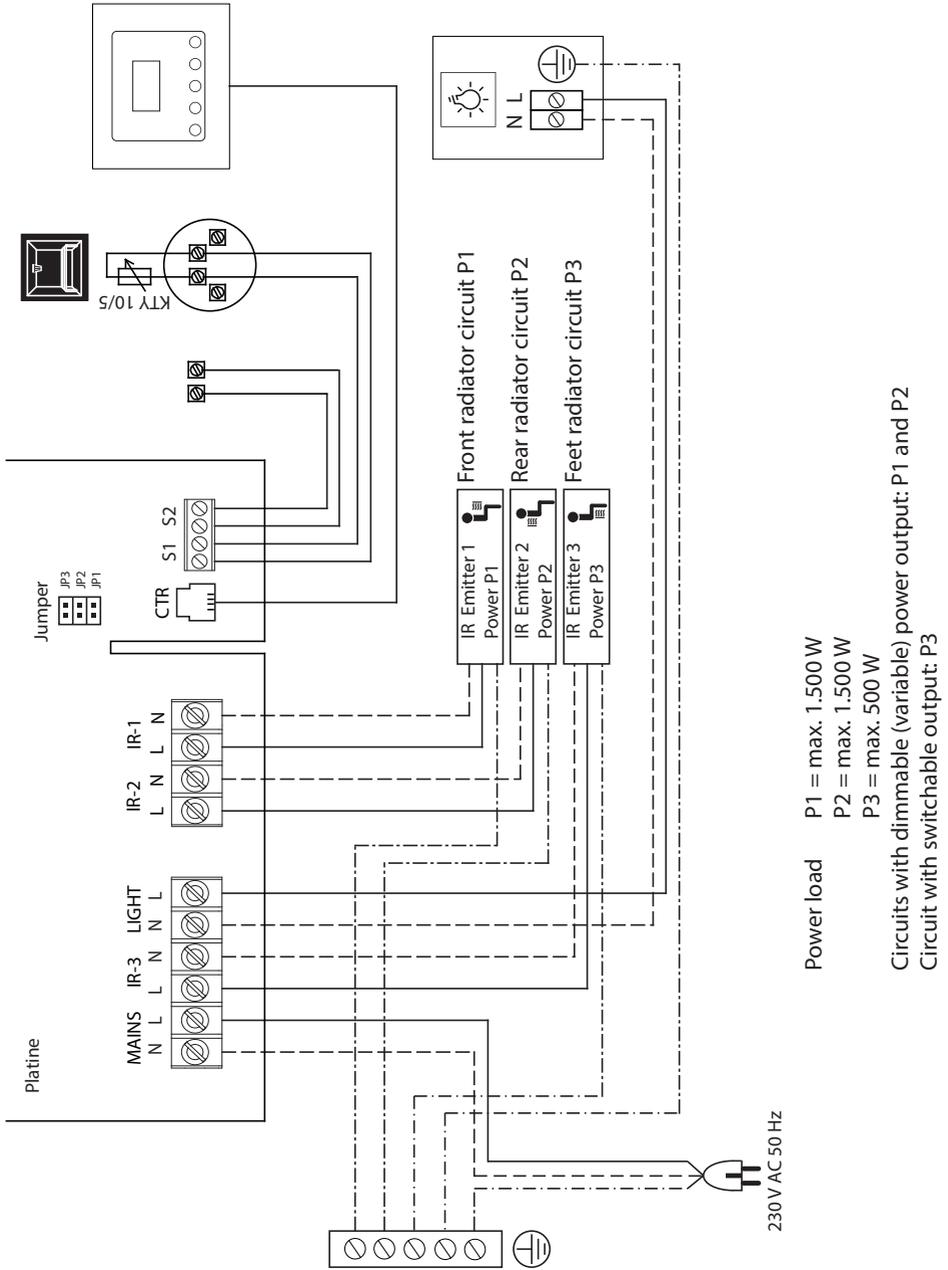


Terminal arrangement on the circuit board.

(Power unit)



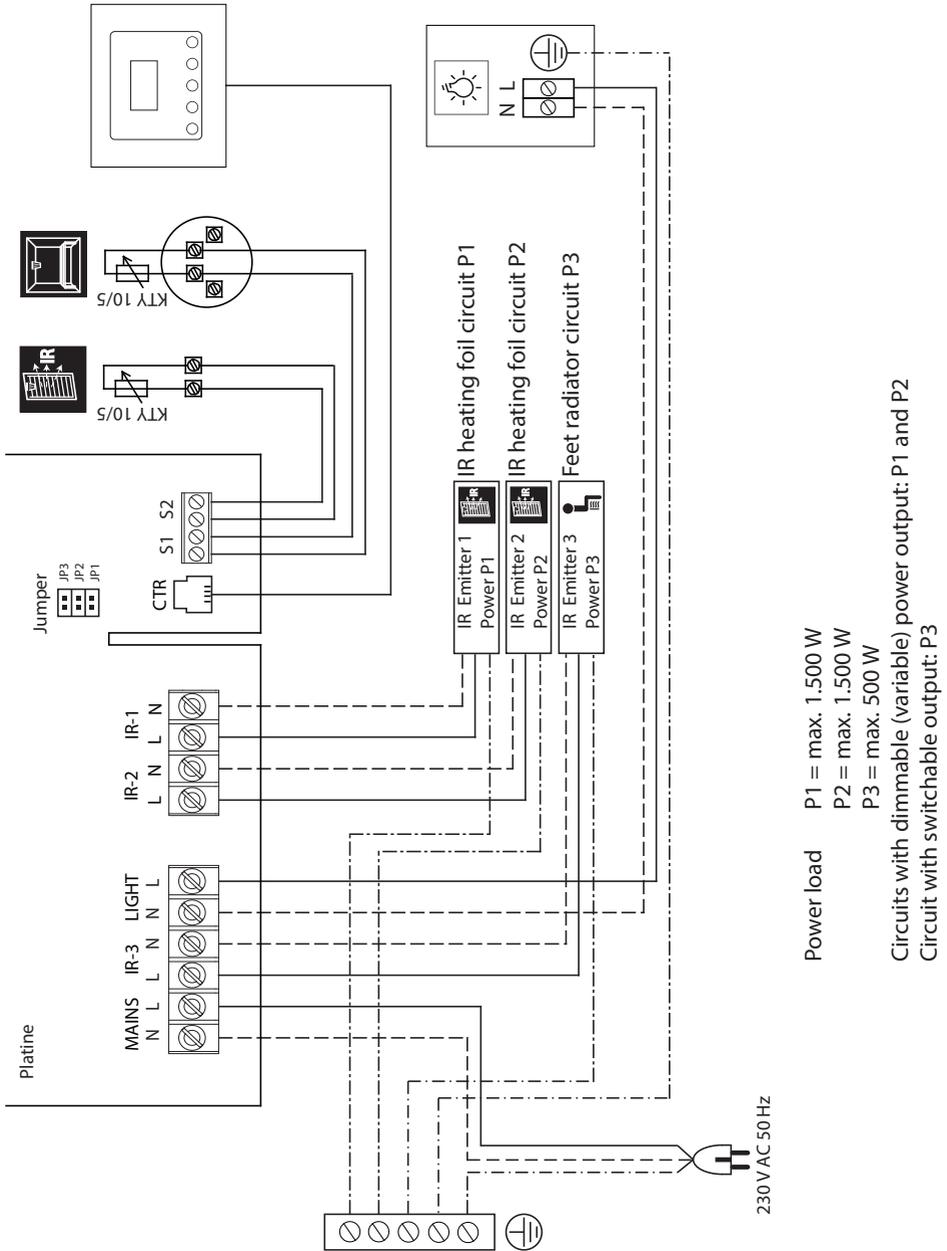
Connection diagram for IR radiant heaters



NOTICE:

The total power of all IR emitters in any combination may not exceed 3500 W..

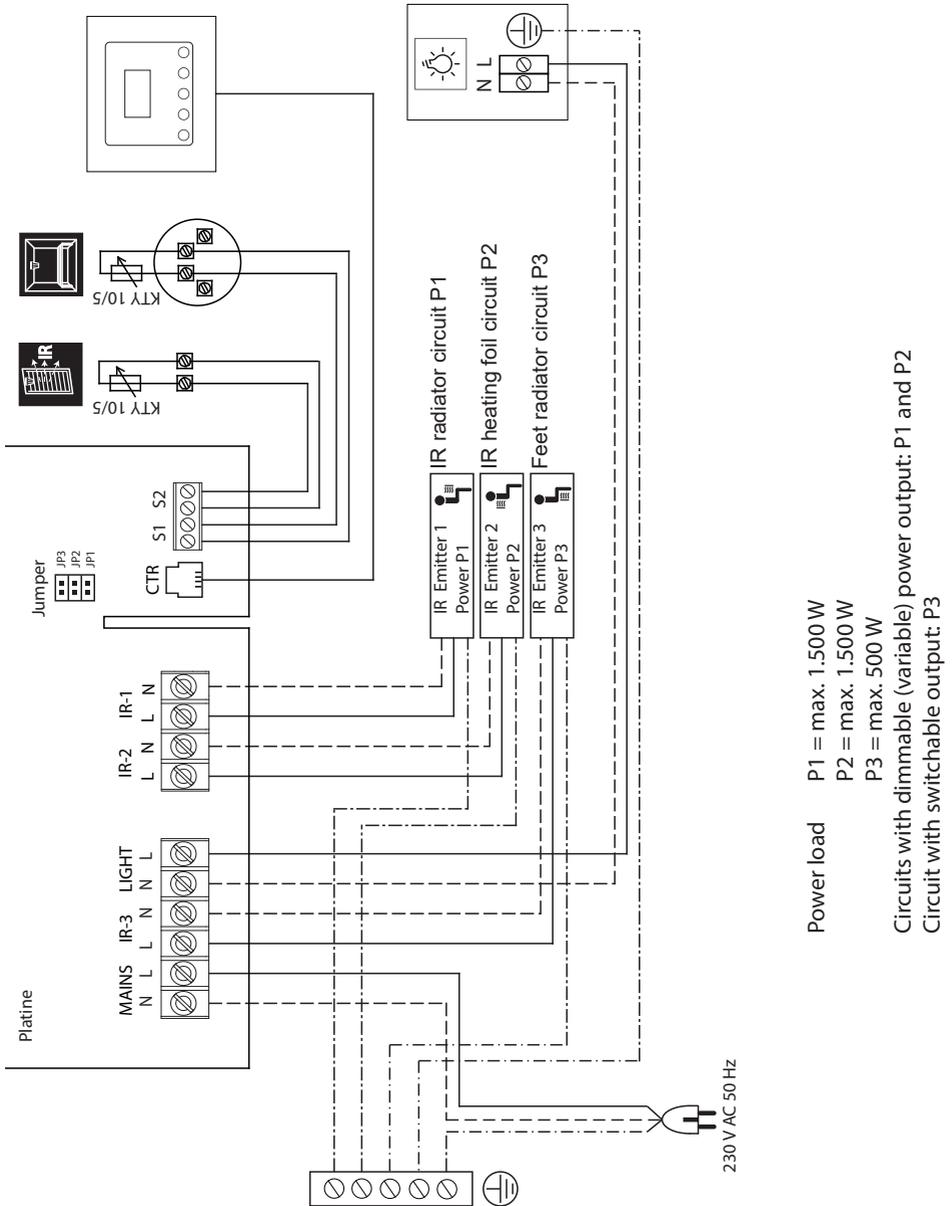
Connection diagram for IR heating foils



NOTICE:

The total power of all IR emitters in any combination may not exceed 3500 W..

Connection diagram for IR radiant heaters and IR heating foils



NOTICE:

The total power of all IR emitters in any combination may not exceed 3500 W..

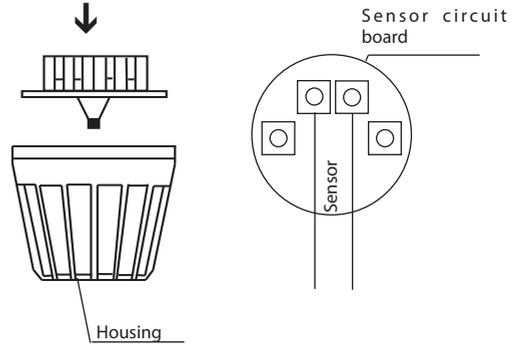
Connecting the sensor cable

You should not draw sensor and power supply cables together or lead them through the same duct. This can lead to interferences in the electronics, such as "fluttering" in the relays. If it is necessary to lay the cables down together, or if the sensor line is longer than 3m, use a shielded sensor cable (2 x 0.5 mm²).

Connect the shielding to ground in the control unit.

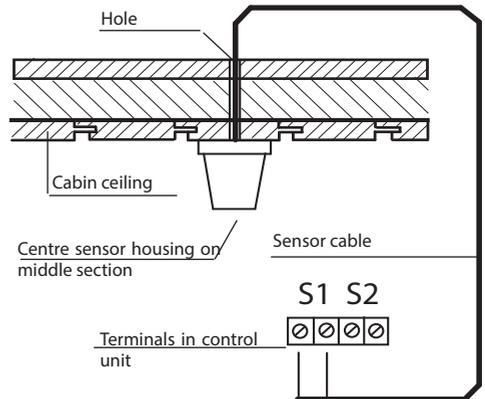
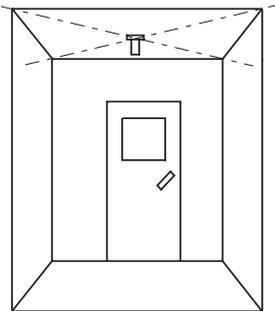
Please observe that the following dimensions relate to the values stipulated during the unit inspection acc. EN 60335-2-53. The room temperature sensor must always be mounted on the ceiling in the centre of the cabin. The following Figs. give you an overview of the installation point for the sensor.

2. Drill a hole to lead the cable through, preferably through the middle of one of the wooden boards.
3. Draw the sensor cable through the drilled hole and connect it to the sensor board according to the Fig. below.



Installation of the room sensor

1. The heater sensor is mounted in the centre of the cabin ceiling.





Installation of the optional heating foil sensor

- Fix the heating foil sensor cable outside the IR heating foil with the strain relief

Installation location:

The heating foil sensor shall be mounted in the area of the overheating protection of the smallest heating foil installed and shall be reliably fixed with a strain safeguard.



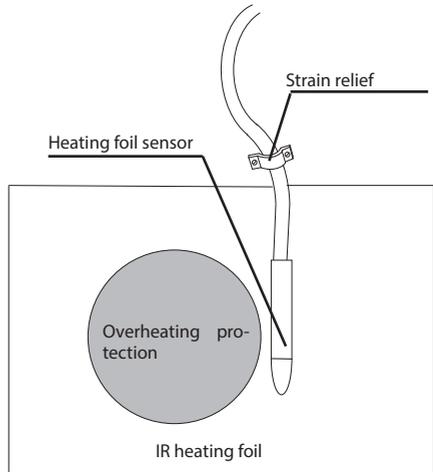
CAUTION! Measurement value falsification!

If the heating foil sensor is not directly mounted onto the IR heating foil, the measurement values will be falsified. Therefore place the heating foil sensor directly onto the heating foil.



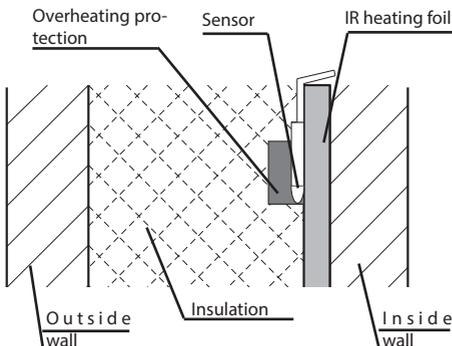
Only mount the heating foil sensor when using IR heating foils with integrated overheating protection.

- Mount the sensor directly between the heating foil and the insulation.



CAUTION! Do not damage the IR heating foil during installation.

- Draw the sensor line to the control power unit and connect to the S2 terminals.



Operation

Once the system has been installed with all components and all covers have been fixed, you can put your IR cabin into operation.

The following pages explain the operation, settings and options of the Infratec Premium control unit.

General

The user interface



The fig. shows the operating unit in Stand-by mode with the light switched on.

Operating buttons



= Cabin lighting



= Heating On - Off (stand-by)



= Programming mode



= Previous function / Increase the value

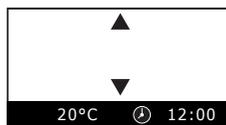


= Next function / Decrease the value

Default display Stand-by

is shown if the system is in Stand-by mode.

Reset to this display takes place from other menu items if no activity is carried out > 15 s.



Default display in operation

is shown if the system is in operation.

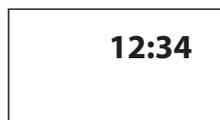
Reset to this display takes place from other menu items if no activity is carried out > 15 s.



Energy-saving display

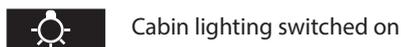
If the unit is not used, it will switch after 15 seconds into energy-saving mode. First the background lighting is switched off and then a moving time is shown after 30 minutes, similar to a PC screensaver.

By pressing any key you can return to the Stand-by default display.



The following applies for all settings:

The following is shown at the bottom area of the display:



Cabin lighting switched on



Current cabin temperature



The Clock symbol

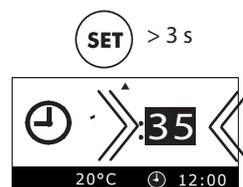
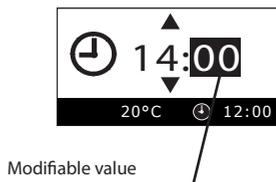


Current time

If the background around a value in the bottom part of the display is shown in black, this value can be changed using ▲ or ▼ .

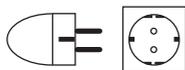
If no key is pressed for >15 s., the unit switches back into the default display. Changes made up to then are not saved

All settings out of Stand-by are confirmed by pressing (SET) >3 s and saved in the unit. After saving, the changed value will flash twice.



Initial commissioning

Step 1 - connect the device to the mains



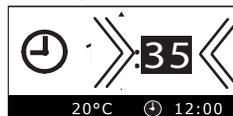
Step 2 - Select and set language



To confirm press "Set"



The display shows the standby mode



To confirm press "Set"



Step 3 - Set time (hours)



To confirm press "Set"

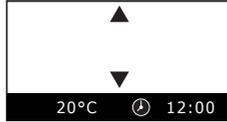


Step 4 - Set time (minutes)



Change language

Press "Set" and ▼ simultaneously



Start the language selection mode with "Set"



Select language

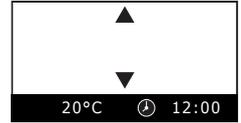


Press "Set" for 3 sec. to confirm



Change time

Press "Set" and ▼ simultaneously



Use ▼ or ▲ to jump to the temperature setting for foil sensors



Start the setting mode with "Set"



Set hour



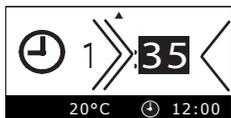
Save with "Set", the selection jumps to the minutes



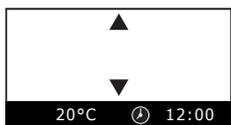
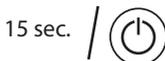
Set minutes



Press "Set" for 3 seconds to confirm

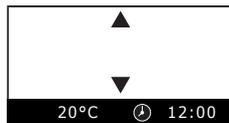


To exit press "Start" or wait 15 sec. The display changes back to standby mode.



Foil temperature

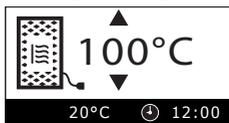
If IR heating foil and the optional heating foil sensor are connected to your IR cabin, the maximum permitted temperature for the IR heating foil is set.



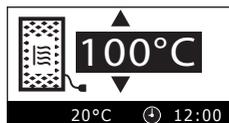
Press "Set" and simultaneously



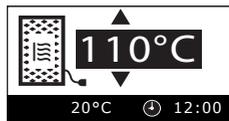
Use ▼ or ▲ to jump to the temperature setting for foil sensors



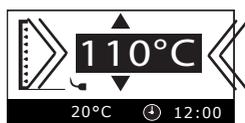
Start the setting mode with "Set"



Set the desired temperature

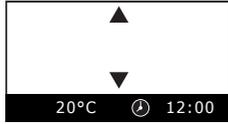
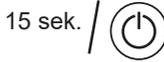


Press "Set" for 3 sec. to confirm

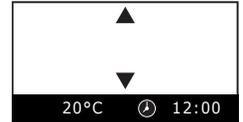
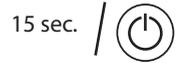
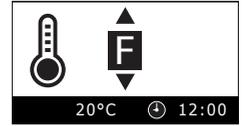




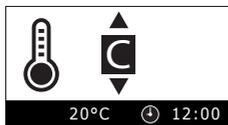
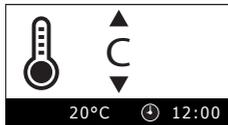
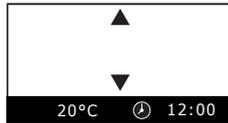
To exit press „Start“ or wait 15 sec. The display changes back to standby mode



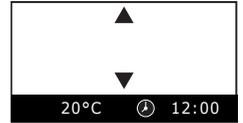
SET > 3 sec.



Setting the temperature unit °C / °F



Switching on the IR system



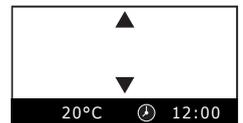
To switch on the sauna heater, press the „Start“ button. The heater will run for the pre-set time.



Switching off the IR system



To switch off, press the „Start“ button. After expiration of the pre-set heating time, the heating switches off as well.



Individual settings

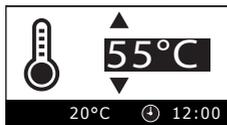
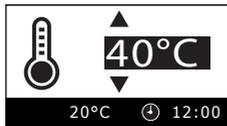
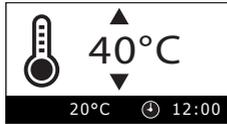
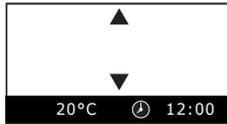
The following pages show you the options for adapting the control unit to your individual requirements. Permanent changes of settings can only be carried out in Stand-by mode.

The individual parameters can be adjusted in the same way during operation. These changes take effect immediately and are not stored permanently. They apply only for the respective session.

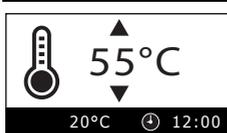
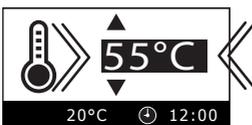


Room temperature

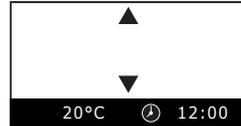
In Stand-by



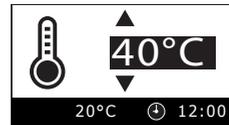
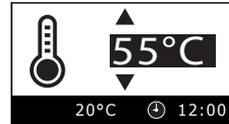
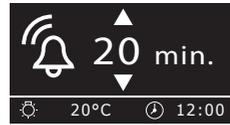
flashing display



15 sec. /



In operation



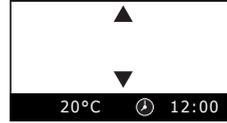
5 sek.



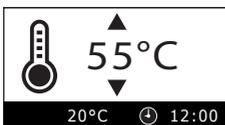
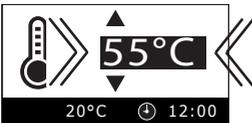
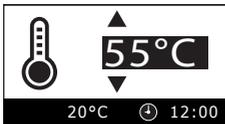
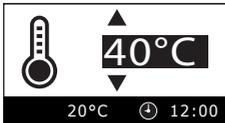
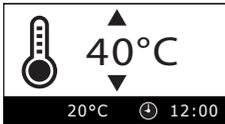
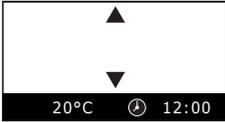


Room temperature for heating foil operation

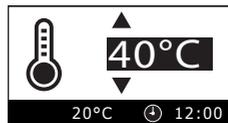
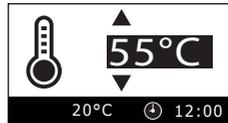
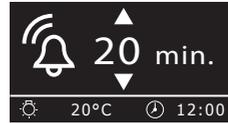
The display shows the temperature value to be regulated in the central area (40/55°C).



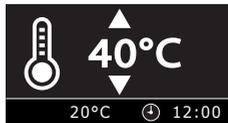
In Stand-by



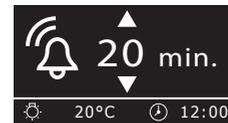
In operation



5 s



15 sek.

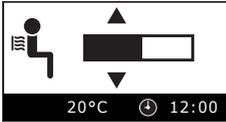
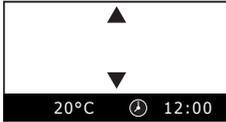




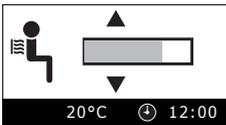
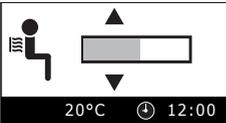
Back heater

only possible when operating with IR radiators

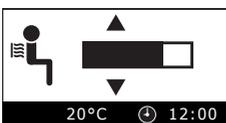
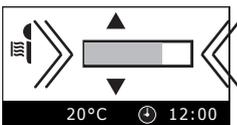
Im Stand-by



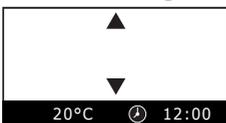
SET



SET > 3 sek.



15 sek. / [Power button icon]

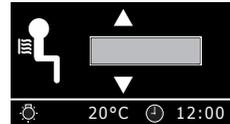


If the power output for IR radiators is reduced in Stand-by mode, the radiators will still heat with 100% power up to a room temperature of 30° C.

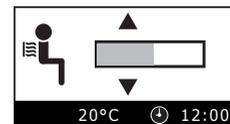
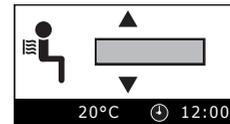
Upon reaching 30° C IR radiator power output will be reduced to the set value and the cabin may be heated to max. 70° C.

The room temperature control over the main temperature sensor is disabled in this case.

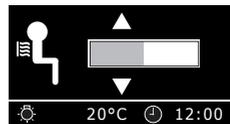
In operation



SET



5 sek.



15 sek.

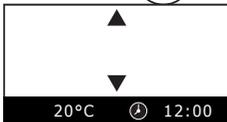
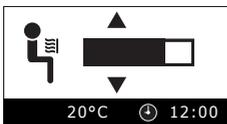
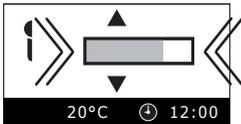
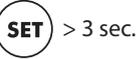
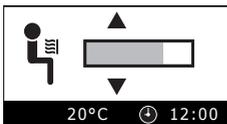
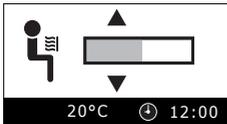
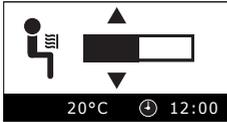
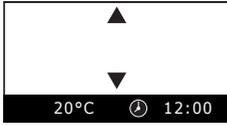




Front side IR radiator(s)

Dimmable only by operation with IR radiators and in combination mode (IR radiators & heating foils)

In Stand-by

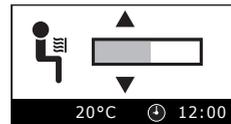
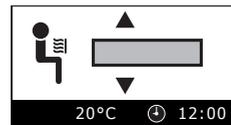
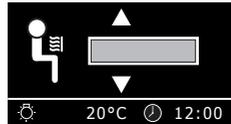
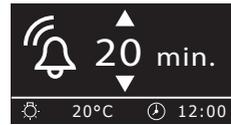


If the power output for IR radiators is reduced in Stand-by mode, the radiators will still heat with 100% power up to a room temperature of 30° C.

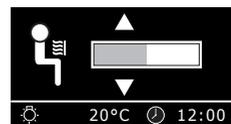
Upon reaching 30° C IR radiator power output will be reduced to the set value and the cabin may be heated to max. 70° C.

The room temperature control over the main temperature sensor is disabled in this case.

In operation



5 sec.



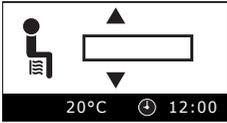
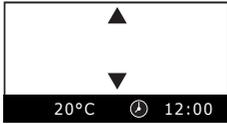
15 sec.



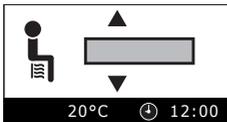
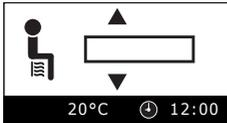


IR radiator(s) for feet

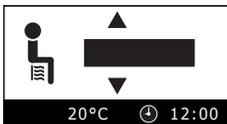
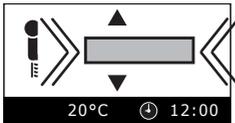
In Stand-by



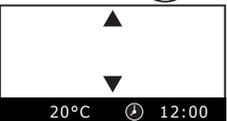
SET



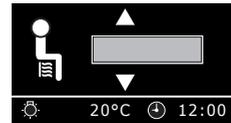
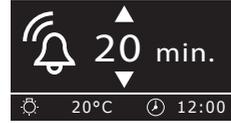
SET > 3 s



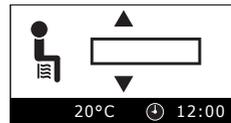
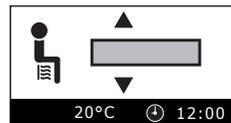
15 s / [Power icon]



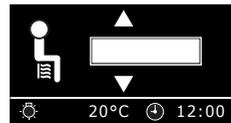
In operation



SET



5 s



15 sek.

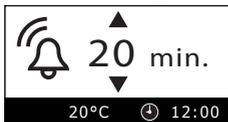
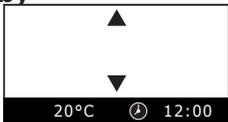


Please note that the IR radiator for feet is not regulated by the measured temperature! The performance should not be able to heat the room above 70 °C.



Heating time

In Stand-by



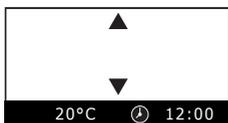
SET



SET > 3 sek.



15 sek. /



In operation



SET



5 sek.



The device „Switch-off“ switch

The control unit is equipped with a “Switch-off” rocker switch.

This switch allows to switch the control unit to the standby mode (notice the heating will not start), to switch the control unit completely off (disconnect from power) or to switch the control unit off but to leave the light switched on.

Notice: if you leave the control units switched off for more than 24 h all personal settings will be lost. You will have to repeat setup.

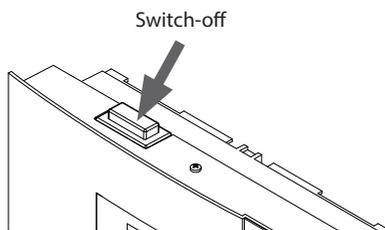


Attention! Parts of the printed circuit board will still remain energized in the switched off condition! Risk of electric shock!

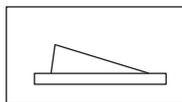
Press the switch on the left side of the rocker to the first latch (**switch setting 0**). The switch will be in the middle position. The unit is now completely switched off (disconnected).

To turn the light on in the cabin while the unit is still disconnected push the left side of the rocker to the second latch (**switch setting II**).

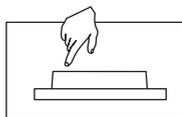
To make the unit ready for operation, switch back to the initial position (**switch setting I**). The unit will return to stand-by mode.



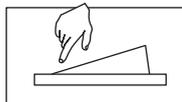
Device's main switch



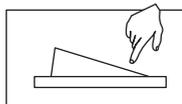
Device switched on.
(default Position I)



Device switched off
(completely);
Position 0.



Light enabled;
Device switched off.
Position II.



Device switched on.
Position I.

Error messages

The control unit continuously monitors the temperature sensor for short circuits and interruptions. However only the sensors which are activated are monitored. That means:

If only IR radiators are connected then only the cabin temperature sensor is monitored:

If only IR heating foils are connected then both sensors are monitored.

If both IR radiators and IR heating foils are connected then both sensors are monitored.

The error messages appear as follows:



= Interruption in the room sensor circuit



= Short circuit in the room sensor circuit



= Interruption in the foil sensor circuit



= Short circuit in the foil sensor circuit

If one of these messages appears contact your authorized dealer to have the system checked by a specialist.

At room temperature (approx. 20° C) the KTY sensor shall have a resistance of approx. 2 kΩ.



Recycling

Devices or lighting elements that will not be used any longer have to be handed in at a recycling station according to regulation 2012/19/EU. Do not dispose it with the normal household waste.



Service Address:

EOS Saunatechnik GmbH
Schneiderstriesch 1

35759 Driedorf, Germany

Tel: +49 (0)2775 82-514

Fax: +49 (0)2775 82-431

servicecenter@eos-sauna.de

www.eos-sauna.de

Please retain this address together with the installation guide for further references.

To help us answer your questions quickly and competently please provide the information printed on the type shield including the model, item no. and serial no., in all inquiries.

Equipment commissioning date:

Stamp and signature of the authorized electrician:

General Terms and Conditions of Service

I. Scope

Unless otherwise agreed in writing in a specific case, these terms and conditions of service shall apply to service operations, including examining and repairing complaints. All our existing or future legal relationships shall be governed solely by the following terms and conditions of service. Our recognition of any conflicting terms and conditions of the Ordering Party shall be conditional upon our having given our express written consent to their applicability. We hereby expressly object to any terms and conditions of the Ordering Party contained in its General Terms and Conditions of Business or order confirmation. If order confirmations or deliveries are accepted without reservation, this shall not be deemed to constitute recognition of such terms and conditions. Any ancillary agreements or amendments must be confirmed in writing.

II. Costs

The Ordering Party shall bear the following costs in connection with the service operation:

- De-installation/installation and electrical works (connection / disconnection).
- Transportation, postage and packaging.
- Function testing and troubleshooting including inspection and repair costs.

There shall be no third-party billing.

III. Obligations / Ordering Party's cooperation

The Ordering Party shall provide free-of-charge assistance to the manufacturer in carrying out the service operation.

In the case of a warranty claim the manufacturer shall provide the required replacement parts to the Ordering Party free of charge.

IV. Service visit by the manufacturer

In the event that it is essential that a manufacturer employee carry out the service operation on site, this must be agreed in advance. Where the main reason for the service call is not the fault of the manufacturer, any costs incurred shall be recharged to the Ordering Party after the service visit and shall be paid as per agreed payment terms.

V. Liability

The manufacturer shall assume liability in accordance with the currently applicable statutory regulations. The packaging for all of our products is designed for the shipping of individually packed goods (pallet). We expressly

point out that our packaging is not suitable for individual shipments via parcel post. The manufacturer shall accept no liability for damage incurred as a result of improper packaging in an individual shipment.

VI. Manufacturer's Guarantee

The manufacturer's guarantee shall apply only in the event that installation, operation and maintenance have been carried out in accordance with the manufacturer's specifications contained in the installation instructions and instructions for use.

- The guarantee period shall commence from the date on which proof of purchase is provided and shall be limited, in principle, to 24 months.
- Guarantee services shall be performed only if the original proof of purchase relating to the equipment can be presented.
- Any and all guarantee claims shall become void if modifications are made to the equipment without the manufacturer's express consent.
- Any guarantee claim shall likewise become void in the case of defects that arise due to repairs or interventions made by unauthorized persons or due to improper use.
- In the case of guarantee claims, the serial and article numbers must be indicated together with the product name and a meaningful description of the fault.
- This guarantee shall cover defective equipment parts, with the exception of usual wear parts. Wear parts are, among others, lamps, glass parts, heating elements and sauna stones.
- Only original replacement parts may be used within the warranty.
- Service visits by outside companies shall require a written order to be issued by our service department.
- The equipment in question shall be sent to our service department by the Ordering Party and at its expense.
- Electrical installation and connection works in the event of service or replacement shall be carried out at the Customer's expense and shall not be borne by the manufacturer.

Complaints in respect of our products shall be reported to the responsible authorized dealer and shall be exclusively handled via the latter.

The manufacturers General Terms and Conditions of Business, which can be found at www.eos-sauna.com/agb, shall apply in addition to the foregoing terms and conditions of service.

As of 08/2018