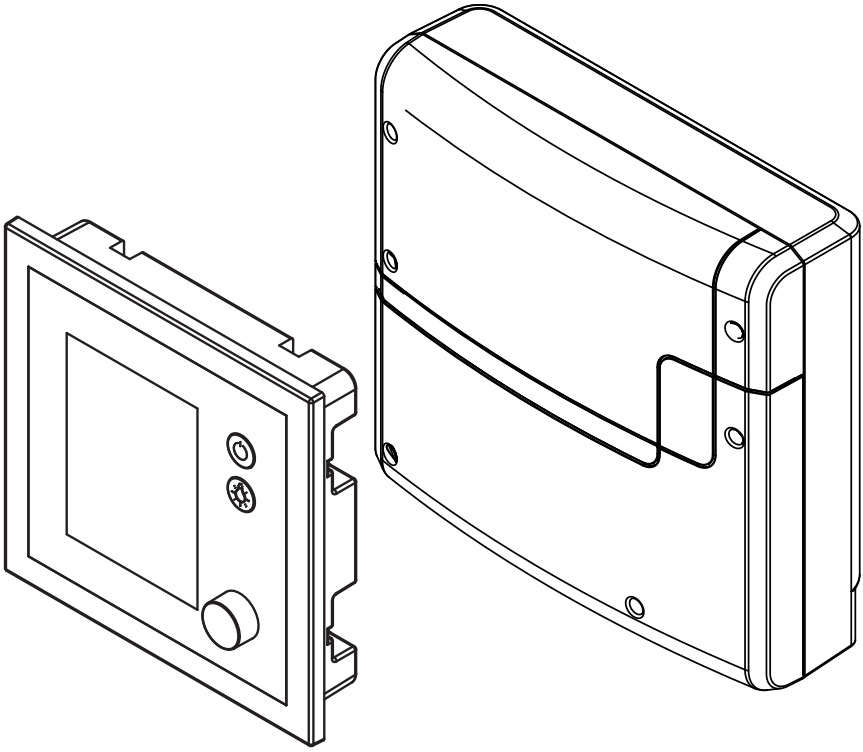
EN

EmoTec IR

Control unit for infrared cabins



Installation Instructions for retailers

Made in Germany

Druck-Nr.: 2902 5034
Stand: 09/22

Documentation

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Original installation instructions EN

Characters, symbols and illustrations

- ⓘ Additional information about an operating step
- 🗋 Cross-reference to a page
- 🕮 Read instructions
- ☑ Result of a step
- Table title
- Title of figure

Revision history

Date	Version	Description
01.03.2022	01.10	Scope of delivery updated, UKCA mark and logo new
26 March 2019	01.00	First version

Contents

1 General safety instructions

1.1 Mounting and electrical installation

These installation instructions are intended for qualified personnel familiar with the laws and regulations applicable to electrical installations at the installation site. Observe the following general safety instructions during assembly, setup and commissioning.

Risk to life and limb and risk of fire

Risk to life and limb from electric shock and fire in the event of improper or faulty electrical connection. This risk also applies following completion of the installation work.

- The electrical installation of the relay box and other electrical systems or equipment with a fixed mains connection must only be performed by a trained electrician from an authorised electrical company.
- Observe the stipulations in VDE 0100 part 701.
- The system must be disconnected entirely from the mains supply before commencing installation and repair work.
- The housing cover must only be removed by a specialist.
- Do not install the control panel, relay boxes or modules in enclosed cabinets or wood panelling.

Fire hazard from overheating

Infrared emitters and heating foils without overheat protection can lead to overheating of the cabin and fire. Flammable parts must not exceed a temperature of 140°C when the unit is operated as intended or in the event of a malfunction.

- ▶ Install only infrared emitters or heating foils that are designed and installed in such a way that they do not pose a fire hazard when the unit is operated as intended. Alternately, infrared emitters or heating foils with overheat protection as per EN 60335-2-53 may be used.
- ▶ Install a safety temperature limiter if needed.
- ▶ Observe the manufacturer's safety and installation instructions for infrared emitters and heating foils.
- ▶ Observe the cabin manufacturer’s safety and installation instructions.
- ▶ Touchable glass surfaces on the outside of the cabins must not reach more than 76°C. Otherwise provide proper protection.

Damage due to incorrect mounting location

The control panel is not suitable for outdoor use.

- ▶ It must be operated only inside buildings and may not be exposed to environmental conditions such as extreme humidity and moisture or the possible formation of condensation or corrosive substances in the ambient air, as well as other weather conditions.
- ▶ Similarly, excessive cold and extreme exposure to sunlight must be prevented.
- ▶ Protect the unit accordingly if there is an increased risk of mechanical damage.

1.2 Operator instruction

The operator of the infrared or sauna cabin must be instructed on the general safety instructions during commissioning. The operator must be given a copy of the instructions for use.

Risk of electric shock

A risk to life and limb from electric shock and fire arises in the event of improper repair work. This risk also applies after work is completed.

- ▶ The housing cover must only be removed by a specialist.
- ▶ Repairs and installations must only be performed by a trained specialist.
- ▶ The system must be completely disconnected from the mains supply before commencing repair work.
- ▶ Use only original spare parts from the manufacturer.

Risk of burns and chemical burns

Touching hot parts may lead to skin burns and chemical burns of the skin.

- ▶ The operator must be familiar with the unit's hot parts and be able to identify them.
- ▶ The operator must be familiar with the settings for the heating period and understand how it is controlled.

Health risks

Spending time in an infrared or sauna cabin can lead to serious health risks or even death for persons with health impairments.

- ▶ Persons with health impairments who spend time in a sauna must consult a doctor before entering an infrared or sauna cabin.

Equipment damage due to overuse

Excessive humidity in commercial infrared or sauna cabins can lead to property damage.

- ▶ In a commercial infrared or sauna cabin, the heating period must be set so that it switches off automatically after a specific period of time.
- ▶ If the heating does not switch off automatically after a defined heating period, cabin use must be supervised at all times.
- ▶ Inspect the cabin before each use.

Operation by children or persons with reduced mental capacity

Children and persons with reduced mental capacity can be put themselves at risk.

- ▶ Children must be supervised to ensure they do not play with the unit.
- ▶ Children under 8 should not operate the infrared cabin.
- ▶ The settings for the heating period must only be changed by children under 8 years of age if they are supervised by an adult.
- ▶ The infrared cabin must only be used by persons with reduced mental capacity, or limited physical or sensory abilities under supervision or if they have been precilously instructed in its use and understand the risks.
- ▶ Children and persons who have not received proper instruction must not clean or service the system.

1.3 Safety levels

Safety instructions and important operating instructions are classified according to ANSI Z535.6. Please familiarise yourself with the following terms and symbols:

⚠WARNING

Warning

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION

Caution

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Notice

Indicates a hazardous situation which, if not avoided, will result in damage to the unit.

1.4 Standards and regulations

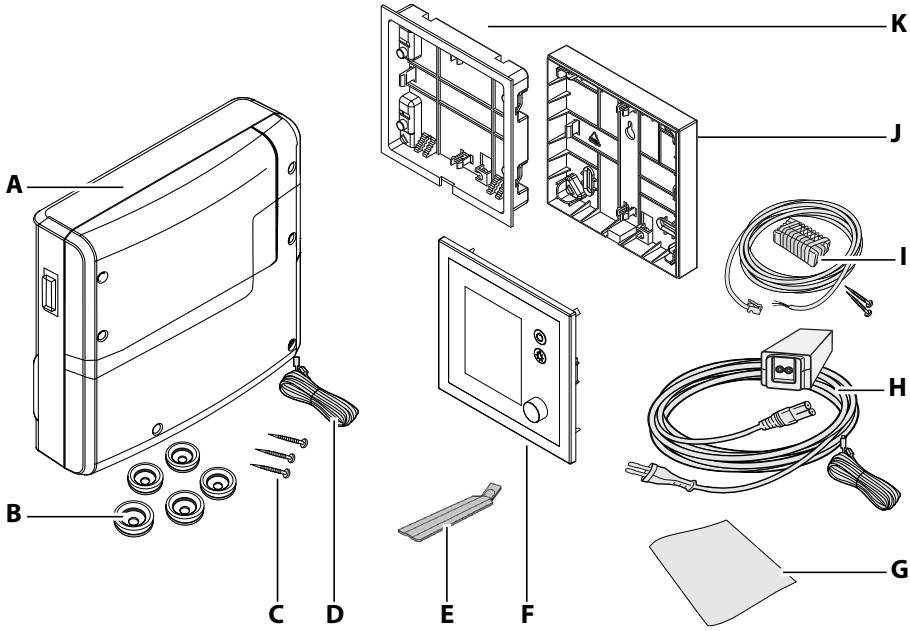
For an overview of the standards that were observed during design and construction of the sauna heaters, please refer to the individual product's technical data sheet that can be downloaded from www.eos-sauna.com.

2 Identification

The EmoTec IR control unit consists of a relay box and a control panel and is used to operate the infrared cabin.

2.1 Scope of delivery

The relay box is enclosed in a plastic housing. The housing completely encloses the circuit board and the electronics.
The following components are included in the scope of delivery:



- **A** Relay box with 2-piece front cover
- **B** 5 bushings
- **C** 3 wood screws 4 x 25 mm
- **D** 5 m connecting cable with RJ14/ RJ10 modular plug for control panel
- **E** Removal tool for front panel
- **F** EmoTec control panel
- **G** Installation and operating Instructions
- **H** Power adaptor with connection cables
- **I** Temperature sensor including 5 m connecting cable with RJ10 plug, housing, circuit board, 2 screws 4x40 mm
- **J** Housing for mounting on the wall
- **K** Housing for mounting in the wall

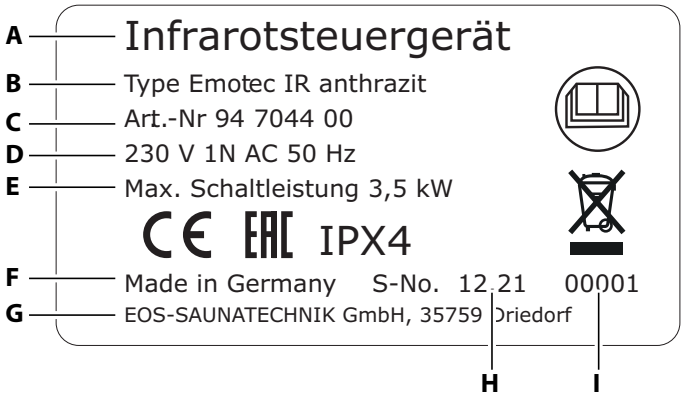
EmoTec IR scope of delivery

Check the scope of delivery for completeness prior to installation.

2.2 Unit information

2.2.1 SBM-LSG-IR

The nameplate is attached to the underside of the base of the housing.

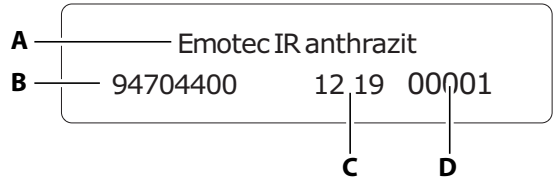


A Name
B Model
C Item number
D Operating voltage
E Maximum switching output (kW)
F Country of origin
G Manufacturer
H Manufacturing date
I Serial number

Nameplate (example)

2.2.2 EmoTec IR control panel

Software version R. 3.50 or higher must be installed in the Emotec control panel.
The nameplate is located on the inside of the front panel next to the circuit board.



A Name and colour model
B Item number
C Manufacturing date
D Serial number

EmoTec IR nameplate (example)

Requirements for operation and storage

The control panel is only intended for installation outside the IR cabin. The mounting location must meet the following climate condition requirements:

- Ambient temperature during operation -10°C to 40°C
- Storage temperature -20°C to 60°C

2.3 Technical data

Ambient temperature	-10°C to +40°C
Storage temperature	-20°C to +60°C
Housing	Relay box, control panel: plastic
Relay box dimensions (H x W x D)	240 x 230 x 70 mm
Control panel dimensions (W x H x D)	127 x 130 x 25 mm, mounting depth approx. 20 mm
Weight	Approx. 1.5 kg
Control panel	EmoTec IR
Outputs/inputs	3 x RJ10 jack for sensor connection 2 x RJ12 jack for control panel and add-on modules Input for power supply plug
Power supply	230 V 1N AC 50 Hz
Switching output	Max. 3.5 kW
Circuits	3 separate circuits with total output of 3.5 kW, can be freely defined - 2 of which individually dimmable - 1 of which non-dimmable switching output
Temperature control	Based on ambient temperature: 30-70°C
	Based on personal preference using dimmable channels (zones)
Control characteristics	Digital output control on circuits 1 and 2
Connection for lighting	Min. 5 W (20 mA), resistive load, max. 100 W Dimmable energy-saving bulbs, max. 35 W Light source with conventional transformers, max. 60 VA Use only dimmable light sources.
Sensor system	Digital sensor for ambient temperature

Heating period limiter	Up to 6 hrs/12 hrs/infinite
Display	TFT colour display 55 x 74 mm (3.5" diagonal)
Control panel outputs/ inputs	1 x RJ10 jack for relay box 1 x connection for memory card (microSD memory card reader)
Operation	Buttons for on/off and lighting, jog dial

2.4 Accessories (optional)

Accessories	Item no.
20 m connecting cable for temperature sensor	94.6281
50 m connecting cable for temperature sensor	94.6282
10 m connecting cable for control panel (RJ10/RJ14)	94.6802
25 m connecting cable for control panel (RJ10/RJ14)	94.6285
50 m connecting cable for control panel (RJ10/RJ14)	94.6968
100 m connecting cable for control panel (RJ10/RJ14)	94.6969
10 m connecting cable for sauna bus (RJ12/RJ12)	94.5861
25 m connecting cable for sauna bus (RJ12/RJ12)	94.4647
50 m connecting cable for sauna bus (RJ12/RJ12)	94.4648
IR module as installation add-on	94.6966
IR plug-in module with adapter cable	94.2046
IR plug-in module without adapter cable	94.4960
2.5 m connecting cable for IR plug-in module	94.4396
Set SBM ECO push button	94.6980
SBM-WCI-01 web app module	94.5987
SBM remote start	94.5782
SBM-FL75/150 coloured light module	94.5996, 94.6007
SBM-S BT sound module	94.5921
Infrared receiver for coloured light module and sound module	94.6810
SBM-GLT-MOD HOME Modbus module	94.7077
SBM-GLT-KNX HOME KNX module	94.7078
Modular distributor RJ12 for connecting cable for control panel and sauna bus	2001.5298

2.5 Intended use

The EmoTec IR control unit is designed to operate infrared emitters and heating foils in infrared cabins. The relay box and control panel are intended only for mounting on the wall.
The SBM-IR module unit must be used in order to operate infrared heating foils and infrared emitters as add-ons in a sauna cabin. The IR module is operated together with the relay box for the sauna cabin.
EmoTec IR is suitable for cabins used in private and commercial settings.

The control panel is not suitable for outdoor use.
It must be operated only inside buildings and may not be exposed to environmental conditions such as extreme humidity and moisture or the possible formation of condensation or corrosive substances in the ambient air, as well as other weather conditions. Similarly, excessive cold and extreme exposure to sunlight must be prevented. Protect the unit accordingly if there is an increased risk of mechanical damage.

Foreseeable misuse

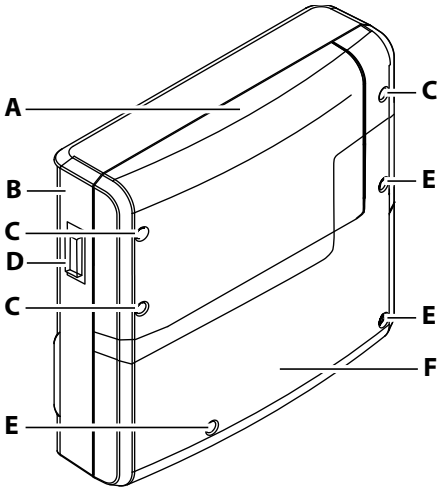
The following are considered instances of foreseeable misuse:

- The infrared heating foils do not have an integrated temperature sensor with overheat protection.
- The control and sensor cable plugs are plugged in incorrectly.
- The unit is operated without knowledge of or compliance with the safety instructions.
- Operating, service and maintenance requirements are not observed.
- The unit is operated after technical or other modifications are made to the relay box.
- The unit is operated by children or persons with reduced mental capacity or by persons who have not been thoroughly instructed in its use.

🕮 1 General safety instructions, 🗋 EN-5

3 Description of the units

3.1 Overview of relay box

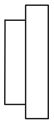


A Housing cover – top piece
B Housing
C Retaining screws for top piece
D Unit switch
E Retaining screws for bottom piece
F Housing cover – bottom piece

Relay box

The relay box is equipped with an on/off switch on the left side.

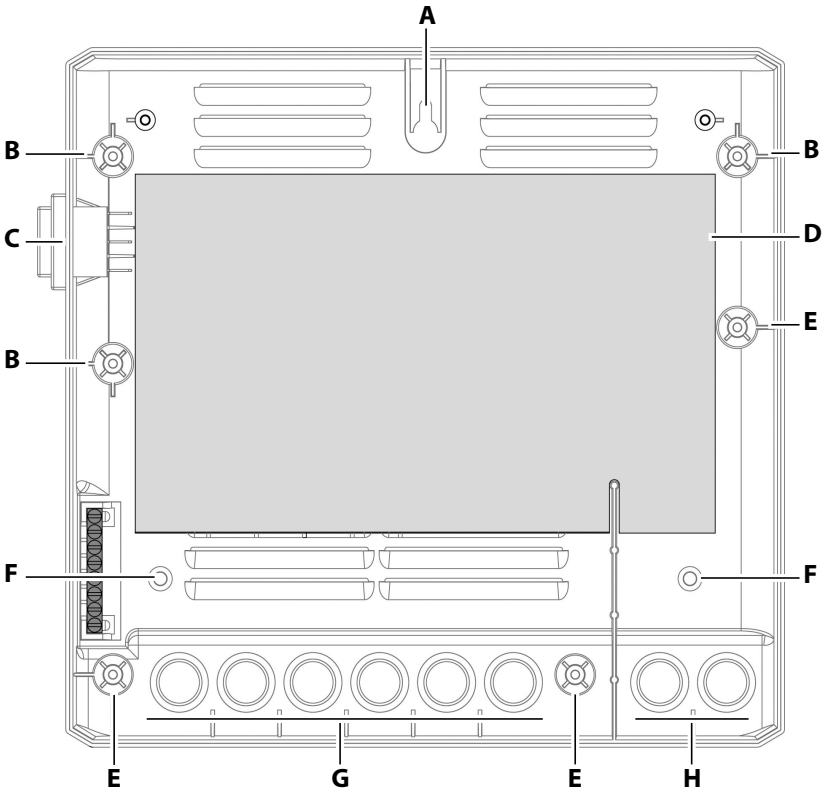
Position I:
Relay box is switched on (factory setting).
The relay box is ready for operation in standby mode.



Position 0:
Relay box is completely switched off.
Parts of the circuit board are still energised.

Position II:
Cabin lighting is switched on, relay box is switched off.
Position for maintenance and cleaning.

3.2 Internal view of relay box

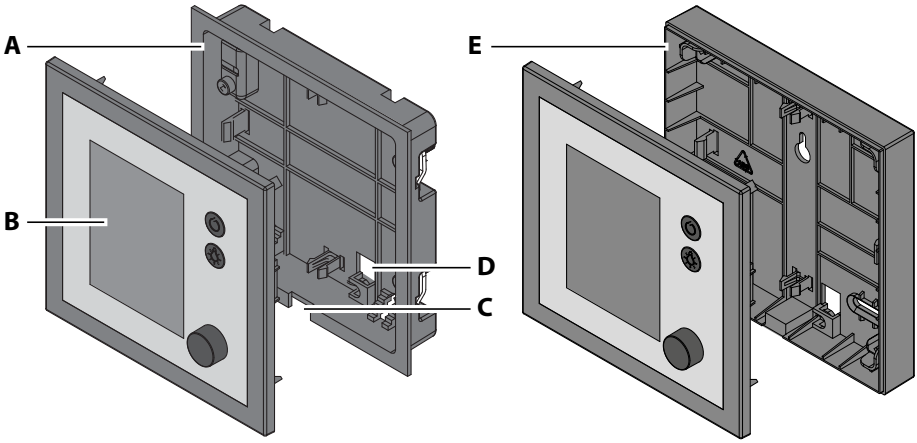


A Top mounting hole
B Housing cover fixtures – top piece
C Unit switch
D Circuit board
E Housing cover fixtures – bottom piece
F Lower mounting holes
G Feed-throughs for cables with mains voltage
H Feed-throughs for cables with low voltage

Housing base

The cables for mains supply and low voltage can be routed through the holes on the back side or base of the housing.
Holes can be punched out at the predetermined points where needed.
For more information on the circuit board, see
5.2 Circuit board assignment, EN-48

3.3 Control panel



A Housing for mounting in the wall
B Front panel with display
C Slot at base for removal tool
D Opening for sauna bus connection
E Housing for mounting on the wall

EmoTec IR diagram

The control panel is available in two versions:

- Version for mounting in the wall (**A**): The housing is mounted in the wall.
- Mersion for mounting on the wall (**E**): The housing is mounted on the wall.

The connecting cable for the relay box is fed through the back of the housing. The circuit board is affixed to the front panel.

4 Installation

This chapter describes how to install the relay box and the control panel.

NOTICE

Damage due to incorrect mounting location

The control panel is not suitable for outdoor use.

- ▶ It must be operated only inside buildings and may not be exposed to environmental conditions such as extreme humidity and moisture or the possible formation of condensation or corrosive substances in the ambient air, as well as other weather conditions.
- ▶ Similarly, excessive cold and extreme exposure to sunlight must be prevented.
- ▶ Protect the unit accordingly if there is an increased risk of mechanical damage.

4.1 Power supply and data lines

All electrical installations and all connecting lines routed inside the cabin must be suitable for an ambient temperature of at least 70°C in infrared-only cabins.

All lines must be routed in such a way that they are well-protected, e.g. in a cable conduit.

NOTICE

Electronics malfunctions

Routing data and power supply lines together can lead to electronics malfunctions because, e.g. because the sensor will not be detected.

- ▶ Do not route sensor and sauna bus lines together with power supply lines.
- ▶ Route separate cable conduits.

Line routing

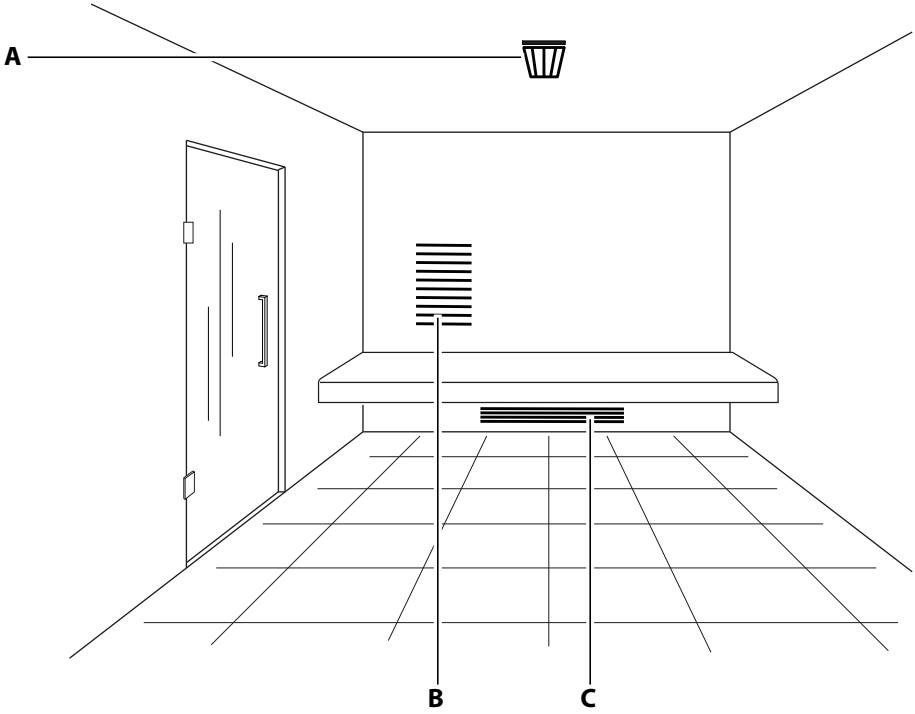
The lines from the individual IR emitters to the power unit may not exceed 5.5 m in length.
If you connect more than one emitter per heating circuit, you must terminate the corresponding lines in the on-site plug-in modules outside the relay box. See Example – plug-in modules (optional), EN-56
The control line must only be routed between the insulation and the outer wall of the cabin. Cabin insulation must be installed in such a way that the temperature in the area in which cables are routed cannot exceed 75°C.

Extending the control panel's control line

For longer connections, special RJ10/RJ14 connecting cables with lengths of 10 m, 25 m, 50 m and 100 m are available as an option.
Alternately, the supplied (as standard) 5-m line can also be extended with an RJ12/RJ12 coupling and an RJ12/RJ12 extension cord.
The extensions and couplings are available as options.
See 2.4 Accessories (optional), EN-13

4.2 Installation work inside the cabin

At minimum, the cabin lighting and a temperature sensor must be installed inside the cabin. Additional connections are possible, depending on the amenities, e.g. coloured lights and audio systems as optional add-on modules.



A Temperature sensor

B IR foil (installed inside the wall)
C IR emitter

Example – cabin

The position and number of IR emitters and foils (IR emitters) can vary depending on the design of the cabin.
The temperature sensor must be installed where expected temperatures are the highest. In an infrared cabin, this is typically at the centre of the cabin ceiling.

NOTICE

Equipment damage due to improper installation

Additional modules with a safety temperature limiter can be mounted in a cabin.

- ▶ Connect the safety temperature limiter only to the relevant module.
- ▶ Never connect more than one safety temperature limiter to a module.
- ▶ Always connect the safety temperature limiter as an isolated contact.

4.2.1 Installing an infrared emitter

⚠WARNING

Fire hazard from overheating

Infrared emitters and heating foils without overheat protection can lead to overheating of the cabin and fire. Flammable parts must not exceed a temperature of 140°C when the unit is operated as intended or in the event of a malfunction.

- ▶ Install only infrared emitters or heating foils that are designed and installed in such a way that they do not pose a fire hazard when the unit is operated as intended. Alternately, infrared emitters or heating foils with overheat protection as per EN 60335-2-53 may be used.
- ▶ Install a safety temperature limiter if needed.
- ▶ Observe the manufacturer's safety and installation instructions for infrared emitters and heating foils.
- ▶ Observe the cabin manufacturer’s safety and installation instructions.

Observe the manufacturer’s separate installation instructions for IR emitters. You can connect foils and/or emitters.

You can connect multiple IR emitters to terminals IR-1, IR-2 and IR-3. Ensure that the cross-section of the lines is sufficient.
The total output may not exceed 3.5 kW.

Connection	Control	Max. load	Total output
IR-1	Dimmable	1.5 kW	Max. 3.5 kW
IR-2	Dimmable	1.5 kW	
IR-3	Switchable	0.5 kW	

If terminals IR-1 and IR-2 together have a load of less than 2.3 kW, IR-3 can accept a maximum switching load of up to 1.2 kW. In this case, the fuse at F2 (T4A H 250V) must be replaced by a T6.3 A H 250 V fuse. See 5.2 Circuit board assignment, 🗋 EN-48.

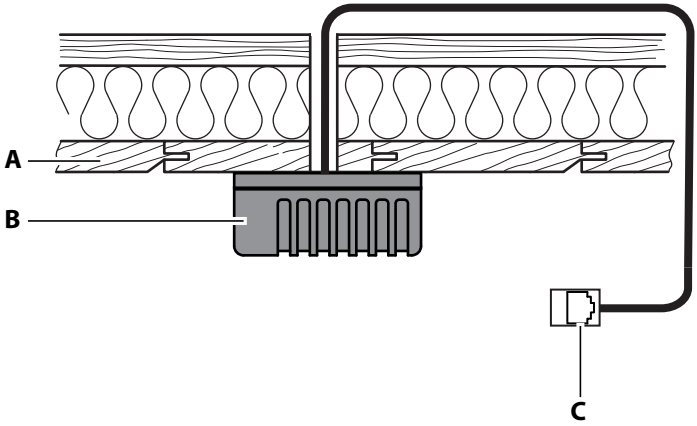
Use a plug-in module if you want to connect multiple IR emitters to one connection.
See 🖼 Example – plug-in modules (optional), 🗋 EN-56.

4.2.2 Installing the temperature sensor

The temperature sensor must be installed where expected temperatures are the highest.
The IR control system prevents ambient temperatures from exceeding 70°C. Therefore, a safety temperature limiter is not needed in IR-only installations. The safety temperature limiter on the relay box's circuit board is therefore jumpered by default.
See 🖼 IR relay box circuit board, 🗋 EN-48.

Hardware + tools:

- Temperature sensor and connecting cables
- Drill to drill a hole in the cabin ceiling
- Screwdriver
- Taught wire, as needed



A Cabin ceiling
B Temperature sensor housing
C RJ10 plug for relay box

Installation diagram

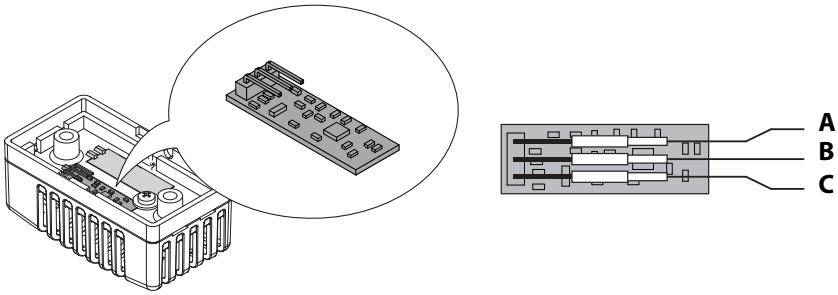
▶ Installing the temperature sensor in the cabin

1 Determine a suitable location for the installation.
ⓘ The temperature sensor should be installed in the middle of the cabin ceiling. This is where the highest temperature in the infrared cabin is expected.

2 Drill a hole in the cabin ceiling for the cable.

3 NOTICE Do not pull at the plug when routing the control line(s). Doing so could damage the line. Attach the taught wire only to the cable. Route the sensor cable through the hole.

4 Open the temperature sensor's housing and connect the cable.



A White (sensor bus)
B Green (sensor bus)
C Brown (sensor bus)

Connector pins for sensor bus

5 Screw the sensor to the cabin ceiling and close the housing.

Connecting the sensor line:
IR relay box circuit board, EN-48

4.2.3 Installing cabin lighting

Lighting can be installed anywhere, however not near rising hot air. The light output is set to inductive load by default, but light bulbs, halogen HV bulbs and other resistive loads may also be connected to it. If required, the light output can also be manually set to capacitive loads.
Setting the light output, see 6.6 Defining the light source manually, EN-78.
Cabin lighting is not included in the scope of delivery. Observe the separate installation instructions for lighting.

Light source requirements:

- Lighting must be dimmable
- Minimal output 5 W
- Resistive loads max. 100 W
- Dimmable energy-saving bulbs max. 35 W
- Light sources with conventional transformers max. 60 VA
- Dimmable LED bulbs max. 60 W

NOTICE

Material damage

Lighting and the control panel could become damaged if non-dimmable light sources are installed. In this case, the warranty becomes void.

- ▶ Do not install lighting in the emitting range of an IR emitter.
- ▶ The lighting must conform to protection class IPX4 (splash-proof) and be resistant to ambient temperatures.
- ▶ Connect only dimmable light sources.

📖 Control line connection:
5 Installation, 🗋 EN-45

4.3 Relay box

The relay box must only be mounted outside of the cabin. Observe the following guidelines.

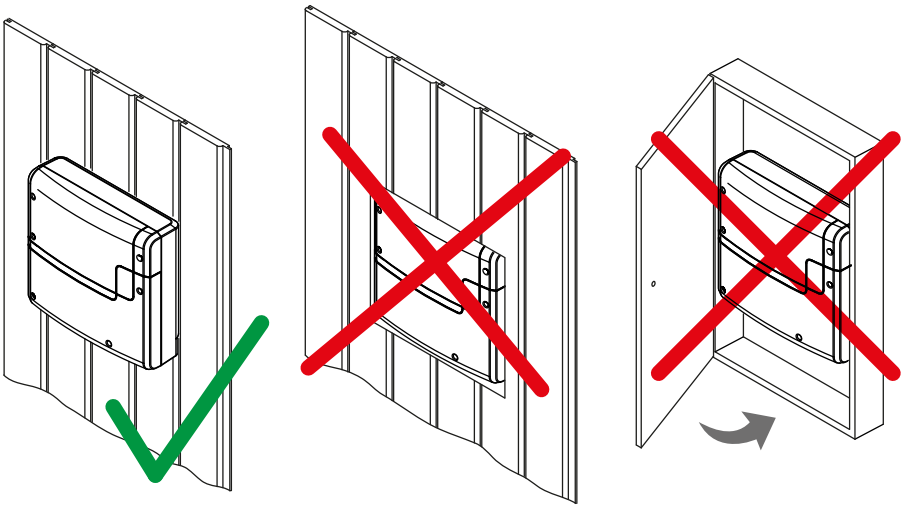
4.3.1 Guidelines

⚠WARNING

Risk to life and limb and risk of fire

Risk to life and limb from electric shock and fire in the event of improper or faulty electrical connection. This risk also applies following completion of the installation work.

- ▶ Do not install relay boxes in enclosed cabinets or wood panelling.



Proper and improper relay box installation

Recommended installation locations are:

- Outer wall of the cabin, however not outside of the building.
- Utility room

If empty conduits for electrical installations are already present, this dictates the position of the relay box.
All lines should be routed before installing the relay box. Connections can be established later. Data lines must be routed and connected in such a way that they are not openly accessible.

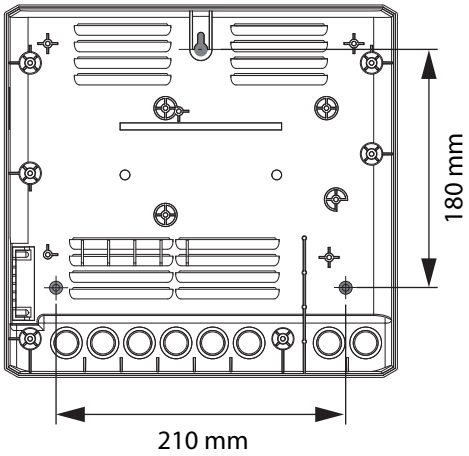
NOTICE

Electronics malfunctions

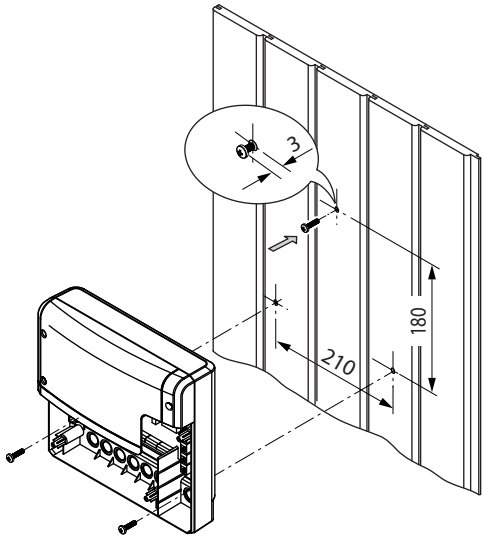
Routing data and power supply lines together can lead to electronics malfunctions because, e.g. because the sensor will not be detected.

- ▶ Do not route sensor and sauna bus lines together with power supply lines.
- ▶ Route cable conduits separately.

Measurements for installation

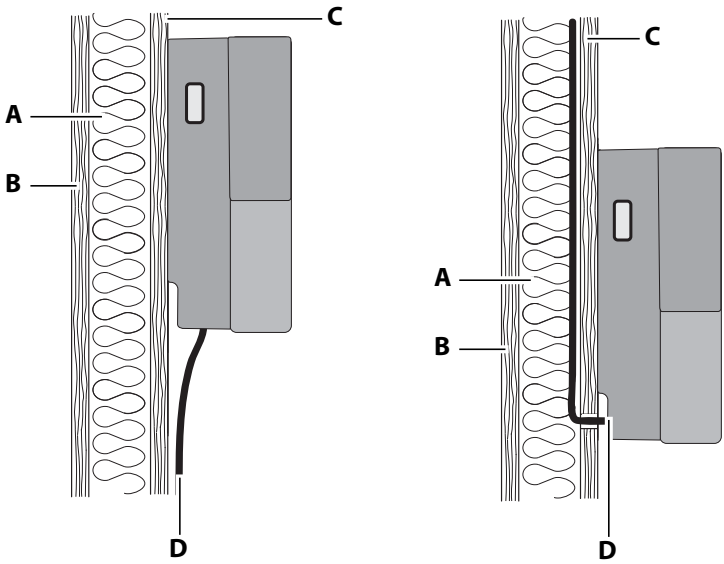


Back of relay box



Installation diagram

Line routing



A Insulation
B Inner wall of the cabin
C Outer wall of the cabin
D Connecting lines

Diagram – routing of data and control line(s)

The power supply, S-Bus and sensor lines can be routed to the relay box as follows:

- The lines can be routed along the outer wall of the cabin. They are then passed into the housing from below. If they are not routed through a cable conduit or a duct, they must be secured so they cannot be pulled out.
- The lines can be routed between the insulation and the outer wall of the cabin. They are then passed into the housing from the rear.

In both cases, the cabin insulation must be installed in such a way that the temperature in the area in which cables are routed cannot exceed 75°C.

4.3.2 Installing the relay box

Necessary steps:

▶ Preparing for installation, 🗋 EN-29
▶ Removing the housing cover, 🗋 EN-29
▶ Installing the relay box, 🗋 EN-30

Tools + hardware

- Drill
- Wood screws 4 x 25 mm
- Mounting on a fixed wall: Screws 4 x 25 mm and corresponding anchors

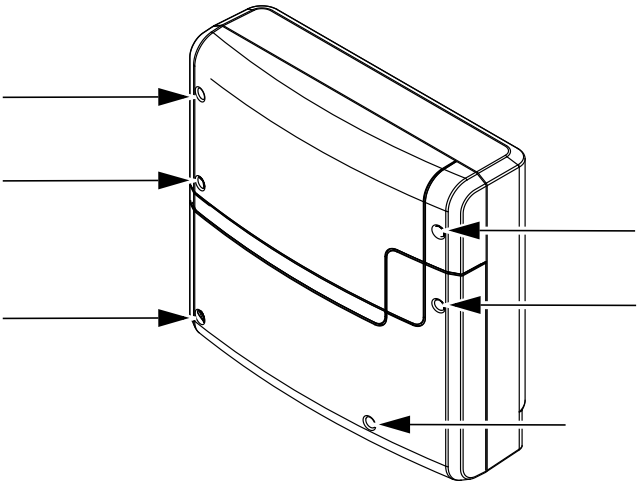
▶ Preparing for installation

1 Determine a suitable location for the installation..

2 Route the lines.

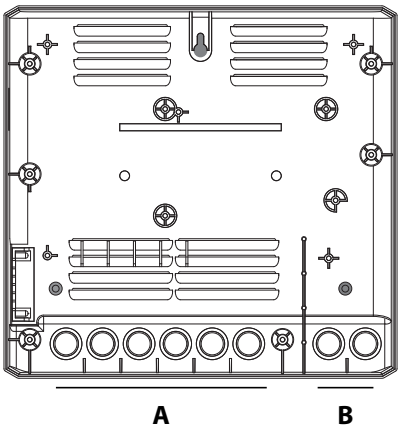
▶ Removing the housing cover

1 Unscrew the 6 screws for both parts of the housing.



2 Remove both halves of the cover.
ⓘ If you have already routed all data lines, you can set the DIP switches on the circuit board after you install the relay box.

3 Open the relay box conduits for the lines.



A Lines with mains voltage, e.g. mains supply line, heat

B Lines with low voltage, e.g. sensor line, S-Bus (sauna bus)

ⓘ Either from below or from the rear.

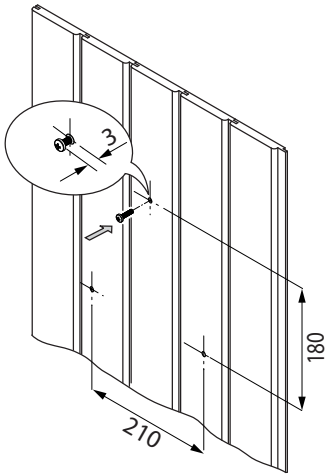
4 Insert supplied rubber grommets into the openings of the lower part of the housing.

▶ Installing the relay box

1 Drill one (1) hole above and two (2) holes below.

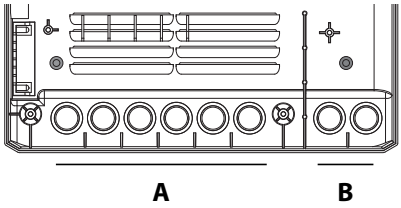
Horizontal distance between drill holes: 210 mm
Vertical distance between drill holes: 180 mm

2 Insert the anchors as needed and screw in the top screw.



ⓘ Allow the screw to protrude approx. 3 mm so you can hook in the relay box.

3 Route the connection cables through the openings.

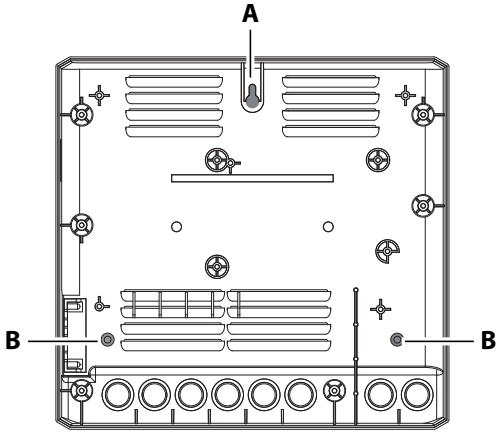


A Lines with mains voltage, e.g. mains supply line, heat

B Lines with low voltage, e.g. sensor line, S-Bus (sauna bus)

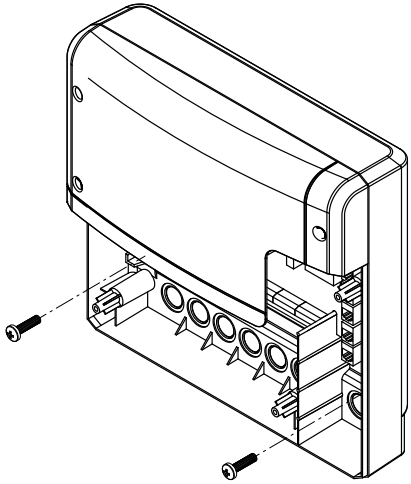
ⓘ Either from below or from the rear.

4 Hook the relay box into the upper screw using the upper mounting hole.



A Top mounting hole **B** Lower mounting holes

5 Securely tighten the relay box using the two lower mounting holes.



ⓘ Once you have completed all installation work you can connect the consumers and plug in the lines.

ⓘ 5.4 Connecting data lines, 🗋 EN-53
5.5 Connecting and configuring consumers, 🗋 EN-55
5.6 Configuring the relay box, 🗋 EN-58

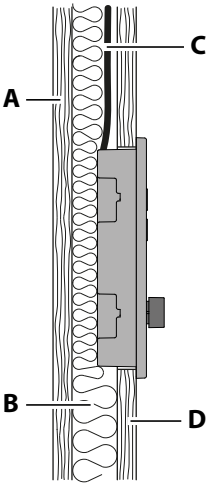
4.4 Control panel

The housing for the EmoTec IR control panel is available in two versions: for mounting in the wall or for mounting on the wall. Both versions are designed for a mounting location on the outer wall of the cabin.
If empty conduits for electrical installations are already present, this dictates the position of the control panel.

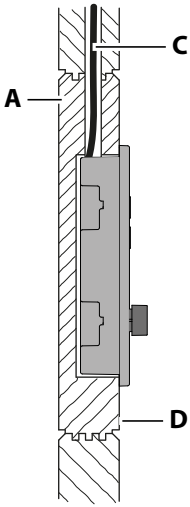
4.4.1 Guidelines

The cabin wall must be designed in such a way that the temperature in the area in which cables are routed cannot exceed 75°C.

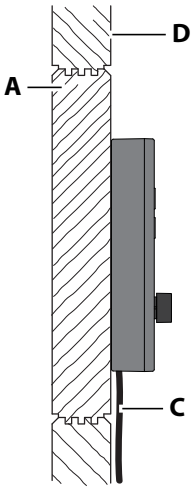
Line routing



Mounting in the wall for cabin walls with insulation



Mounting in the wall for cabin walls made of solid logs



Mounting on the wall for cabin walls made of solid logs

A Inner wall of the cabin
B Insulation
C Control line
D Outer wall of the cabin

Guide for data and control line(s)

The following guidelines apply depending on the cabin wall:

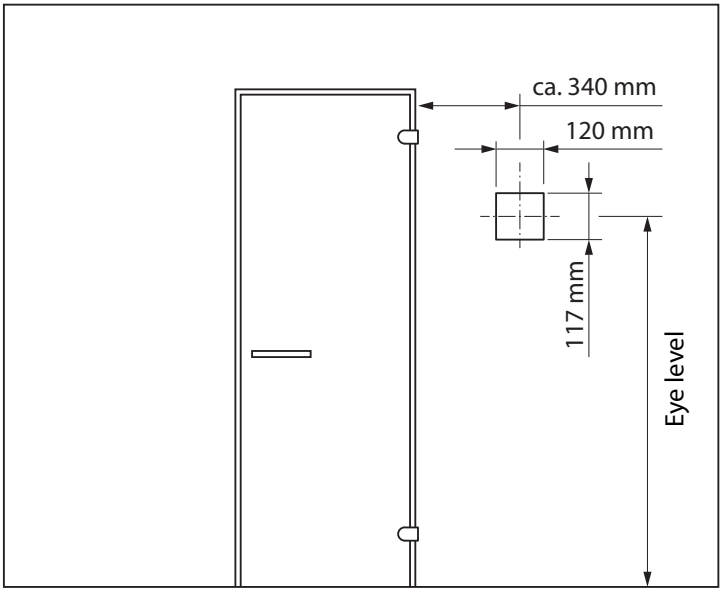
- Mounting in the wall – insulation: The control line must only be routed between the insulation and the outer wall of the cabin.
- Mounting in the wall – wooden planks: The control line is routed between the inner wall and outer wall of the cabin.
- Mounting on the wall – wooden planks: The control line is routed along the outer wall of the cabin.

Extending the control panel's control line

For longer connections, special RJ10/RJ14 connecting cables with lengths of 10 m, 25 m, 50 m and 100 m are available as an option.
Alternately, the supplied (as standard) 5-m line can also be extended with an RJ12/RJ12 coupling and an RJ12/RJ12 extension cord.
The extensions and couplings are available as options.
See 2.4 Accessories (optional), 🗋 EN-13

Mounting location for control panel

The Emotec IR control panel is mounted outside of the cabin. Preferably, it should be mounted on the hinge-side of the door (not the opening side). This prevents hot air from reaching the control panel when the cabin is in use, which, in the event of unfavourable ambient temperatures in the anteroom, could cause condensation to form on/in the control panel.
The following distances are recommendations:



Dimensions at the mounting location

Distance from the cabin door	Min. 340 mm on the hinge side
Height of the middle of the display	Eye level
Cut in wall (only if control panel is mounted in the wall)	Height approx. 117 mm Width approx. 120 mm
Depth for mounting in the wall	Min. 20 mm

4.4.2 Mounting the housing

The control line that leads to SBM-LSG-IR is connected to the control panel. The control line is fed through the opening in the housing. Therefore, it must be installed once the cut in the wall has been made.

Tools required:

- Saw for cutting the wall (only when mounting in the wall)
- Phillips screwdriver
- Removal tool to loosen the front panel (included in the scope of delivery)
- Taught wire, as needed
- Wooden screws (included in the scope of delivery):
  4 screws for housing mounted in the wall with a wall thickness of > 30 mm
  3 screws for housing mounted on the wall

Necessary steps:

▶ Removing the front panel from the housing, 🗋 EN-38
▶ Mounting the housing in the wall, 🗋 EN-38
▶ Mounting the housing on the wall, 🗋 EN-41

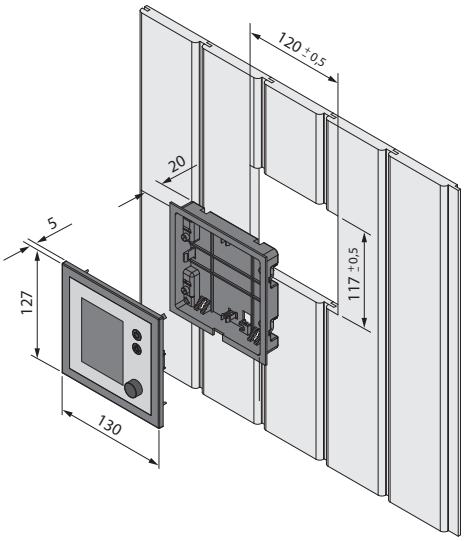
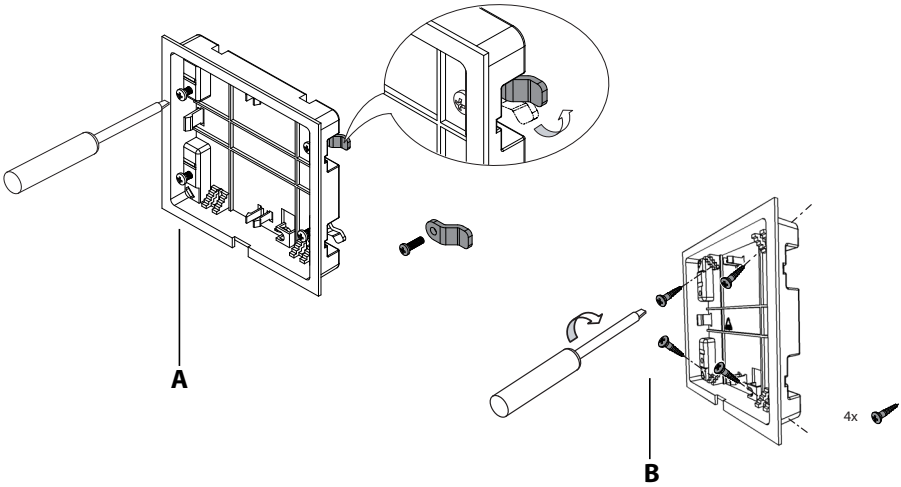


Diagram for installing housing mounted in the wall

Depending on the wall thickness, the control panel housing mounted in the wall must be installed in different ways.



A Installation if wall thickness is 15–30 mm

B Installation if wall thickness is > 30 mm

Diagram: Installation depending on wall thickness

Installation of the housing mounted on the wall

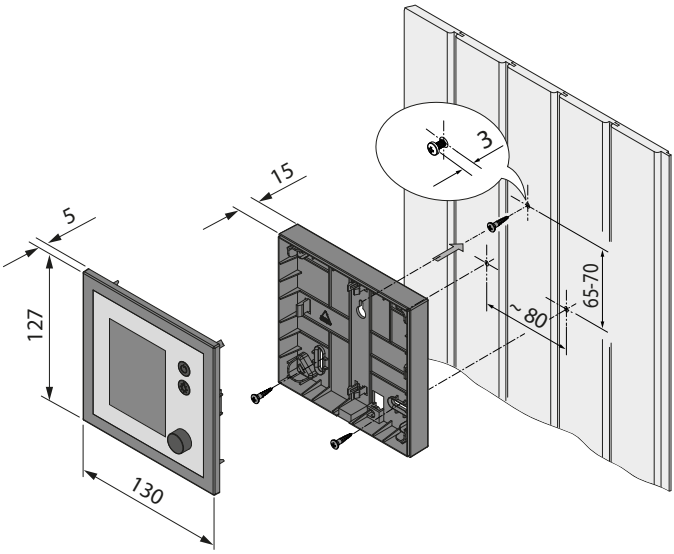
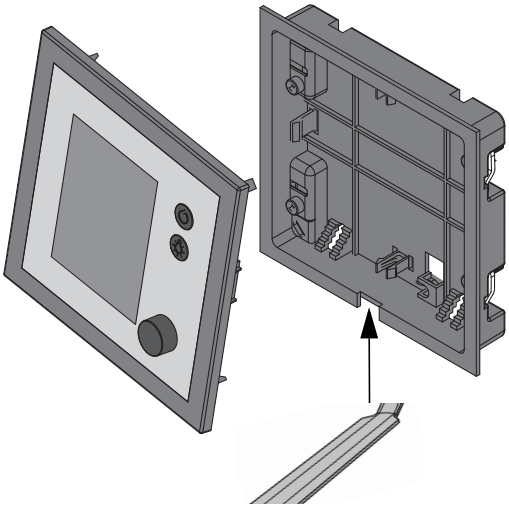


Diagram for installing housing mounted on the wall

▶ Removing the front panel from the housing

1 NOTICE Do not drop the front panel. Remove the protective foil from the panel after mounting is completed.
Insert the removal tool in the slot at the base of the housing.



ⓘ If you are mounting the housing on the wall, loosen the front panel in the same way.

2 Carefully loosen the front panel using a consistent amount of force. Remove it by hand.

▶ Mounting the housing in the wall

1 Determine a suitable location for the installation.

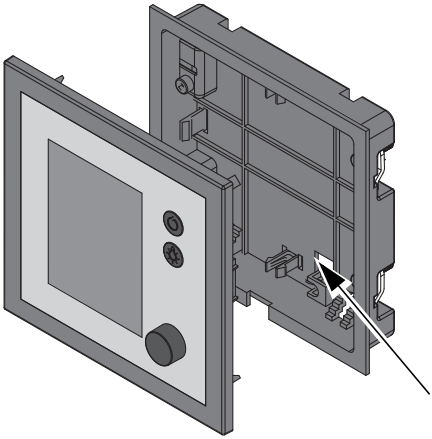
2 Prepare a wall cut-out:

Height x width = 117 x 120 mm
Height from floor: approx. 1500 mm. The mid-point of the control panel should be at eye level.

ⓘ The housing can be fixed in a wall with a thickness of 15-30 mm with the integrated clips. The cut-out may not be larger than this or the clips will not be able to hold the unit. See Diagram: Installation depending on wall thickness, EN-37.

3 NOTICE Do not pull at the plug when routing the control line. Doing so could damage the line. Attach the taught wire only to the cable. Do not pull the line too taught so that you can easily remove the control panel at a later time.
Route the control line from the relay box to the control panel.
ⓘ The smaller RJ10 plug on the connecting cable must be routed to the control panel.

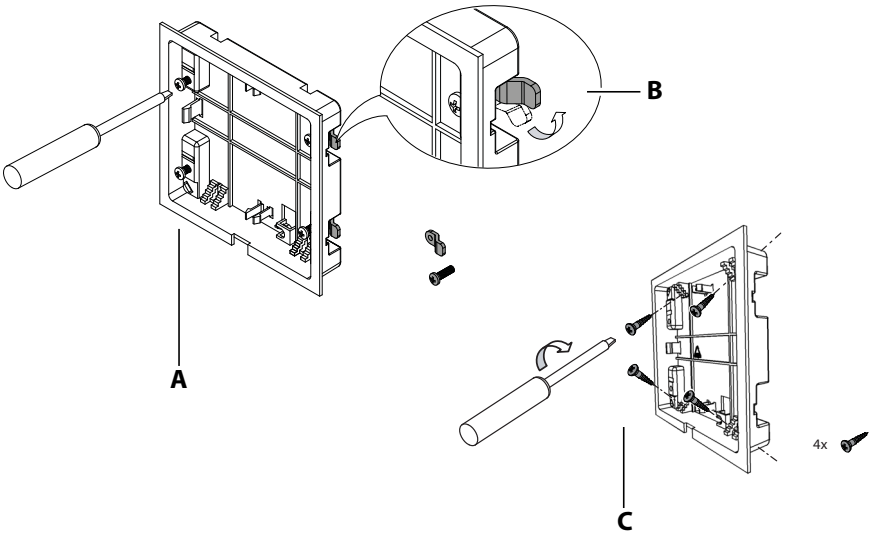
4 After routing, pull the control line through the opening in the housing.



ⓘ Do not pull the control line too taught so that you can easily remove the front panel at a later time.

5 Set the housing in the prepared wall cut-out.
ⓘ Observe the sticker on the housing (oben/up).
ⓘ When fixing the unit to the wall, ensure that the bottom of the unit is aligned properly. The side with the slot for the removal tool must be facing downwards.

6 Insert the housing in the wall cut-out:



A Installation if wall thickness is 15–30 mm

B Clip

C Installation if wall thickness is > 30 mm

Installation diagram

a) Wall thickness 15–30 mm: Loosen the screws at the clips and rotate the clips 90° outward. Tighten the screws again.

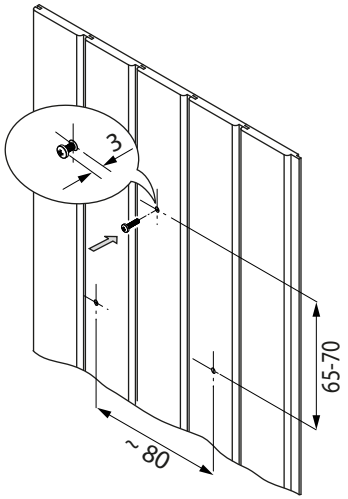
b) Wall thickness > 30 mm: Remove the clips completely and tighten the housing with wooden screws.

ⓘ The housing must sit firmly in the wall cut-out.

▶ Mounting the housing on the wall

1 Determine a suitable location for the installation.

2 Drill one (1) hole above and two (2) holes below.



Emotec IR mounting diagram

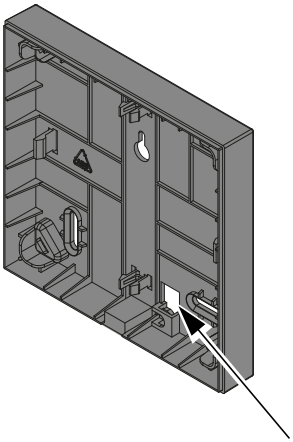
Horizontal distance between drill holes: 80 mm
Vertical distance between drill holes: 65–70 mm
Height from floor: approx. 1500 mm. The mid-point of the control panel should be at eye level.

3 Tighten the upper screw.
ⓘ Allow the screw to protrude approx. 3 mm so you can hook in the housing.

4 Hook the housing into the upper screw using the upper mounting hole.

5 Route the control line from the relay box to the control panel.

6 After routing, pull the control line through the opening in the housing.



ⓘ Do not pull the control line too taught so that you can easily remove the front panel at a later time.

7 Securely tighten the housing using the two lower mounting holes.
ⓘ The housing must sit firmly on the wall.

4.4.3 Mounting the control panel

The control line (S-Bus) that leads to the relay box is connected to the control panel.

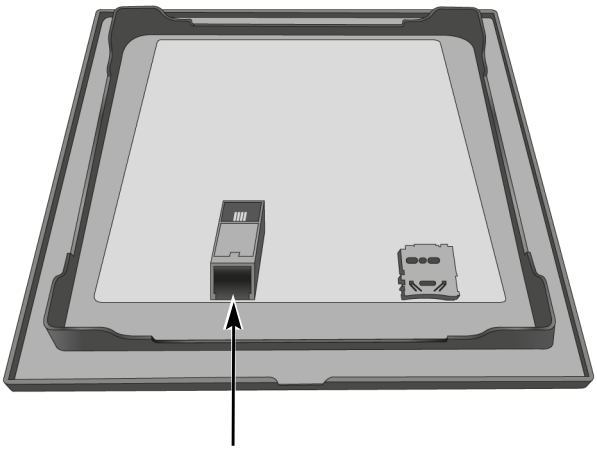
Necessary steps:

▶ Connecting the S-Bus, 🗋 EN-43

▶ Fixing the front panel, 🗋 EN-44

▶ Connecting the S-Bus

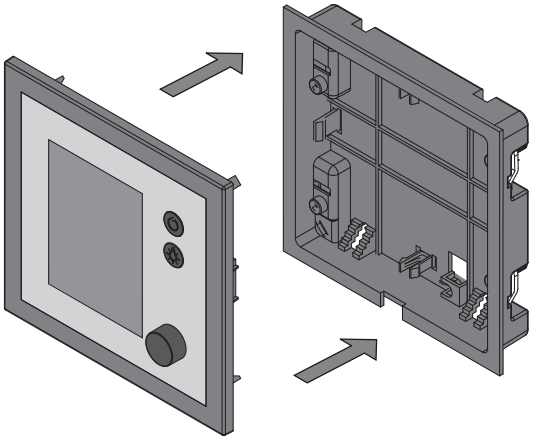
1 Insert the control line with the RJ10 plug into the circuit board.



ⓘ The control line's RJ10 plug is inserted into the circuit board on the control panel. The RJ14 plug is inserted into the relay box.

▶ Fixing the front panel

1 Place the front panel directly in front of the bottom piece.
ⓘ Ensure that it is aligned properly.



ⓘ If you are mounting the housing in the wall, fix the front panel in the same way.

2 Press the front panel carefully with a consistent amount of pressure into the housing until it audibly snaps into place.
ⓘ The front panel must sit firmly on the housing.

3 Remove the foil from the display.
ⓘ For commissioning information, see
6.2 Setup during commissioning or after a reset, 🗋 EN-64

5 Installation

This chapter describes how to connect the relay box's circuit board lines. For information on setup of the control panel, see chapter 6 Commissioning, 🗋 EN-61.
You can connect both infrared radiators and infrared foils. Both typs are referred to as IR emitters in the following section. However, in instances where different settings must be made, they will be referred to specifically by name.

Recommended installation sequence

Before commencing installation, ensure that the relay box and the control panel are mounted. Furthermore, all cabin work must be complete: IR emitter, temperature sensor, lighting, etc.

Complete installation in the following sequence:

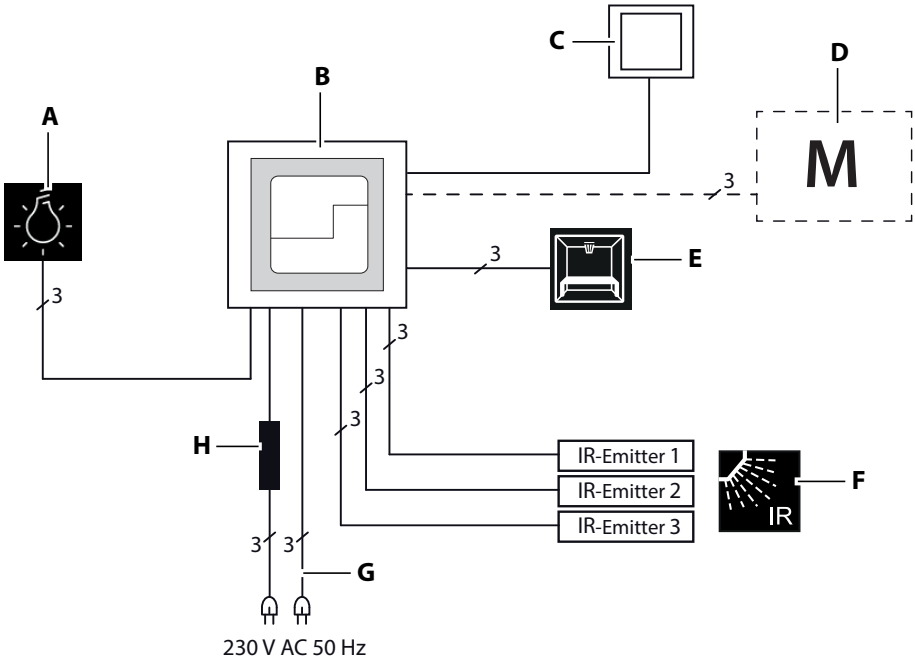
- Plug the S-Bus and sensor lines into the relay box.
- Connect the consumer lines to the relay box.
- Set the DIP switch for the unit address.
- Set the jumper for the IR emitter to IR-1 and IR-2.
- Set the DIP switch for channels IR1, IR2, and IR3.
- Establish connection to the power supply.
- Switch on the relay box and control panel.
- Set up the infrared channels at the control panel.
- Configure additional settings at the control panel, e.g. target temperature for emitters.

5.1 Installation examples

In an installation, one or more than one IR modules with IR emitters can be connected to an SBM-LSG-IR and be controlled by the EmoTec IR control panel.

Standard installation

A standard installation has one single installed infrared relay box. The IR emitters, lights, temperature sensors and control panel are connected to this relay box.



A Cabin lighting
B EmoTec IR relay box
C Control panel
D Add-on modules (optional)
E Temperature sensor
F IR emitter
G Power supply
H Power adaptor

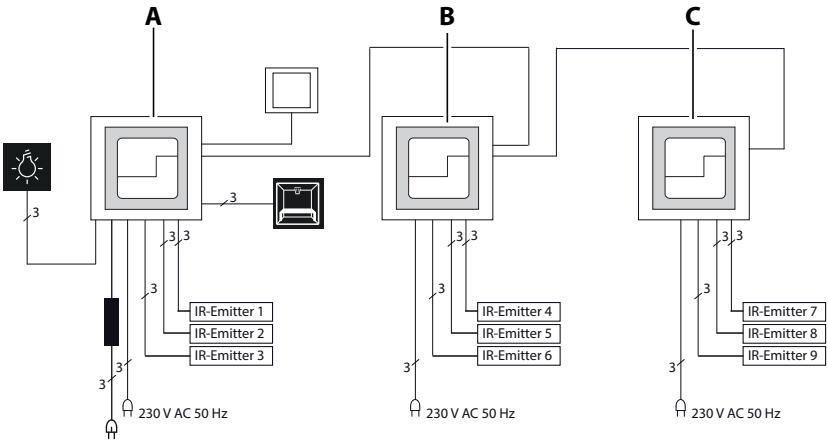
Standard installation for one cabin

Multiple infrared emitters or IR foils (IR emitters) and other modules can be connected via the relay box. All connected
modules are controlled by the control panel.
Use a special plug adaptor to connect multiple IR emitters to one output.

The power adaptor must be mounted outside of the housing.

Advanced installation

A maximum of 2 infrared modules may be connected to the EmoTec IR in an advanced installation.



A EmoTec IR relay box (unit 1)

B IR module (unit 2)

C IR module (unit 3)

IR relay box with connected IR modules

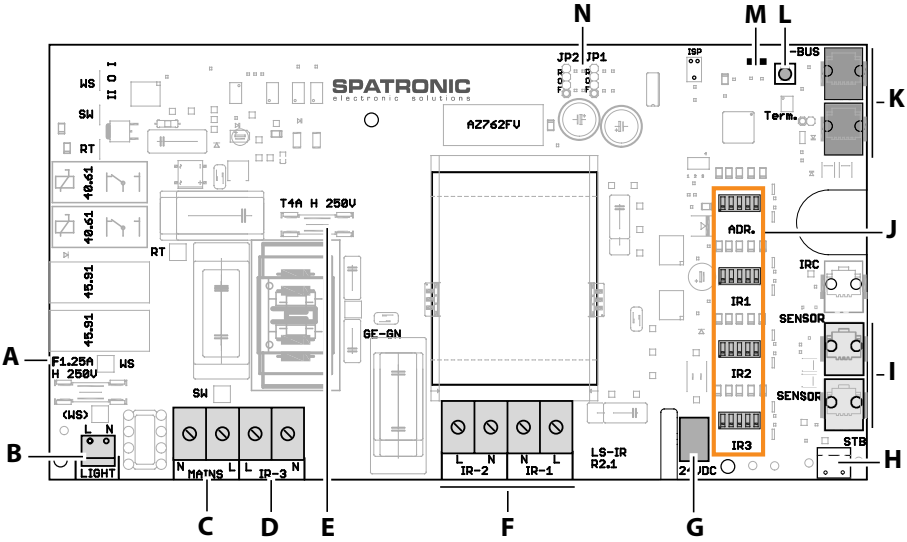
For control purposes, the relay box and module are identified by unit addresses.

Bus communication can be adversely affected if the cabin is equipped with too many add-on modules. If this is the case, the control panel will display the following error message: No bus communication.

To rectify the problem, ensure the modules have their own power adaptors. The power adaptor must be mounted outside of the housing.

5.2 Circuit board assignment

The S-Bus and sensor bus plugs are connected to the relay box circuit board. The IR emitters and the cabin lighting must be connected to the terminals.



A Fuse for lighting output F1.25A H 250V
B Cabin lighting connection (L+N for lighting only)
C Main power supply connection
D Connection for switched IR emitters
E Fuse F2 (T4A H 250 V)
F Connections for dimmable IR emitters
G Power adaptor connection
H Safety temperature limiter/jumper
I Sensor bus
J DIP switch – unit address, channels
K S-Bus (sauna bus)
L Programming button for cabin address
M Status LED, green and red
N Jumper – setting for foil/emitter

IR relay box circuit board

If terminals IR-1 and IR-2 together have a load of less than 2.3 kW, IR-3 can accept a maximum switching load of up to 1.2 kW. In this case, the fuse at F2 (T4A H 250V) must be replaced by a T6.3 A H 250 V fuse.
The power adaptor must be mounted outside of the housing.

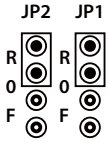
5.2.1 Terminals

Multiple IR emitters can be connected to terminals IR-1, IR-2 and IR-3. The IR emitter lines must all have the same cross-section.
The terminal for lighting may be assigned only one line. It must only be used for cabin lighting.
Use a plug-in module if you connect multiple emitters to one terminal.
See 5.5 Connecting and configuring consumers, 🗋 EN-55

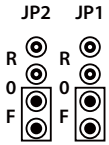
5.2.2 Emitter type – jumper JP1 and JP2

JP1 and JP2 are used to configure the emitter type for connections IR-1 and IR-2.

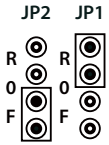
- R: IR emitter (R).
- F: IR foil (F).



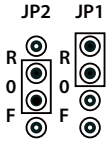
Emitters (R) are connected to IR-1 and IR-2.



Foils (F) are connected to IR-1 and IR-2.



Emitters (R) are connected to IR-1; foils (F) are connected to IR-2.

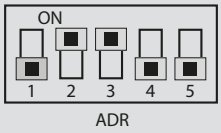
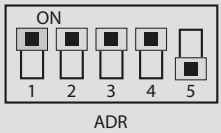


Emitters (R) are connected to IR-1.
IR-2 is switched off.

Connection IR-3 is configured for emitters at the factory.
Connections IR-1 and IR-2 are switched off if no jumper is set. IR-3 remains switched on.

5.2.3 Unit address – ADR DIP switch

Each connected IR module is assigned a unique unit address. Each unit address must only be assigned once so that the unit can be uniquely identified.
One IR relay box and 2 IR modules per cabin are supported. Control loops for the three units are controlled simultaneously.
Typically, the relay box is assigned unit address 1. Additional modules are assigned addresses 2 and 3 respectively in the IR modules.

Address 1 (unit 1)	Address 2 (unit 2)	Address 3 (unit 3)
		
DIP switch 2-3 = ON	DIP switch 1-4 = ON	DIP switch 5 = ON

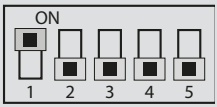
5.2.4 Channels – DIP switches IR1 to IR3

IR emitters can be grouped into channel groups and controlled simultaneously. A group can comprise various IR emitters. Channels A-E are available for these groups.
The assignment of the IR connections to a channel can be set globally, e.g.:

Unit/module	Channel IR1	Channel IR2	Channel IR3
Module 1	A	A	C
Module 2	B	A	C
Module 3	D	D	E

Standard channel group configuration

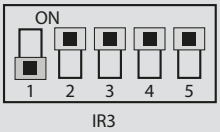
If emitters are connected to output IR-3 and emitters or foils are connected to outputs IR-1 and IR-2, the DIP switches for the channel groups are set as follows.

Example	Channel IR1 to IR3	1	2	3	4	5
 Example – channel A	A	ON				
	B		ON			
	C			ON		
	D				ON	
	E					ON

Do NOT combine dimmable and switchable IR emitters in one channel group.

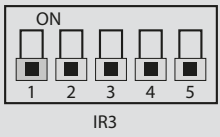
Foils at IR-3

If foils are connected to output IR-3, the channels at IR3 must be set as follows:

Foils at IR-3	Channel	1	2	3	4	5
 IR3 Example – channel A	A		ON	ON	ON	ON
	B	ON		ON	ON	ON
	C	ON	ON		ON	ON
	D	ON	ON	ON		ON
	E	ON	ON	ON	ON	

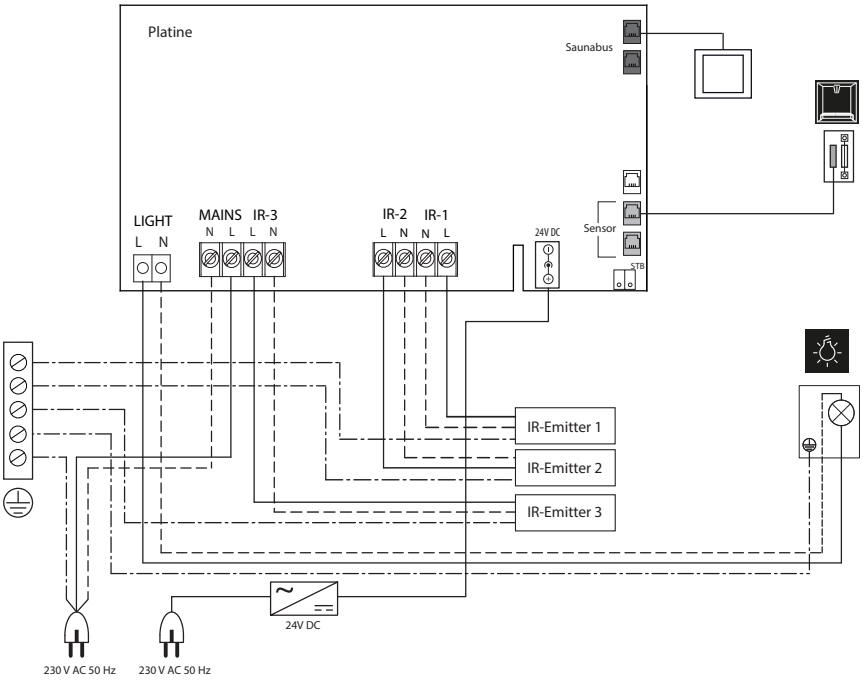
IR emitter at IR-3 starts when cabin is switched on

If you would like the IR emitter without an assignment to a channel group but assigned to the IR-3 output to switch on when the cabin is switched on, the DIP switches in IR3 must all be set to OFF.

IR-3 starts with cabin


5.3 Connection diagram

The relay box is connected with a mains lead to the 230 V supply and fused separately with 16 A. A 16 A cut-out with at least K characteristic must be used for fuse protection.



Connection example

To prevent overheating, install only infrared emitters or heating foils that are designed and installed in such a way that they do not pose a fire hazard

when the unit is operated as intended. Alternately, infrared emitters or heating foils with overheat protection as per EN 60335-2-53 may be used. The power supply must be mounted outside of the housing.

5.4 Connecting data lines

NOTICE

Equipment damage due to improper installation

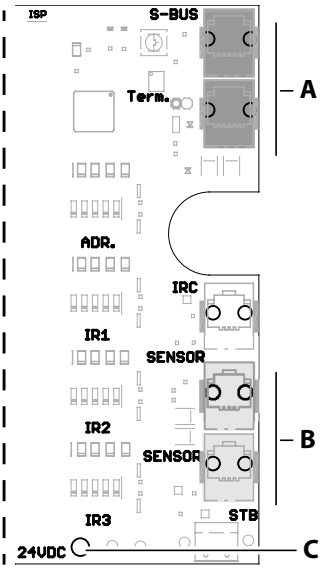
Additional modules with a safety temperature limiter can be mounted in a cabin.

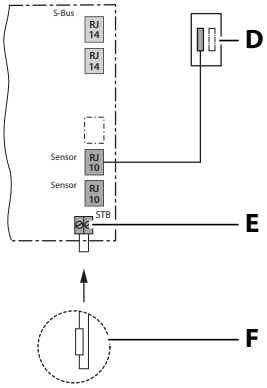
- ▶ Connect the safety temperature limiter only to the relevant module.
- ▶ Never connect more than one safety temperature limiter to a module.
- ▶ Always connect the safety temperature limiter as an isolated contact.

▶ Connecting data lines

1 WARNING! Ensure that the IR relay box is current-free.
Open the housing.
ⓘ ▶ Removing the housing cover, 🗋 EN-29

2 Route the line through the openings at the base or on the back of the housing.





A RJ14 plug from control panel
B RJ10 plug for sensor line
C Power adaptor connection
D Temperature sensor
E Safety temperature limiter
F Jumper at safety temperature limiter terminal

3 Plug the S-Bus line RJ10/RJ14 from the control panel into the free jack RJ14 (S-BUS).

4 Plug the sensor line from the temperature sensor into the free jack RJ10 (SENSOR).
ⓘ The connected sensor is automatically recognised and configured by the control panel.
ⓘ Connect shielding of the line to ground if necessary.

5 Check if there is a jumper at the safety temperature limiter terminal.
ⓘ By default, the safety temperature limiter terminal is jumpered at the relay box circuit board. A safety temperature limiter is not needed for an IR-only installation, since temperatures above 70°C cannot be reached by the IR emitters.

5.5 Connecting and configuring consumers

⚠WARNING

Risk of electric shock
A faulty electrical connection poses the risk of an electric shock. This risk also applies following completion of the installation work.

- ▶ Disconnect the system entirely from the mains supply.
- ▶ If retrofitting is required, the housing must only be opened by trained personnel.
- ▶ Electrical installation must only be carried out by a qualified and licensed electrician.
- ▶ The unit must be connected to the power supply according to the circuit diagram and the terminal scheme.

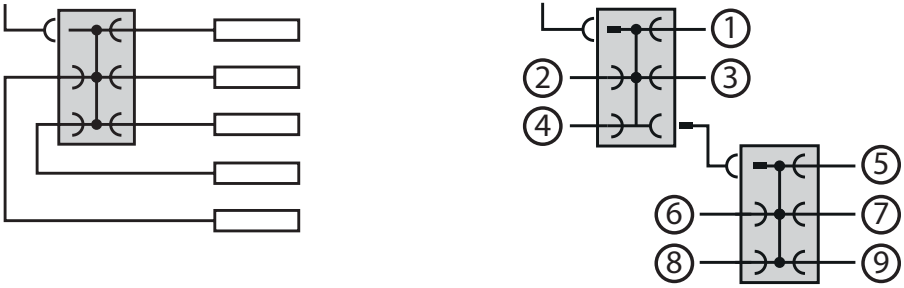
Recommended sequence:

- Connect IR emitter
- Set jumper
- Connect cabin lighting

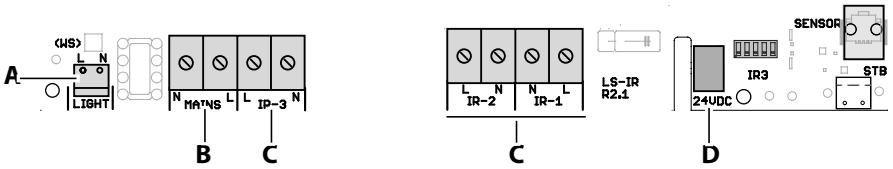
The lines from the individual IR emitters to the relay box may not exceed 5.5 m in length. The lines must be connected as shown in the circuit diagram.
You can connect multiple IR emitters to each of the terminals IR-1, IR-2 and IR-3. The IR emitter lines must all have the same cross-section.
The total output of IR-1, IR-2 and IR-3 together may not exceed 3.5 kW.
Recommendation:

Connection	Control	Total output
IR-1	Dimmable	Max. 1.5 kW
IR-2	Dimmable	Max. 1.5 kW
IR-3	Relay output	Max. 0.5 kW

If terminals IR-1 and IR-2 together have a load of less than 2.3 kW, IR-3 can accept a maximum switching load of up to 1.2 kW. In this case, the fuse at F2 (T4A H 250V) must be replaced by a T6.3 A H 250 V fuse.
If you connect more than one IR emitter per heating circuit, you must connect all lines to a plug-in module outside the relay box.



Example – plug-in modules (optional)



A Cabin lighting connection
B Main power supply connection
C IR emitter connection
D Power adaptor connection

▶ Connecting consumers

1 WARNING! Ensure that the IR relay box is current-free.
Open the housing.
ⓘ ▶ Removing the housing cover, 🗋 EN-29

2 Route the lines through the openings at the base or on the back of the housing.

3 Connect IR emitters to IR-1, IR-2 and IR-3 (**C**).
Use a plug-in module if you connect multiple IR emitters to one terminal.
See 🖼 Example – plug-in modules (optional), 🗋 EN-56
ⓘ The IR emitter lines must all have the same cross-section.
ⓘ Observe the total output:
IR-1 max. 1.5 kW, IR-2 max. 1.5 kW, IR-3 max. 0.5 kW.

4 Connect the cabin lighting to the light (**A**) terminal.

5 Connect the main power supply to the mains (**B**) terminal.

6 Connect the power supply to the 24-V DC jack (**D**).
ⓘ Do not establish a connection to the power supply until you have set all switches. See 5.6 Configuring the relay box, 🗋 EN-58.

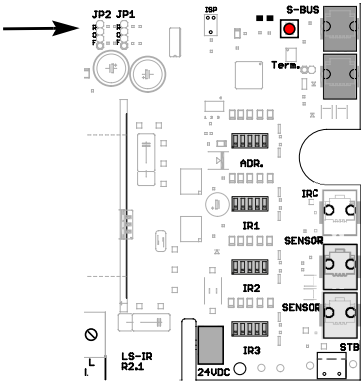
5.6 Configuring the relay box

Once the IR emitters are installed and connected, the jumpers for the type of IR emitters and channel groups must be set. As a rule, the unit address for the relay box must not be changed. In installations with Emotec and EmoStyle control panels, relay boxes are always assigned cabin address 1.

▶ Setting the jumper for the type of IR emitters, 🗋 EN-58
▶ Setting the unit address, 🗋 EN-59
▶ Setting channel groups for IR emitters, 🗋 EN-59

▶ Setting the jumper for the type of IR emitters

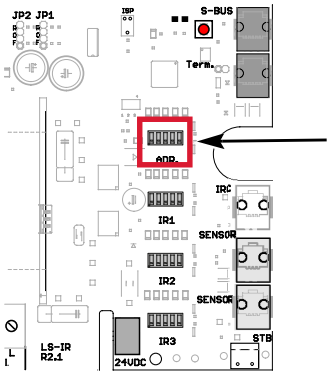
1 WARNING! Ensure that the IR relay box is current-free.
Open the housing.
ⓘ ▶ Removing the housing cover, 🗋 EN-29



2 Set jumpers JP1 and JP2 to foil (F) or emitter (R) depending on the connected IR emitters.
See 5.2.2 Emitter type – jumper JP1 and JP2, 🗋 EN-49

▶ Setting the unit address

1 Set the unit address as needed.

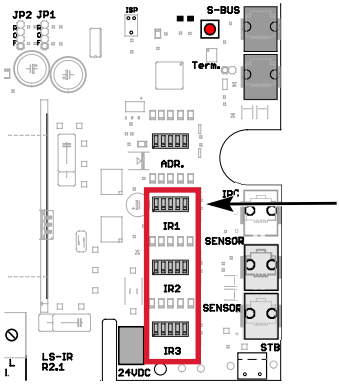


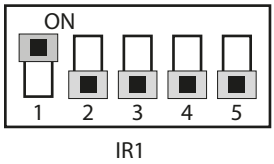
ⓘ The relay box is set to address no. 1 by default. As a rule, this setting must not be changed.

▶ Setting channel groups for IR emitters

1 Assign the IR connection with DIP switch to a channel group.

ⓘ See Installation example, 🗋 EN-66.





See 5.2.4 Channels – DIP switches IR1 to IR3, 🗋 EN-50

ⓘ Only 1 DIP switch may be set to ON at one time.
Examples:
Switch 1 = ON: Channel group A
Switch 2 = ON: Channel group B
Switch 3 = ON: Channel group C
You can assign the IR outputs to the same channel group, e.g. IR-1 and IR-3 to channel group A, IR-2 to channel group B.

5.7 Closing the relay box housing

The following work must be completed before you close the housing:

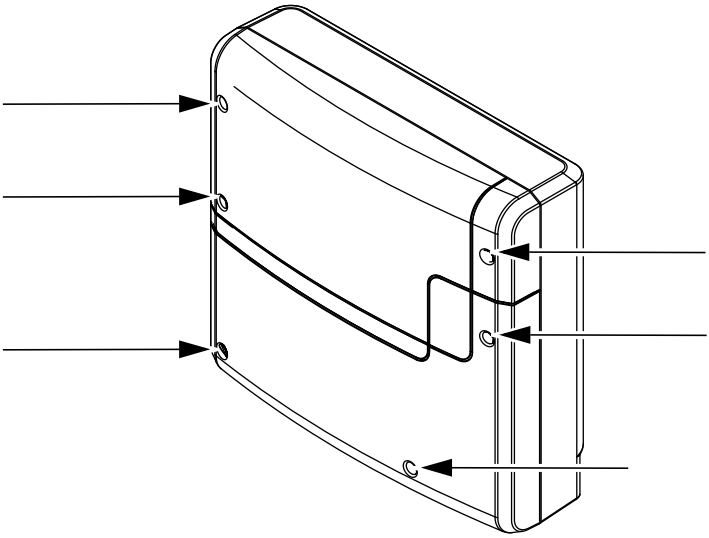
- 5.4 Connecting data lines, 🗋 EN-53
- 5.5 Connecting and configuring consumers, 🗋 EN-55
- 5.6 Configuring the relay box, 🗋 EN-58

▶ Replacing the housing cover

1 Connect the power supply to the 24-V DC jack.
ⓘ The power supply must be mounted outside of the housing.

2 Put the upper and lower cover halves in place.

3 Screw in the 6 screws.



6 Commissioning

The term IR emitter refers to infrared emitters and heating foils in the following documentation.
In order to commission the cabin with the installed IR emitters, the cabin must be switched on at the control panel. If the display is blank, the relay box might be switched off.
An on/off switch is located on the left side of the relay box.

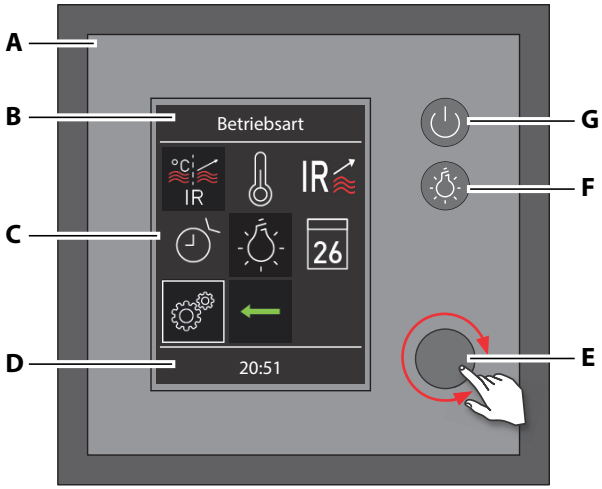
Position I:
Relay box is switched on (factory setting).
The relay box is ready for operation in standby mode.

Position 0:
Relay box is completely switched off.
Parts of the circuit board are still energised.

Position II:
Cabin lighting is switched on, relay box is switched off.
Position for maintenance and cleaning.

6.1 Operation basics

All cabin settings are made at the control panel.
All functions must be configured to commission the system.
Add-on modules or accessories are detected after the unit is switched on again and their corresponding icons appear in the sub-menus.



A Front panel
B Selected function
C Function icons
D Status bar
E Jog dial
F Switch cabin lighting on/off
G Switch on/off

Emotec control panel

The following controls are used to operate the unit:

On/off
Close sub-menu (only if heating is switched off)

Jog dial:
Turn = select functions or input value

Light on/off

Jog dial:
Press = confirm functions and settings.

- Selected icons are displayed inside a white frame. Once the selection is confirmed, the frame turns green and the display now shows the selected function.
- When a value is entered, a line appears under the active place value. Confirmed values are displayed in green.

The home screen (standby) appears after the jog dial has not been touched for 15 seconds.

- Settings that have not been saved are lost.
- Date and time are saved if the built-in battery is in working order. All other settings are saved permanently.

6.2 Setup during commissioning or after a reset

The basic settings must be defined to commission the unit. The program guides you through the required steps.
The standby screen automatically appears after not using the control panel for 15 seconds. Settings that have not been saved are lost.

▶ **Defining the basic settings**

1 Select a language and confirm.

2 Set the time and confirm.

3 Set the date and confirm.

4 Select the type of use and confirm:

a)  Private use

b)  Commercial use

ⓘ Special safety regulations apply to the commercial setting. See 1.2 Operator instruction, 🗋 EN-7

☑ This completes configuration of the IR cabin. The standby screen is displayed once configuration is complete.

You must now set the channel groups and operating mode for infrared operation.

- ▶ Configuring the IR channel groups, 🗋 EN-65
- ▶ Setting the operating mode, 🗋 EN-72

6.3 Configuring the IR control system

The control system cannot be configured until the IR emitters are installed and connected. The following describes only how to configure the IR emitters. Complete configuration and operation are described in the EmoTec IR operating instructions.
You should be familiar with the basic operating steps, e.g. navigating the menus and sub-menus and entering and saving settings.

Icons

The following icons are used to assign the IR emitters.


Front middle


Front right


Front left


Back middle


Back left


Back right


Leg


Ceiling


Floor


Side right


Side left

IR group 1

IR group 2

IR group 3

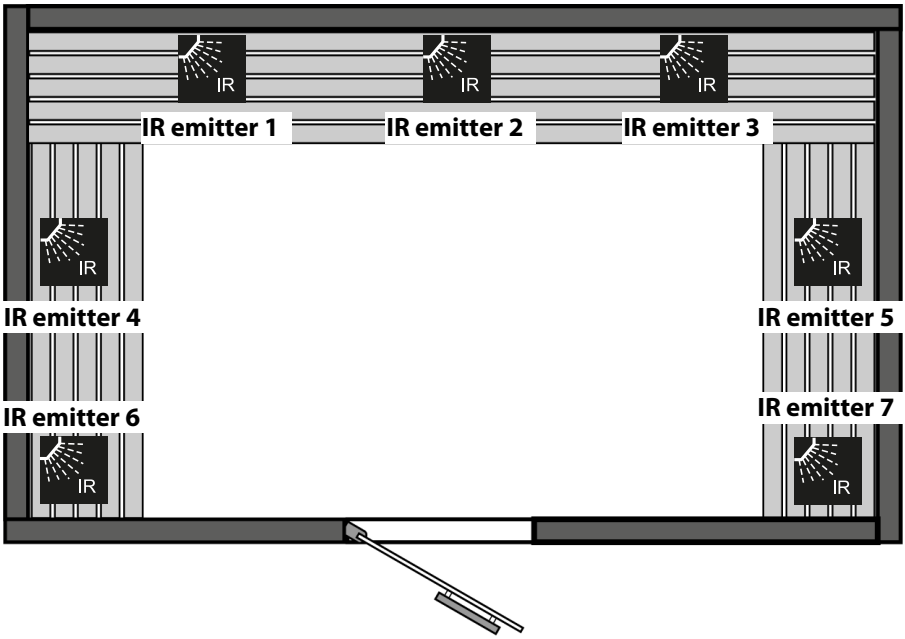
IR group 4

IR group 5

Each icon may be assigned only once.

Installation example

To make configuration easy to understand, the following example shows which switches must be set.



Example – cabin

The IR emitters in this example have different tasks and should be controlled together in so-called channel groups.

- IR emitters 1, 2 and 3 are emitters for the back. Together their output is 1.5 kW.
- IR emitters 4 and 5 are foils for the heating the back with an output of 0.3 kW each. They should heat to an intensity of 66%.
- IR emitters 6 and 7 are corner emitters. Both emitters have an output of 0.5 kW. They should switch off once the cabin temperature reaches 65°C.

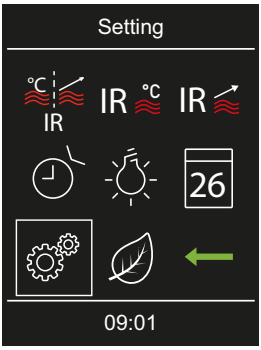
Emitter	Connection	Jumper	Channel
1, 2, 3	IR-1	Emitter (R)	A
4, 5	IR-2	Foil (F)	B
6, 7	IR-3		C

6.4 Configuring the channel groups

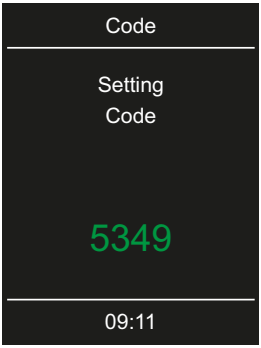
The settings are configured as shown in the example above. See
Installation example, 🗋 EN-66

▶ Configuring the IR channel groups

1  : Select and confirm by pressing and holding until the code entry is displayed.



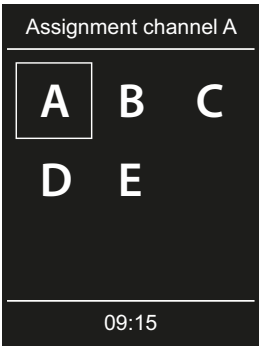
2 Enter code **5349** and confirm.



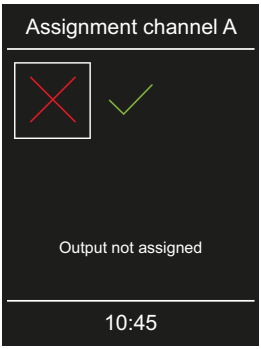
ⓘ Increase or decrease the numbers and confirm by pressing Enter. Confirmed numbers appear green.

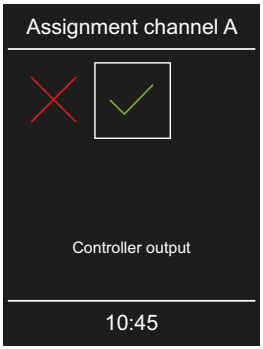
3 IR : Select and confirm.

4 Select the channel and confirm.

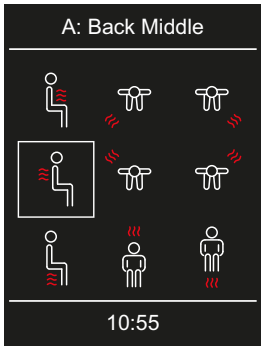


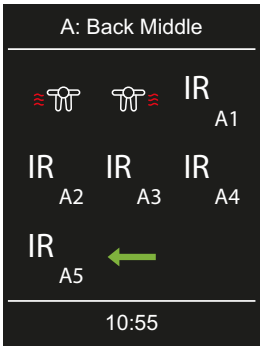
5 Select the channel assignment and confirm.





6 Select the IR emitter icon and confirm.





ⓘ You may assign each icon only once.

7 Follow the same steps to configure the next channel group.

6.5 Adjusting the IR emitters

The IR emitters have two operating modes.
These operating modes let you determine how the IR emitters can be used: via intensity and/or temperature.

Operating mode	Temperature	Intensity
IR °C	Ambient temperature can be set via temperature sensors Emitters heat until the temperature has been reached	All channel groups at 100%
IR	Ambient temperature increases slowly via channel group intensity	Can be set for each channel group

IR intensity operating mode

The following settings are available in IR intensity operating mode for outputs IR-1 to IR-3:

Foils at IR-3	Emitter at IR-3	Foil at IR-1, IR-2	Emitter at IR-1, IR-2	Intensity setting
	x			0% or 100%
x		x		20% to 100%, in increments of 2%
			x	15, 25, 33, 50, 66, 75, 100%

IR temperature operating mode

The following settings are available in IR temperature operating mode for outputs IR-1 to IR-3:

Foil at IR-1, IR-2, IR-3	Emitter at IR-1, IR-2, IR-3	Control mode for relay output
x	only IR-1 and IR-2	Control via T (target)
	x	Switch-off > 70°C

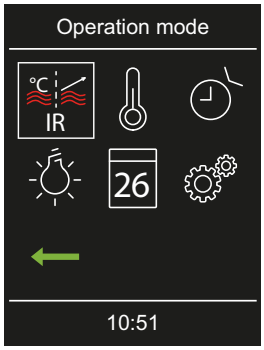
The connection for switching output IR-3 is not controlled via the temperature of the IR emitter in Emitter operating mode, but rather is switched off when the ambient temperature reaches 70°C. In Foil operating mode, it is controlled via the ambient temperature sensor.
Note that the intensity and temperature settings impact the duration of the heat-up phase.

6.5.1 IR operating mode

These operating modes allow you to determine how the IR emitters can be used: via intensity and/or temperature.
See 6.5 Adjusting the IR emitters, 🗋 EN-70

▶ **Setting the operating mode**

1  : Select and confirm.



2 Select the IR operating mode and confirm.

a)  IR temperature. In this operating mode, both the IR temperature and the intensity of the IR emitters can be set.

b)  IR intensity. In this operating mode, only the intensity of the IR emitters can be set.

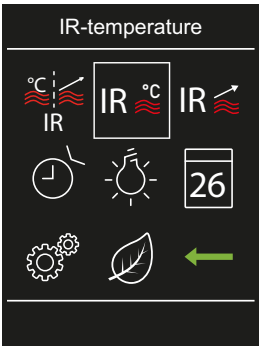
ⓘ Depending on the IR operating mode you select, you can now set the temperature and/or intensity.

6.5.2 IR temperature

You can set the temperature only after you have selected the IR operating mode for temperature.
See 6.5.1 IR operating mode, 🗋 EN-72

▶ **Setting the IR temperature**

1 IR °C : Select and confirm.



2 Set the temperature and confirm.

3 Confirm the set value.

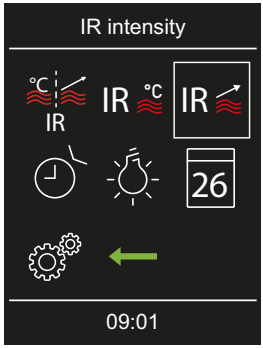
☑ The value is saved and the display returns to the screen for operating mode selection.

6.5.3 IR intensity

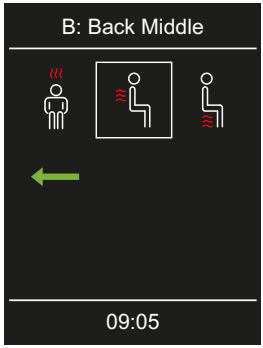
You can set the intensity only after you have defined the channel groups.
See 5.1.6 Configuring the channel groups, 🗋 EN-64

▶ **Setting the IR emitter intensity**

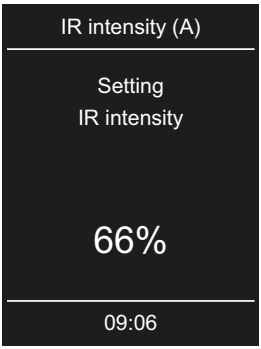
1 IR : Select and confirm.



2 Select the channel and confirm.



3 Set the IR emitter intensity.



ⓘ The value can be set in increments of 2% between 20% and 100%.
ⓘ IR-3 connection:
For emitters, you must select either 0% or 100% as the intensity.
The selected intensity for foils may be selected in increments of 2% between 20% and 100%.

4 Confirm the set value.

☑ The value is saved and the display returns to the screen for operating mode selection.

☑ The channel group emitters are immediately set to the new intensity. This means the emitters for this channel group are not set to the target temperature.

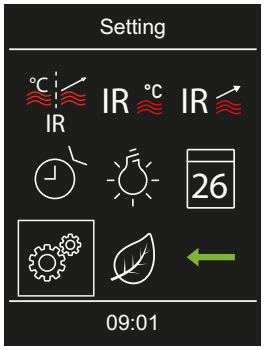
5 Repeat steps **1** to **4** for the next channel.

6.5.4 Switching hysteresis for the IR temperature

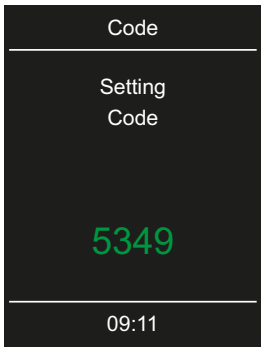
In the service settings, you can also set a temperature range within which the IR emitters are switched on and off.
The hysteresis has no effect on dimmable IR emitters connected to connections IR-1 and IR-2.
Example — 46°C target temperature and hysteresis 4 K: The heater is switched off at 48°C and switched on at 44°C.

▶ **Setting the hysteresis**

1  : Select and press and hold the jog dial until the code entry is displayed.



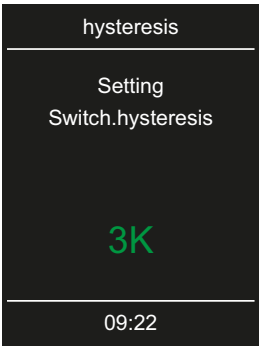
2 CAUTION! Only trained personnel may change settings at the service level.
Enter code **5349** and confirm.



ⓘ Increase or decrease the numbers and confirm by pressing Enter. Confirmed numbers appear green.

3 : Select and confirm.

4 Set the value and confirm.



ⓘ The setting range is between -10 K and +10 K. The value is set to 5 K by the factory.

☑ The value is saved and the display returns to the selection screen for advanced settings.

6.6 Defining the light source manually

The control panel is set to inductive loads by the factory so that resistive loads can also be controlled by the control panel. If required, the light output can also be manually set to capacitive loads.
If light bulbs are used, the load for lighting must remain as an inductive load.
The current setting is shown on the display when the lighting is dimmed.

Display symbol	Setting	Code
	Inductive/resistive load (lighting with phase control), if light bulbs are used. Factory setting	**8001**
	Capacitive load (lighting for phase control) Electrical ballasts for phase-cut dimmer	**8002**

NOTICE

Material damage

Improper setup can damage the unit. In this case, the warranty becomes void.

▶ Work must only be performed by a trained technician from an authorised company specialised in the trade.

For this setting, the lighting must be disconnected.

▶ **Setting the load for lighting to resistive load**

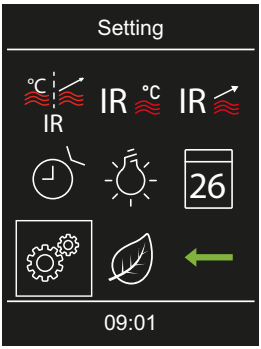
1 Disconnect the relay box from the power supply.

2 Open the relay box's housing.
ⓘ See ▶ Removing the housing cover, 🗋 EN-29

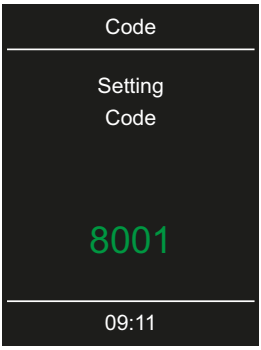
3 WARNING! Ensure that the relay box is disconnected from the power supply.
Disconnect the light source from the main circuit board.

4 Reconnect the power supply and switch on the relay box again.

5  : Select and press and hold the jog dial until the code entry is displayed.



6 Enter the code and confirm.



ⓘ Code **8001**: Inductive/resistive load.
ⓘ Code **8002**: Capacitive load.

7 Disconnect the relay box from the mains supply and reconnect the light source.

8 Close the housing again.

9 Reconnect the power supply and switch on the relay box again.

10 Dim the cabin lighting.

11 Check the setting on the display.

6.7 Heating time limitation

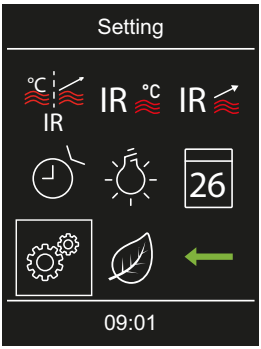
For private use, the time is limited to 6 h.
For commercial use, the heating time can be set to 6 h, 12 h or infinite.

Heating time	Code
6 hours	**8206**
12 hours	**8212**
Unlimited 24 hours/7 days a week	**8224**

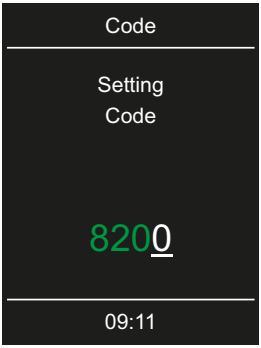
The number of hours applies to a continuous heating time. The heating automatically switches off once the heating time has ended.

▶ Setting the heating time limitation

1 : Select and press and hold the jog dial until the code entry is displayed.



2 Enter the code and confirm.



ⓘ Code **8206**: 6 hours.
Code **8212**: 12 hours.
Code **8224**: 24 hours/7 days a week.

ⓘ The process of setting the heating time with the auto stop function is described in the operating instructions.

6.8 Troubleshooting

Error message and icons on the control panel indicate operating statuses and fault conditions.

Fault	Reason	Solution
Control panel display is blank	No power supply.	Switch on the relay box.
		Check the relay box's mains connection.
		Check fuses.
		Check the power supply
IR intensity cannot be set.	Channels are not set.	Define channel groups.
IR emitters do not heat.	Unit not detected.	Set unit address for the module.
	Channel groups not defined.	Define channel groups.
	Jumpers not set.	Set JP1 and JP2 for connections IR-1 and IR-2.
Thermo-fuse tripped.	Temperature too high.	Check cause of excess temperature. Replace fuse.
Unknown error.		Restart unit. Contact technical support.
No bus communication.	Too many add-on modules connected.	Connect IR module with separate power supply.
	Bus connection plug not plugged in.	Plug in plug.
	Bus cable damaged.	Replace bus cable.
	Unit not detected.	Set unit address for the module.

7 General terms and conditions of service

(T&C, Dated 08-2018)

I. Scope

Unless otherwise agreed in writing for specific instances, these terms and conditions of service shall apply to service operations, including reviewing and remedying complaints. All our existing or future legal relationships shall be governed solely by the following terms and conditions of service. We do not recognise any of the customer's conflicting terms and conditions unless we have given our express written consent to their applicability.
We hereby expressly object to any of the customer's terms and conditions included in the customer's General Terms and Conditions of Business or order confirmation. Unconditional acceptance of order acknowledgments or deliveries shall not be construed as any form of acknowledgment of such terms and conditions. Ancillary agreements or amendments must be confirmed in writing.

II. Costs

The customer shall bear the following costs in connection with services rendered:

- Mounting/dismantling and electrical (de-)installation
- Transportation, postage and packaging
- Function testing and troubleshooting, including inspection and repair costs

There shall be no third-party billing.

III. Performance and cooperation obligations

The customer shall provide assistance free of charge to the manufacturer in rendering services.
In the case of a warranty claim, the manufacturer shall provide replacement parts necessary for servicing free of charge.

IV. Service visit by the manufacturer

Services rendered on site by an employee of the manufacturer must be agreed in advance.
If the main reason for the service visit is not the fault of the manufacturer, any costs incurred shall be charged to the customer after the service visit and must be paid by the customer in full within the agreed payment term.

V. Liability

The manufacturer shall assume liability in accordance with the currently applicable statutory regulations. All our products are packaged in such a way that the individually packed goods (pallets) can be shipped.
We wish to point out that our packaging is not suitable for individual shipments via parcel post. The manufacturer shall accept no liability for damages incurred as a result of improper packaging in an individual shipment.

VI. Manufacturer's warranty

The manufacturer's warranty shall apply only if installation, operation and maintenance have been carried out in full accordance with the manufacturer's specifications in the installation and operating instructions.

- The warranty period shall commence from the date on which proof of purchase is provided and shall be limited, in all cases, to 24 months.
- Warranty services shall be performed only if proof of purchase of the equipment can be presented.
- Any and all warranty claims shall become void if modifications are made to the equipment without the manufacturer's express consent.
- Any warranty claim shall likewise become void in the case of defects that arise due to repairs or interventions made by unauthorised persons or due to improper use.
- In the case of warranty claims, the serial and article numbers must be provided, together with the unit designation and a meaningful description of the fault.
- This warranty shall cover defective equipment parts, with the exception of normal wear parts. Wear parts shall include, for example, light sources, glass elements, tubular heating elements and sauna heater stones.
- Only original replacement parts may be used within the warranty period.

- Service visits made by third parties shall require a written order issued by our service department.
- The equipment in question shall be sent to our service department by the customer at the customer's own expense.
- Electrical assembly and installation work, including service visits and parts replacements, shall be carried out at the customer's expense; costs shall not be borne by the manufacturer.

Complaints in respect of our products shall be reported to the responsible distributer and shall be handled exclusively by said distributer.
The manufacturer's General Terms and Conditions of Business, in the version available at www.eos-sauna.com/agb, shall apply in addition to the foregoing terms and conditions of service.

8 Disposal

Electrical devices that are no longer needed must be recycled at a recycling station as per EU guideline 2012/19/EU or as per the Electrical and Electronic Equipment Act (ElektroG).
Observe local provisions, laws, regulations, standards and directives when disposing of the unit.

Do not dispose of the unit with household waste.

Packaging

EmoTec IR packaging can be completely separated for disposal and recycled. The following materials are used in the packaging:

- Used paper, cardboard
- Plastic foil
- Foam material

Electronic waste

Electronic waste must be disposed of at the designated local collection point for electronic waste.

Service address

EOS Saunatechnik GmbH
Schneiderstriesch 1
35759 Driedorf, Germany
Tel. +49 2775 82-514
Fax +49 2775 82-431
Mail servicecenter@eos-sauna.com
Web www.eos-sauna.com

Store this address with the Installation Instructions in a safe place.
Please always provide us with nameplate data, such as model, item number and serial number so we can provide fast and efficient support.

Date of sale

Stamp/retailer signature: