



EN installation guide and operating manual for  
powder-coated metal infrared heaters

PBO210-PB1410

# Installation guide and operating manual for powder-coated metal infrared heaters

PBO210-PB1410



In addition to this installation guide and the operating manual, our Youtube channel also has a number of explanatory videos relevant to the "Assembly" and "Electrical connection" chapters.

Video-URL:  
**[video.welltherm.de](https://www.youtube.com/watch?v=video.welltherm.de)**

The adjacent QR code can also be used to access the videos.

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# 1 - Safety



Please read this installation guide and operating manual carefully. Take good care of this manual as well as any accompanying documentation. Make sure all documentation accompanies the heater if you decide to pass it on to someone else.

## 1.1 - Action-related warnings

### Classification of the action-related warnings

The action-related warnings are graded as follows with warning signs and signal words relating to the severity of the potential hazard:

#### Warning signs and signal words



#### **Danger!**

Immediate danger to life or danger of severe personal injury



#### **Danger!**

Danger to life due to electric shock



#### **Warning!**

Danger of minor personal injury



#### **Caution!**

Risk of material or environmental damage

## 1.2 - Intended use

Improper use or use not as intended may result in danger to the life and limb of the user or third parties or cause damage to the product and other material damages.

The product is used to increase the room temperature in closed residential spaces.

#### Proper use includes:

- Observing the enclosed operating instructions for the product and all other system components.
- Installation and assembly in accordance with the product and system certification.
- Compliance with all inspection and maintenance conditions listed in the manual.

Keeping children younger than 3 years of age away from the system, unless they are constantly supervised.

Children above 3 years of age and younger than 8 may only switch the product on/off if they are supervised or have been instructed in the safe use of the product and fully understand the resulting hazards that may occur, assuming that the product is placed or installed in its normal position of use. Children above 3 years of age and younger than 8 must not insert the plug into the power socket, adjust the product, clean the product nor should they perform maintenance as the user of the product.



**Caution - some product parts can get very hot and cause burns. Special care should be taken if children and vulnerable persons are present.**

Children should not be allowed to play with the product.

Any use other than what is described in this manual or use going beyond what is listed here shall be considered improper.

Proper use also covers installation in accordance with the IP class.

Improper use also includes any type of direct commercial or industrial use.

#### **Attention!**

Any unauthorised use is prohibited.

## 1.3 - General safety information

### **Danger due to incorrect operation**

Incorrect operation may endanger you and others around you and cause material damage.

- Carefully read through this manual and all accompanying documentation, especially Chapter "1 Safety" and the warning information.
- Only carry out those activities that this operating manual instructs you to do.

### **Risk of material damage due to overheating**

Ensure that the product is not covered or clad.



### **Danger due to inadequate qualification**

Only personnel with sufficient qualification for the task in hand may carry out the following work:

- Assembly
- Disassembly
- Installation
- Commissioning
- Inspection and maintenance
- Repairs
- Decommissioning

- Observe all product-related instructions.
- Proceed in accordance with the current state-of-the-art.
- Comply with all relevant guidelines, norms, laws and other provisions

**Danger to life due to electric shock**



A danger to life due to electric shock exists whenever live components are touched.

Before working on the product:

- Unplug the power connector.
- Or de-energize the product by switching off all power supplies (electric isolator with at least a 3 mm contact opening, such as a fuse or circuit breaker).
- Secure against reconnection.
- Check for the absence of voltage.

**Risk of burning or scalding due to hot components**



Only work on components once they have cooled down.

**Risk of material damage due to use of unsuitable tools**



Use a specialist tool to tighten or loosen screw connections.

**Provisions (guidelines, laws, norms)**

Observe the national provisions, norms, guidelines and laws.

## 2 - Product-related information

### 2.1 - Notes on the documentation

Observe other applicable documents

Always observe all operating instructions that accompany the system components.

Keep the documents in a safe place

Retain this manual as well as all applicable documents for further use.

Validity of the manual

This manual is only applicable for:

Item number	Format in cm
PBO210	39.2 x 59.2
PBO330	59.2 x 59.2
PBO340	61.8 x 61.8
PBO510	59.2 x 89.2
PBO610	39.2 x 149.2
PBO710	59.2 x 119.2
PBO910	59.2 x 149.2
PB1000	120 x 80
PB1100	120 x 90
PB1210	75 x 150
PB1410	120 x 120

### 2.2 - Product description

The product is an infrared radiant heater that transfers heat to objects through infrared radiation. The warmed objects then in turn give off heat to the environment.

The product is equipped with a safety temperature limiter that switches off the product in the event of overheating and automatically switches it back on again once it has cooled down.

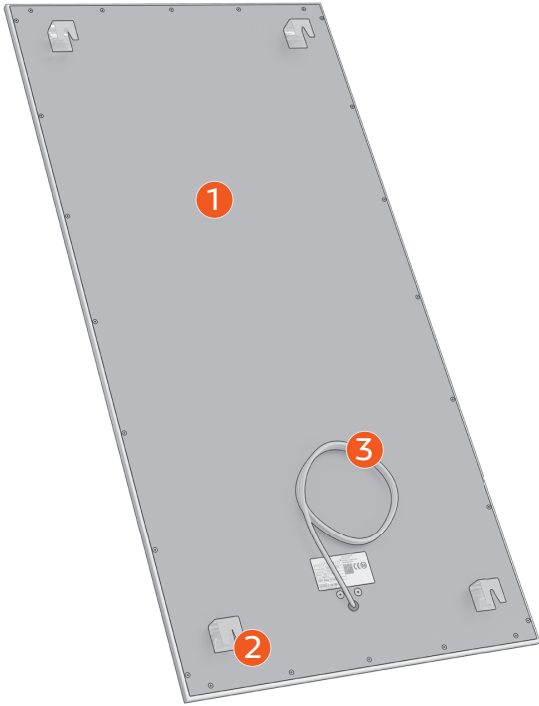
The product should be used in combination with the following components:

- Wireless thermostats X3D 310EL and X3D Minor 1000
- Wireless surface-mounted receiver X3D and wireless plug socket receiver X3D
- Opening detector X3D DO BL TYXAL
- Gateway TYDOM 1.0

The product is equally for mounting both on walls and ceilings.

The maximum surface temperature with an ambient temperature of 20°C is: 110 °C (115 °C when mounted on a ceiling).

Product composition



The rear side of the heater sized 120 x 60 cm is depicted above.

- Legend:
- 1 Infrared heating
  - 2 Wall bracket (V bracket)
  - 3 Inlet connector for non-heating appliances

CE marking



The CE marking documents that the products are in compliance with the fundamental requirements of the relevant guidelines in accordance with the nameplate.

The manufacturer retains the declaration of conformity, which can be viewed on request.

2.3 - Technical data

	PBO210	PBO330	PBO340	PBO510	PBO610	PBO710	PBO910	PBO1000	PBO1100	PBO1210	PBO1410
Weight	4.5 kg	7.8 kg	8 kg	11 kg	10.7 kg	14 kg	17 kg	18.5 kg	20.7 kg	21.5 kg	28 kg
Dimensions, height	392 mm	592 mm	618 mm	592 mm	392 mm	592 mm	592 mm	1,200 mm	1,200 mm	750 mm	1,200 mm
Dimensions, width	592 mm	592 mm	618 mm	892 mm	1,492 mm	1,192 mm	1,492 mm	800 mm	900 mm	1,500 mm	1,200 mm
Dimensions, depth	17 mm	17 mm	17 mm	17 mm	17 mm	17 mm	17 mm	17 mm	17 mm	17 mm	17 mm
Mains voltage	1 ~ N PE 230 Volt / 50-60 Hz										
Power output	210 W	330 W	340 W	510 W	610 W	710 W	910 W	1,000 W	1,100 W	1,210 W	1,410 W
Perm. room humidity	70 %										
Protection class	IP 21										



## 3 - Assembly

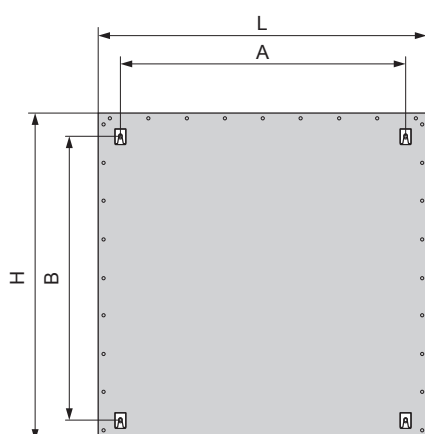
### 3.1 - Checking the completeness and condition of the delivery

Checking of the delivery for completeness and proper condition.

Quantity	Designation
1 piece	Infrared radiant heater with preassembled connection cable and wall brackets (V-brackets)
1 piece	Assembly template
1 piece	Standard fastening set
1 piece	Installation guide and operating manual

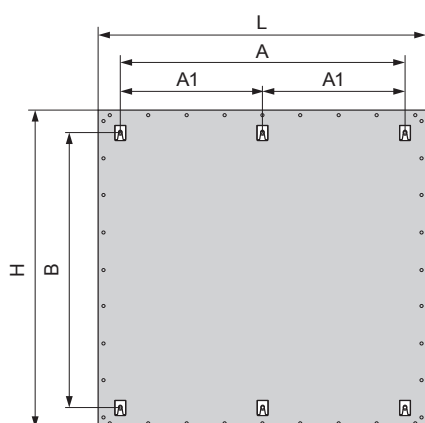
### 3.2 - Dimensions

Heaters up to 1,192 mm in length



Product	H (mm)	L (mm)	A (mm)	B (mm)
PBO210	392	592	740	240
PBO330	592	592	440	440
PBO340	618	618	440	440
PBO510	592	892	740	440
PBO610	392	1,492	1,340	240
PBO710	592	1,192	1,040	440

Heaters from 1,200 mm in length

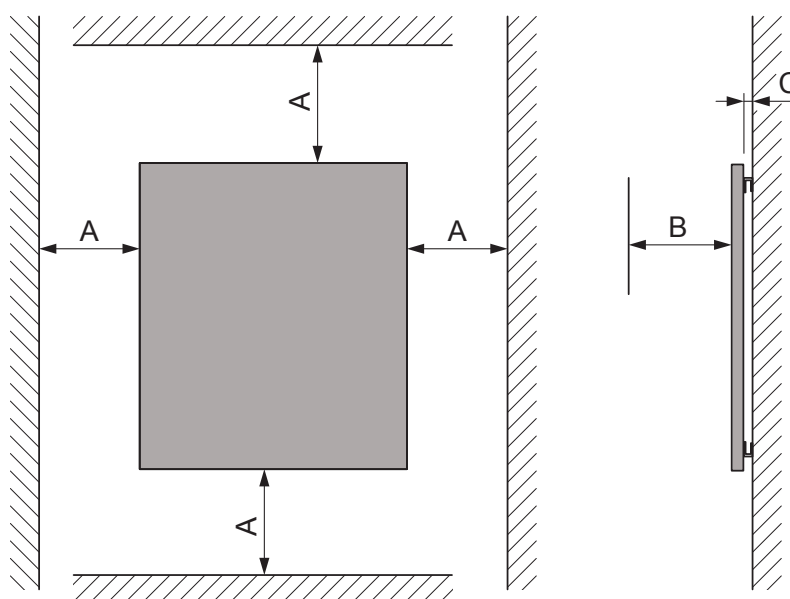


Product	H (mm)	L (mm)	A (mm)	A1 (mm)	B (mm)
PBO910	592	1,492	1,340	670	440
PB1000	800	1,200	1,040	520	650
PB1100	900	1,200	1,040	520	750
PB1210	750	1,500	1,340	670	600
PB1410	1,200	1,200	1,040	520	1,040

### 3.3 - Requirements for the installation site

- Do not install the product immediately below a wall outlet.
- Do not install the product in rooms with excessive humidity.
- Do not install the product outside enclosed spaces or in areas where it could be exposed to water or moisture, e.g. swimming pool.
- Do not install the product or its connection socket with cables in the protection zone 0, 1 and 2 of wet areas.
- Do not install the product in rooms whose occupants can not vacate them independently, unless constant supervision can be ensured.
- Note that the room temperature should be at least 17°C and keep the floor areas and heaters clean in order to avoid any fogging effect.

### 3.4 - Minimum distances

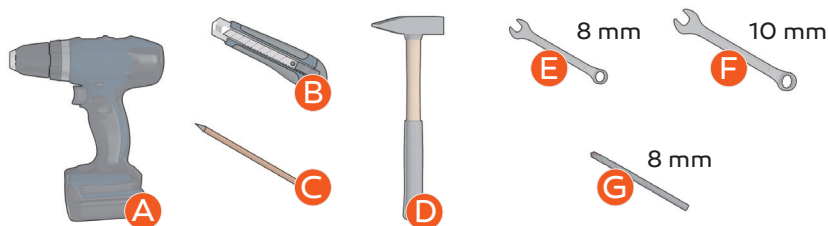


A = 200 mm    B = 400 mm    C = 30 mm

- Make sure you do not fall below the minimum distance (C) between the rear wall and ceiling/wall predetermined by the fixing brackets (V brackets).
- Ensure that continuous air circulation is possible between the rear wall and the ceiling/wall.
- Keep a minimum distance of 600 mm in all directions in areas of IP classes 44/65/67.

### 3.5 - Installing the heater

#### Recommended tool

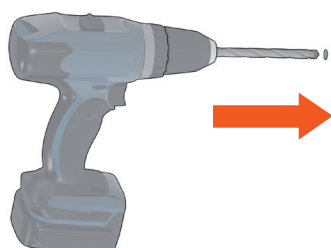


- A Cordless screwdriver or electric drill
- B Cutter knife or Stanley knife
- C Pencil or ballpoint pen
- D Hammer
- E Spanner with 8 mm WAF (open-end or ring)
- F Spanner with 10 mm WAF (open-end or ring)
- G 8 mm drill suitable for the material of your wall / ceiling

#### Assembly template

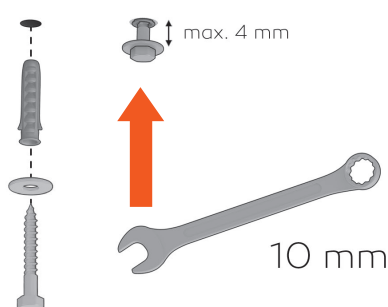
- Use the accompanying assembly template to determine the position of the drilling holes for product installation to the wall / ceiling. Always pay attention to the requirements for the installation site and the necessary minimum distances (see Page 10).
- We recommend using a spirit level when mounting onto a wall to ensure a vertical mounting position.

#### Assembly



- 1 First drill the required holes at the previously marked positions using an 8 mm drill suitable for the material of your wall or ceiling.
  - Drill 4 holes for heaters up to max. 1,192 mm in length.
  - Drill 6 holes for heaters from 1,200 mm in length.

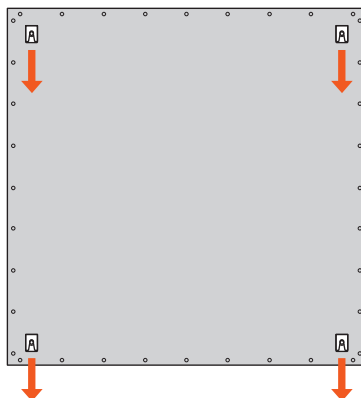
The accompanying drilling template will also specify the number of holes. Please ensure correct positioning of the drilling holes for optimum mounting of the wall bracket (V-brackets) to be screwed on later.



Use (if suitable for the material of your wall / ceiling) the supplied dowels, lag bolts and washers from the "Standard fixing set" supplied with the heater - as shown on the left.

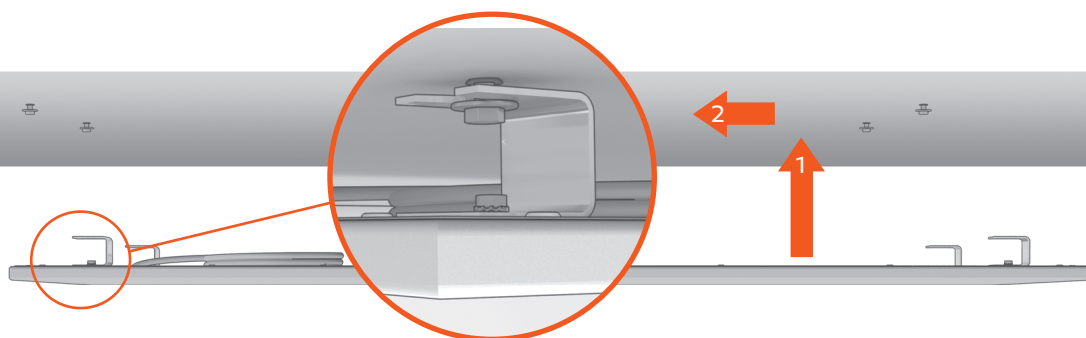
- 2 Insert the dowels into the holes (drive in with a hammer if necessary) and screw in the screws with washers using a 10 mm spanner. Do not completely tighten the screws. Make sure there is 4 mm of space between the washer and the wall / ceiling.

- 3 Check whether all wall brackets (V brackets) of your heater point in the same direction with the opening. If not, align the V-brackets uniformly in one direction. It doesn't matter which direction it is.



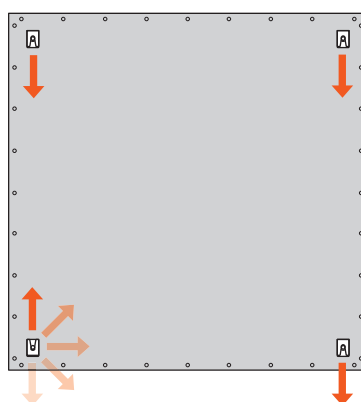
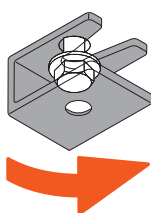
In case of ceiling assembly, make sure the next assembly step is undertaken by two people. Have a ladder at hand (if required).

- 4 Lift the heater to the mounting position so that the openings of the V-brackets are situated directly in front of the screws that are already in place.

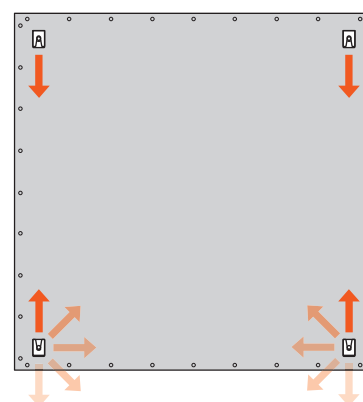


- 5 Slide the heater sideways until the screws are fully engaged into the V-brackets. Pay attention to the washers.

- 6 Lock the heater in place by rotating the V-brackets 180°:



**Wall mounting:**  
Turn any "V-bracket"



**Ceiling mounting:**  
Turn any two "V-brackets"

- 7 Tighten all 8 or 12 screws using both 8 and 10 mm spanners. Check the secure fitting of the heater.

## 4 - Electrical connection

### 4.1 - Establishing the power supply



Observe the  
Ecodesign Directive

**Caution! Risk of material damage due to excessive connection voltage!**  
Electronic components can be destroyed with mains voltages over 253 volts. Ensure that the rated voltage of the mains is 230 volts.

The infrared heater has a three-wire connecting cable with a length of 1.9 m, on the end of which a shockproof plug is fitted.

In accordance with the EU Ecodesign Directive 2009/125/EC - substantiated in the Regulation 2015/1188 for the product range of local space heaters - this infrared heater can only be operated as a stationary local space heater, if certain requirements for control/regulation are fulfilled.

More detailed information can be found, for example, on the Internet at:  
- <https://www.umweltbundesamt.de/themen/wirtschaft-konsum/produkte/oekodesign/oekodesign-richtlinie>  
- <http://eur-lex.europa.eu/legal-content/DE/ALL/?uri=CELEX%3A32015R1188>

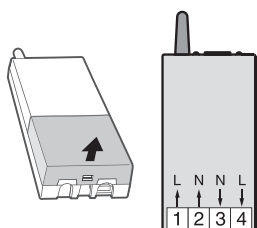
Welltherm GmbH offers a series of control components to fulfil the requirements specified above and for easy operation of this infrared heater. We will subsequently look at the electrical connection of these components.

Specification:  
wireless plug socket receiver  
X3D



Insert the heater's shockproof plug into the wireless plug socket receiver X3D for the power supply.

Specification:  
wireless receiver X3D



**Attention! The optionally available wireless receiver X3D must only be electrically connected by qualified electricians!**

- Connect the phase conductor (live) of the mains network to terminal 4.
- Connect the neutral wire of the mains network to terminal 3.
- Connect terminal 2 to the blue connection cable of the infrared heater.
- Connect terminal 1 to the brown connection cable of the infrared heater.
- Connect the earth line of the mains network to the yellow-green connection cable of the infrared heater.

## 5 - Operation

### 5.1 - Commissioning the heater

Condition:  
Initial commissioning

Switch on the power supply to the heater.

If you do not sense a feeling of warmth straight away, then leave the heater in operation for an extended period of time until the indoor climate becomes suitably pleasant.

– A pleasant feeling of warmth will be felt once all solid bodies have been heated.

Activate all wireless control components that are to be used. Refer to their operating instructions on how to do this.

### 5.2 - Troubleshooting

Identifying and rectifying faults

Check whether the heater is covered or clad if it is not giving out any heat.

In such a case it is possible that the safety temperature limiters integrated into the heater have switched it off. If so, wait until after the heater has cooled down. The heater will automatically switch back on.

### 5.3 - Maintenance

The surface colour of the heater may alter due to pollution in the indoor air, such as from cigarette smoke, fireplace/stove residues or cooking fumes.

- Clean the heater after it has cooled down and at regular intervals using a damp cloth and some solvent-free soap.

**Caution! There is a risk of material damage if unsuitable cleaning agents are used!**



### 5.4 -Decommissioning the heater

Switch off the power supply to the heater.

## 5.5 - Recycling and disposal



Please dispose of the packaging material properly.

This heater contains materials and substances that are harmful to the environment.

- Do not dispose of the heater **with** household waste
- Take the heater to a collection point for electric or electronic waste instead.

## 5.6 - Guarantee and customer service

### Guarantee

Welltherm GmbH grants a 60 month guarantee to all customers who are consumers of the product - irrespective of the statutory warranty.

This begins from the day the product is delivered and is valid nationwide.

The content of the guarantee is as follows: Should damage occur within 60 months from the date the product was delivered, and if it cannot be attributed to improper use, Welltherm GmbH will strive to make repairs in accordance with the conditions of Welltherm's guarantee, which can be found at the end of the German language operating manual. If repair work isn't successful after a second occasion, the device shall be replaced with a new one that is identical in terms of its technical specifications. In the case of unavailability, the customer shall be entitled to be supplied with a device from the Welltherm range that is equivalent in terms of price and quality.

Price reduction, withdrawal from the purchase contract or claims for damages are not part of the guarantee agreement. Any legal or contractual claims for compensation are not affected by the guarantee.

The guarantee is issued by Welltherm GmbH, Wibscha 22, 58513 Lüdenscheld

### Customer service

The customer service department at Welltherm GmbH can be contacted by phone, fax, email and post:

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