

Power supply unit

System E-ENERGY CARBON in surface-mounted housing



Installation & Operating instructions

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1. General information and safety instructions

The **E-ENERGY CARBON** power supply is referred to as a device in this manual.

This device can be used by children who are 8 years old or older as well as by people who are physically, sensorily or mentally challenged or lack experience and know-how, provided that they are supervised or have been instructed about how to use the equipment safely and understand the danger involved. Children must not be allowed to play with the equipment. Cleaning and use maintenance must not be carried out by children without supervision. When installation is being carried out in wet conditions, the specifications made in DIN VDE 0100 part 701 must be observed.

Any interference with and/or changes to the control unit may destroy the system and will lead to elimination of the guarantee / warranty! The guarantee expires if the fault is attributable to an accident, the use of force, incorrect connection, liquid penetration, poor maintenance or abuse. The guarantee is also forfeited in the case of damage that has been caused by thunderstorms or other power fluctuations.

1.1. Equipment supplied with the E-ENERGY CARBON power supply unit

The device is a power supply and control unit that has been specially designed for operating **E-ENERGY CARBON** heating systems and is packaged in a separate carton.

The individual pieces of equipment supplied are as follows:

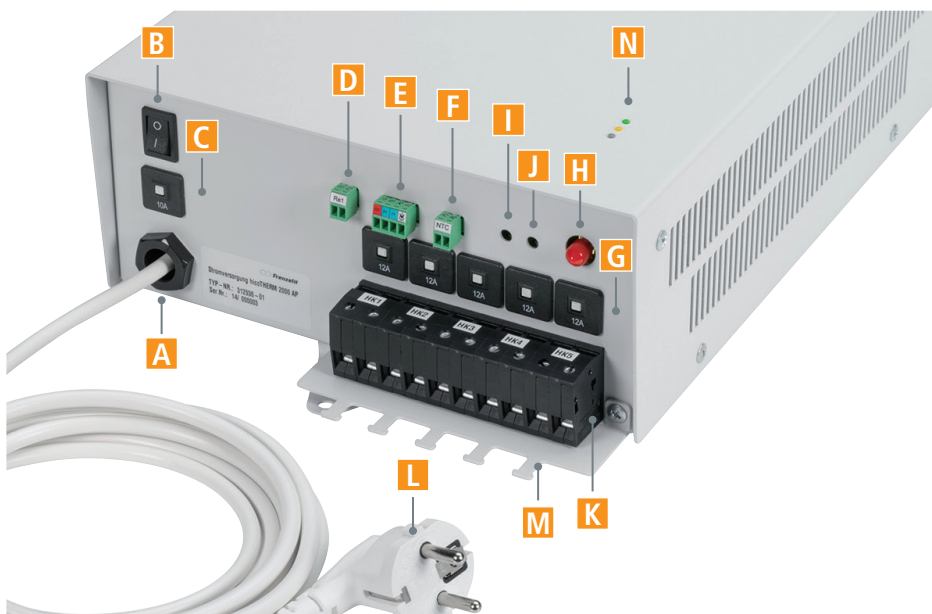
- 1 x **E-ENERGY CARBON** power supply unit with mains plug
- 1 x instructions for installation of the **E-ENERGY CARBON** power supply unit
- 1 x drilling template
- 5 x cable ties for strain relief
- 3 x screws with wall plugs
- 2 x spare connectors

Leave the device in its original packaging until you install it.

1.2. Overview of the hicoTHERM® 36 power supply unit (see illustration 1)

- A** Mains connection
 - B** Mains switch
 - C** Primary circuit breaker up to 10 A
 - D** M/S – master/slave connection
 - E** Controller connection
 - F** Floor sensor connection
 - G** Heating circuit breakers / 12 A each
 - H** Antenna connection
 - I** Button for test function
 - J** Button for learning function (radio controller)
 - K** Heating circuit connections
 - L** Mains plug
 - M** Strain relief
 - N** LED display
- Green = power = ready for operation
Yellow = heat = system is heating
Red = failure = failure

Illustration 1



1.3. Safety instructions

- Read all these instructions through carefully before you start installation.
- Transport: in order to protect all the parts from damage, they should be kept in their original packaging until they reach the installation location. Internal parts may be damaged if they are jolted or dropped.
- Damaged devices or parts may not be put into operation.
- The safety stickers and nameplates may not be removed.
- The individual components may only be installed in closed rooms.
- All the installation work must be carried out in a voltage-free state (with the mains plug disconnected).
- The plug socket and/or the electrical circuit for connecting the heating control equipment must have sufficient capacity for the system and be appropriately protected. This electrical circuit must not be overloaded when the heating system is in operation.
- The device is supplied already equipped with a mains plug. All the electrical parts that have a mains voltage of 230 V are protected against direct contact.
- Never carry or pull the device by the mains cable. Never pull the plug out of the socket using the mains cable or with wet hands.
- The device must be freely accessible at all times, while steps must be taken to make sure that its heat can dissipate without any obstruction.
- The power supply unit may not be covered and no objects may be placed on this device. The cooling openings must remain unobstructed at all times.
- The mains plug must remain freely accessible.
- Protect the device against moisture, thick dust, aggressive liquids and vapours.
- Clean the device with a soft, slightly damp or antistatic cloth. Do not use any cleaning agents or chemical substances.

2. Installation instructions

2.1. Introduction / installation

Bear in mind when planning your system that you will be operating the device with the preassembled mains connection cable plugged into a standard earthed socket. The device is supplied already prepared for this form of operation. It has the advantage that minimum installation work is needed.

2.2. Wall installation

Choose the installation location carefully, taking the following points into consideration:

- The mains cable has a length of about 2.8 metres, so install the device close enough to an earthed plug socket.
- The maximum cable lengths between the web of heating material and the device are 25 m (6 mm²) or 10 m (2.5 mm²). Locate the device in such a way that all the webs of heating material can be reached with the lengths of cable available.
- The electricity circuit may not be overloaded by the nominal current that is required when the heating system is in operation.
- The purpose of the drilling template is to simplify location of the screws.
- The device is attached to the wall vertically, with the cable slots facing downwards.
- Screw the two top screws in far enough to allow the device to be suspended.
- Attach the bottom of the device with the third screw.
- The wall must be in such a condition that it can hold the device safely.
- Unobstructed heat dissipation must be guaranteed.
- It must be possible to see the LED signal displays when the device is in operation.
- The mains switch must be accessible.

2.3 Connection of the power supply

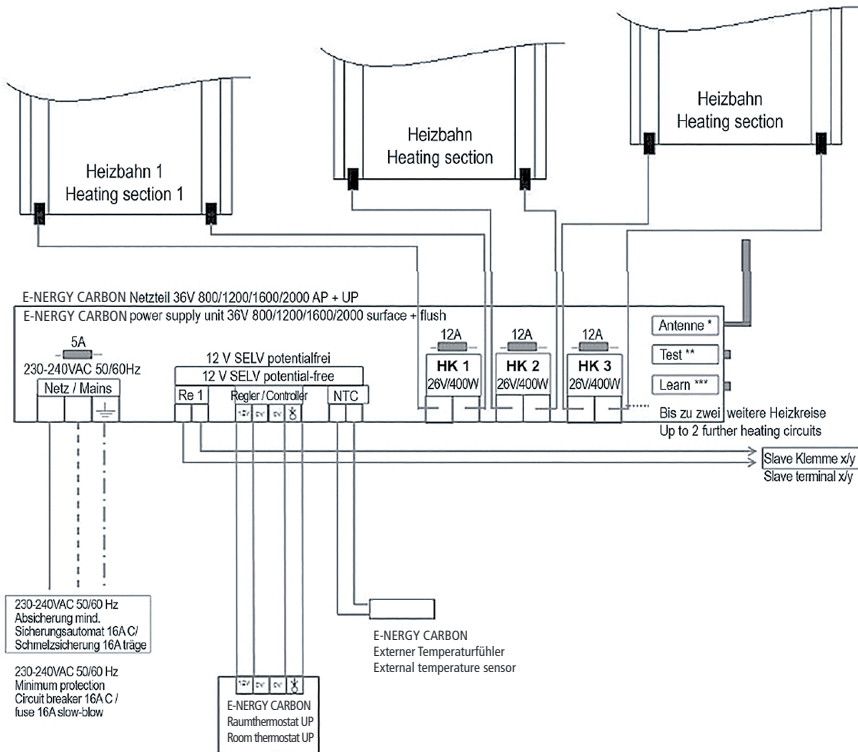
The following specifications must be observed when establishing the power supply connection:

Power supply 230-240 VAC, 50/60 Hz

- Each power supply unit needs to be given individual protection
- Minimum requirement: 16 A K circuit breaker / 16 A slow-blow fuse

Example of an installation option

Illustration 2



2.4. Connection of the heating circuits

Please note the following:

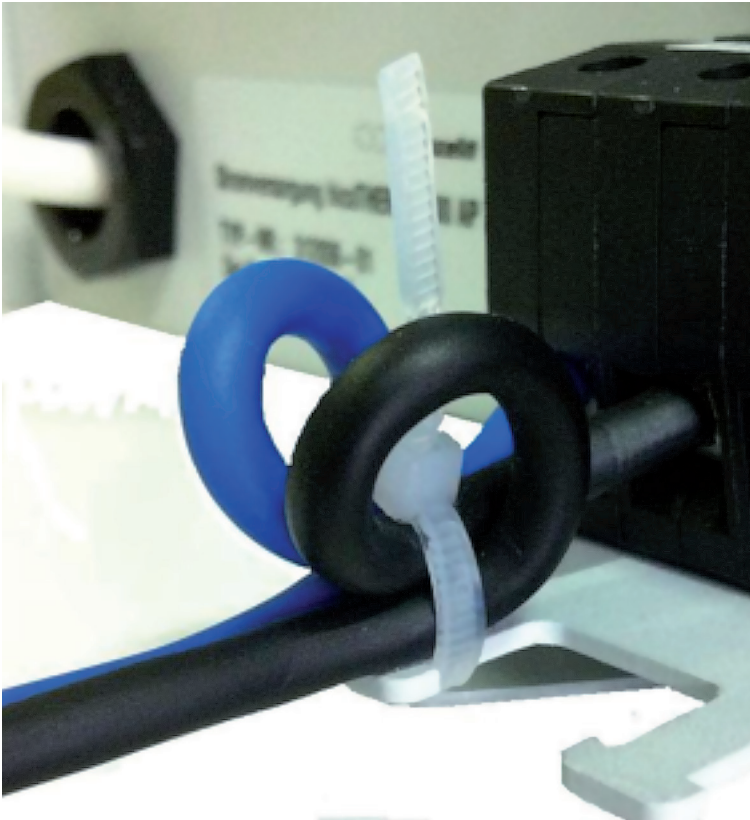
After the webs of heating material have been installed, their cables can be connected to the secondary side of the device. To do this, the cables of the webs of heating material must be connected to the slots for the heating circuits (illustration 1, letter K).

The individual cables can be attached to the strain relief part located underneath them (illustration 1, letter M) in a loop using the cable ties supplied with the device (illustration 3).

The maximum heating capacity that may be connected per heating circuit is 400 W.

Illustration 3

Strain relief with cable ties



2.5.Connection of the room thermostat

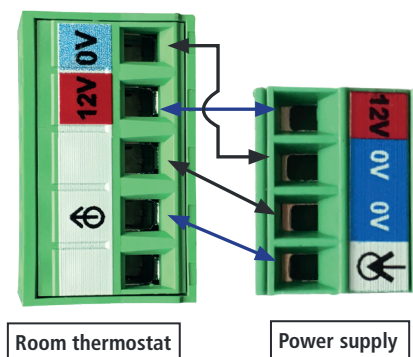
2.5.1. Connection E-ENERGY CARBON

Room thermostat UP (Art.-No. 2 03 260)

If you would like to operate the device with a radio thermostat, you can skip this point.

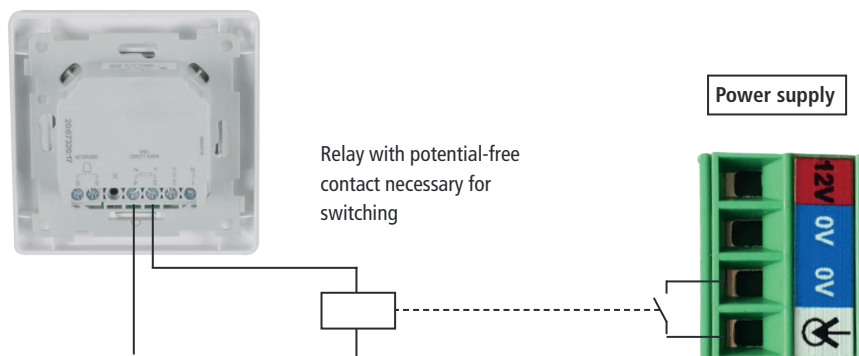
Connect the cables of the room thermostat with the Control socket (illustration 1, letter E), as is shown in the diagram. Now plug the room thermostat connection back into the socket provided on the device for this purpose.

Illustration 4



2.5.2. Connection with E-ENERGY room thermostat Touch | WiFi

Illustration 5



2.5.3. Teach-in E-ENERGY CARBON room thermostat radio AP (Art. no. 2 03 441)

If you want to connect the wireless controller with the power supply unit, you must first screw on the separately available antenna (Figure 1, letter H). Then carry out the commissioning of the power supply unit. Then consult the operating manual of the radio control unit. Use the instructions to go to the „TEST“ function point.

Now briefly press the Learn button on the power supply unit (Figure 1, letter J) and the yellow and red LEDs will flash alternately. Immediately start the „Test“ function in the controller.

After the temperature controller has successfully connected to the power supply, the red and yellow LEDs flash twice simultaneously.

If you want to delete the connection from the power supply again, press and hold the Learn button for more than 3 seconds.

2.6. Connection of the floor sensor

When a floor sensor is being used, plug it into the Sensor socket provided for this purpose on the device (see illustration 1, letter F). If no floor sensor is being used, leave the resistor that is supplied with the device in the socket.

Illustration 6



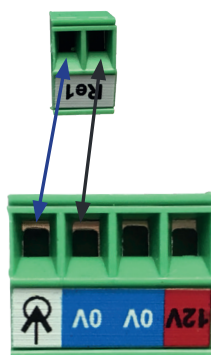
Sensor socket with resistor

2.7. Master / slave connection

If you would like to control several devices with one controller, you need to connect them via the M/S connections.

Connect the M/S connection (see illustration 1, letter D) of the device, which is connected to a controller (master), to the terminals of the control connection of the device, which is supposed to receive the commands issued by the master (slave) (illustration 6). If you would like to connect further devices, the device that is connected last acts as the master in each case.

Illustration 7



M/S connection (master)

Control connection (slave)

2.8. Start-up as supplied

The electrical installation work on the device has now been completed. Make another careful examination of the quality of the installation work. To start the device up, the mains plug is plugged into the earthed socket chosen for the purpose and the mains switch (see illustration 1, letter B) is turned on. After the device has been switched on and if the installation work has been carried out properly, the green LED goes on. (Wired controller already connected)

When the room thermostat issues a heating signal, the yellow LED goes on as well. When the heating cycle ends, the yellow LED goes off again.

Test function: To start a test run of the heating system, briefly press the Test button (Figure 1, letter I). Now the connected heating tracks are switched on for 60 minutes, during the test procedure the yellow LED flashes. If you want to end the test before, press and hold the Test button for longer than 3 seconds.

2.9. Fault messages

Faults are indicated by the red LED flashing – long once, followed by several short flashing sequences.

The number of short flashing sequences indicates the type of fault.

If several faults occur at once, the faults are indicated in succession – and are repeated in the same succession too.

Fault code – short flashing sequence	Description
1x	No code is saved for a wireless thermostat controller (is displayed until a wired thermostat controller is connected for the first time)
2x	Code for a wireless thermostat controller is saved, but it has not received a signal for longer than 6 hours
3x	Either the floor sensor or the resistor is not connected or is faulty (the relay is not switching [closing])
4x	The temperature sensor of the transformer is either not connected or is faulty (the relay is not switching [closing])
5x	The transformer is overheating (the relay is not switching [closing])
6x	The temperature of the floor sensor is higher than allowed (the relay is not switching [closing])

3. Technical Data

	1,200 W	2,000 W
Input voltage	230 V +/- 10 % AC, 50/60 Hz	
Output capacity	1,200 VA // 3x 400 VA	2,000 VA // 5 x 400 VA
Minimum requirement	16 A C circuit breaker / 16 A slow-blow fuse	
Nominal current	5.2 A	8.7 A
Efficiency level	96 %	96 %
Type of protection	IP 00	IP 00
Mains connection	Earthed plug	
Output voltage per heating circuit	36 V AC	36 V AC
Number of heating circuits	3	5
Maximum output per heating circuit	400 W	400 W
Further connections	Room thermostat, floor sensor, antenna, master / slave	
Attachment	Vertical wall installation, cables inserted from below	
Maximum ambient temperature	30 °C	30 °C
Control displays	Coloured LEDs	
Circuit breaker data	Primary 6.00 AT Secondary 1 to 3 12.00 AT	Primary 10.00 AT Secondary 1 to 5 12.00 AT
Dimensions (L x W x H)	290 x 220 x 110 mm	320 x 250 x 120 mm
Weight	14 kg	16 kg



mfh systems GmbH

Hager Feld 8
49191 Belm-Vehrte
Germany

Fon +49 (0) 54 06 | 699 95-10
Fax +49 (0) 54 06 | 699 95-90

mail@mfh-systems.com
www.mfh-systems.com

