

# Functional Description

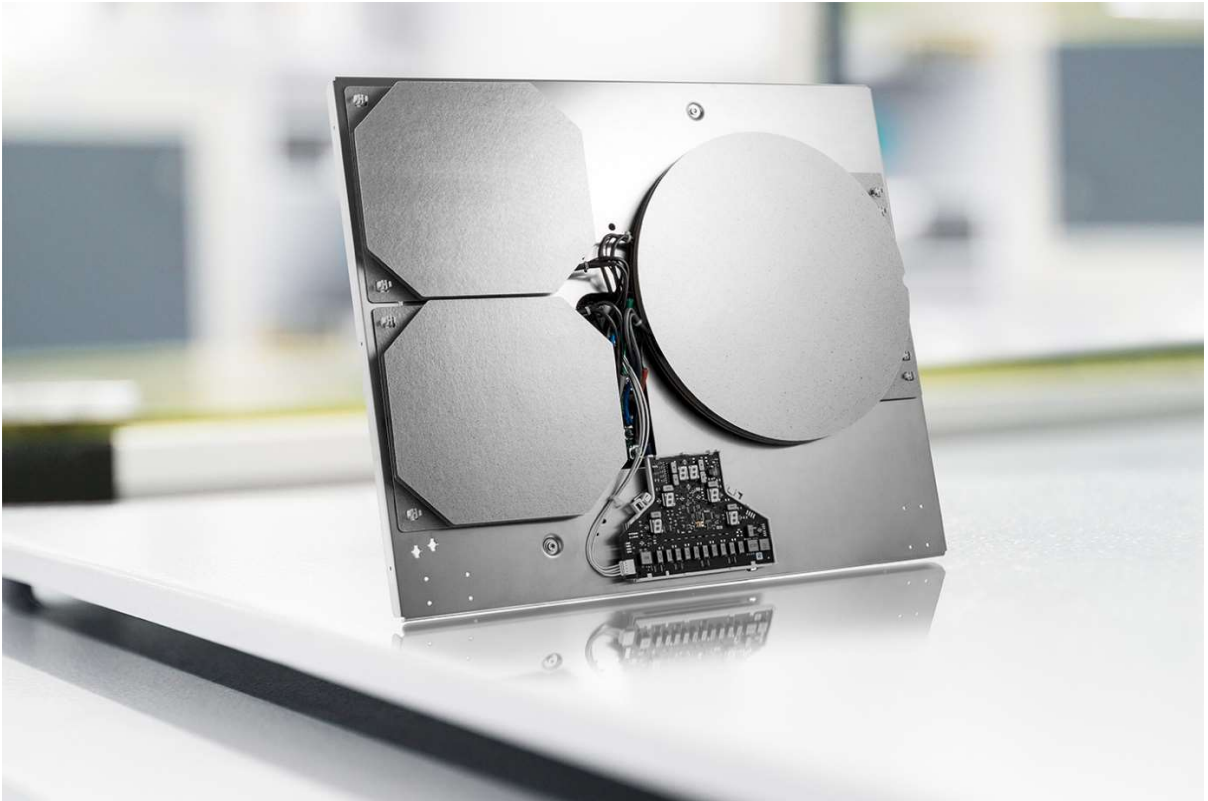
Induction Heating

## Basic 4

Platform

EGO types: 72.0804x.xxx

Preliminary Release



## Subject to Change

E.G.O. reserves the right to changes which occur due to technical further development and are compatible as much as possible with the existing design. All customers will be informed in advance via a Product Change Notification.

### CHANGES WHICH REQUIRE AN INFORMATION TO THE CUSTOMERS

- Software changes with obligation approval effects or functional effects
- Component changes with obligation approval effects or functional effects
- New dimensions of hardware devices referring to customer drawing (cable guide, fixations, housing changes, ...)
- Change of production locations by E.G.O.
- Changes of internal key processes with possible impact to product functionality

### CHANGES WHICH REQUIRE NO INFORMATION TO THE CUSTOMERS

- Correction or upgrading the software or hardware without effect to approval
- Updates and corrections on drawings without effect for the application
- Changes of internal processes without effects to the product functionality

### SECURITY OF SUPPLYING ABILITY

To secure the supplying ability, E.G.O. reserves the right to change standard components on a short-term basis. In that case components or producers of equal or higher quality will be used. Differences will be discussed between E.G.O. and its customers.

### CHANGES OF STANDARD COMPONENTS

Changes of suppliers (e. g. PCNs about raw materials, processes and locations) that are not mentioned above will not be passed to the customer.

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## 1 Intended Purpose

EGO Induction Basic 4 systems and components properly assembled into the final appliance are intended for heating food on cookers or hobs in domestic kitchen areas in fixed buildings. EGO Induction Basic 4 systems and components must be used under a glass ceramic surface with a thickness of 4 mm for domestic appliances. Any other use is not allowed by default and needs written consent of E.G.O

All Induction Basic 4 components are - depending on the respective variant - certified for:

- VDE (for distribution within Europe or in areas where EN 60335 is valid)
- CQC (for distribution within China)
- UL (for distribution within USA / Canada)

KC certification (for distribution within Korea) must be done by the appliance manufacturer. Certain Basic 4 systems are ready for KC certification.

Induction Basic 4 is designed to be controlled by the following EGO User Interfaces:

- Touch Control Lisa
- Touch Control Multi Lite
- Touch Controls Lite Slider and Lite Slider Smart Kii
- Touch Control Flex
- Touch Control Slim Slider Smart Kii
- Touch Control SLK
- Knob Control K6
- Touch Control F1
- Touch Control SK1

**Note** Generally, the software of the user interface has always to be adapted to Induction Basic 4, i.e. using a user interface which has been designed for another induction won't work.

Dismantling of Induction Basic 4 heating systems is not allowed unless for repair purposes. For EMC and safety reasons, the cable routing and fixation must not be changed.

It is not allowed to use Induction Basic 4 in other applications than mentioned above (e. g. for professional or commercial use). For details, please consider Product Compendium Household Induction, doc. No. 90.60027.188

## 2 Mechanical Construction

### 2.1 General

Induction Basic 4 is a modular induction platform carried out as a mounting plate solution to build-up cooktops with 2 to 6 cooking zones. To achieve this, 2-burner and 4-burner generators are available. Cooktops based on Induction Basic 4 are designed for a construction height of 50 mm (without glass ceramic).

The generator's housing provides a protection against direct contact according to EN 60335 and may be mounted directly above drawers without any intermediate shelves.

Induction Basic 4 is available both as pre-assembled induction heating and as single components.

#### 2.1.1 Pre-Assembled Induction Heating

A pre-assembled Induction Basic 4 heating system consists of the following components:

- Induction generator
- Inductors
- Fixation clips for inductors
- Touch Control
- LIN connection cable
- Mounting plate

With pre-assembled induction heatings, the customer has only to perform the following tasks to complete an Induction Basic 4 cooktop:

- Assemble the glass ceramic (see section 2.5)
- Connect the mains cord (see section 4.1)
- Perform a safety and function check (see chapter 12)

**Note** It is in the responsibility of the customer to apply for a VDE, KC, UL or CQC certificate of the finished cooktop. The certificate of the components is valid only for the component itself.

Currently available pre-assembled induction heatings are listed in section 2.4.

#### 2.1.2 Components

Induction Basic 4 system is also available as a component solution which means that the customers purchases Induction Generator, Inductors and Touch Controls as separate parts. In this case, the customer himself is responsible for the proper assembly of the heating system.

The following items should be considered when designing an Induction Basic 4 heating system as component solution:

- The induction generator is able to detect the connected inductor type and adapts itself automatically to the correct power setting. No manual configuration is needed.

The assembly and the wiring of the components is described in detail in chapter 3.

## 2.2 Mounting Plate

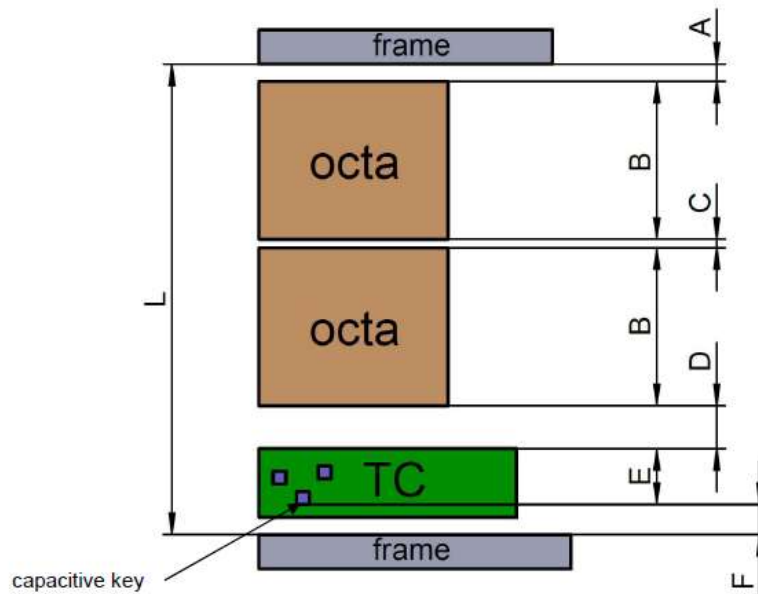
The following specifications concern:

- A recommended minimum distance from the inductor to the surrounding metal (see distance A) to prevent, for example, a frame from becoming too hot, in accordance with the IEC 60335 standard.
- A recommended minimum distance from the inductor to the touch control (see distance D), to achieve a satisfactory result in terms of system operability and lifetime.
- A recommended minimum distance between a capacitive key and the surrounding metal (see distance F) to prevent any negative influence on the capacitive value and the operability of the touch control.

There is a table to see the minimum length L for systems with two octa inductors to check it easily. The material of the frame has influence on the distance A.

Configuration of Gx heating system	minimum length L	
	frame made of aluminium	frame made of steel
2x octa + TC Slim SK:	L = 462	L = 467
2x octa + TC Vario:	L = 458	L = 463
2x octa + TC Flex:	L = 454	L = 459
2x octa + TC SK2:	L = 460	L = 465

$$A+B+C+B+D+E+F = L$$



The Induction Basic 4 mounting plates contain several mounting holes arranged in a raster. This enables moving the inductors in both horizontal and vertical positions within a certain range. When moving the inductors, the following minimum distances are recommended between the different objects.

- Inductor to inductor: **20 mm** (related from outside edge of mica plate to outside edge of mica plate) (When using two 160 mm inductors in bridge mode, a distance of **15 mm** between them is allowed. OCTA inductors may have smaller distances between each other.)



- Inductor to Touch Control: **15 mm** (related from outside edge of mica plate to outside edge of Touch Control)
- Inductor to metal frame (surrounding the glass ceramic): **10 mm**

It may be possible to reduce the minimum distance between the inductors, but

**Notes**

- this may cause louder noises. Going below the recommended minimum distance has to be evaluated.
- the lower pot detection limit may increase especially when 2 pots on the concerned coils are operated at different power levels.

**Risk of damaging the user interface or burns!**

The user interfaces - especially those ones with Smart Kii Technology - are sensitive for overtemperatures.



**CAUTION**

When going beyond the recommended minimum distances, make sure

- that the sensitivity of the touch buttons is not influenced significantly.
- not to exceed the max. allowed temperature for the user interface (see customer documentation of the corresponding user interface for more details)
- not to exceed the max. allowed temperature on the glass ceramic's surface above the user interface (60 °C according to EN 60335 section 11.7).

All standard heating systems will be delivered with inductors in predefined positions, i. e. changing the position of the inductors has to be performed by the customer himself.

To provide guidance while inserting the coil fixers, the inductors and the user interface, the mounting plate has stamped markings per cooking zone:

- Lower case letters (a ... j) provide the horizontal position of the inductor. The corresponding letter is shown in a notch inside the mica plate of the inductor.
- Numeric characters (0 ... 5) provide the vertical position of the inductor. The coil fixers (2 per inductor) always have to be inserted to identical numerals.

**Notes**

- The position for the OCTA coils & 160 mm coil (bridge) is fixed and must not be modified.
- In bridge mode, the NTC sensors of both coils must be covered by the cookware.
- A four-way bridging horizontally and vertically of Octa inductors is not allowed.
- Bridging over the short side of the Octa coils is not allowed.
- When moving inductors, the minimum distances mentioned above have to be considered. Contact E.G.O. technical support in cases those minimum distances cannot be reached.
- Inductors should not be placed above the holes for the cable connections as this may cause EMC issues. If this cannot be avoided, we recommend covering the holes by metal plates which are screwed tightly to the mounting plate.

- Roman numerals provide the position of the user interface. The Roman numeral is always marking the upper left bolt of the user interface. The following allocation appears:

Mounting plate & Part number		Flex Master	Flex Slave 1	Flex Slave 2	Flex Slave Single	Lisa	Slim	K6	New Wave TC	Lite Family	China Slider
4-b	372.470	I	II	-	-	VII	IV	VIII	Bolt	III	-
4-b UL	98.302.20	I	II	-	-	-	III	IV	-	V	-
2-b UL	98.303.81	I	-	-	-	-	II	III	-	-	-
2-b Domino	98.300.94	II	-	-	-	V	III	IV	-	-	I
2-b_CQC	98.301.31	II	-	-	-	V	III	-	Bolt	IV	I
6-b	98.301.30	III	II(VIII)	I(VII)	-	-	IV (V)	-	Bolt	VI	-
3-b_Mix	98.301.99	III	-	-	II	V	IV	VII	Bolt	I	-
3-b_250 Coil	98.302.17	I	-	-	II	III	V	VI	Bolt	IV	-

Drawings of EGO standard mounting plates are available for heating systems only:

Drawing No.	Explanation
C000010523	2-burner standard mounting plate
C000008529	4-burner standard mounting plate 540 mm
C000010738	2-burner standard mounting plate CQC
C000011289	6-burner standard mounting plate
C000021273	4-burner UL standard mounting plate
C000022368	2-burner UL standard mounting plate

When purchasing Induction Basic 4 system as separate components, the customers are able to design a mounting plate on their own. When designing a customized mounting plate, the notes mentioned above must be considered. Furthermore, we suggest the following material:

- Thickness: 1.5 mm
- Material: alloy 5052H32 or 5754H24

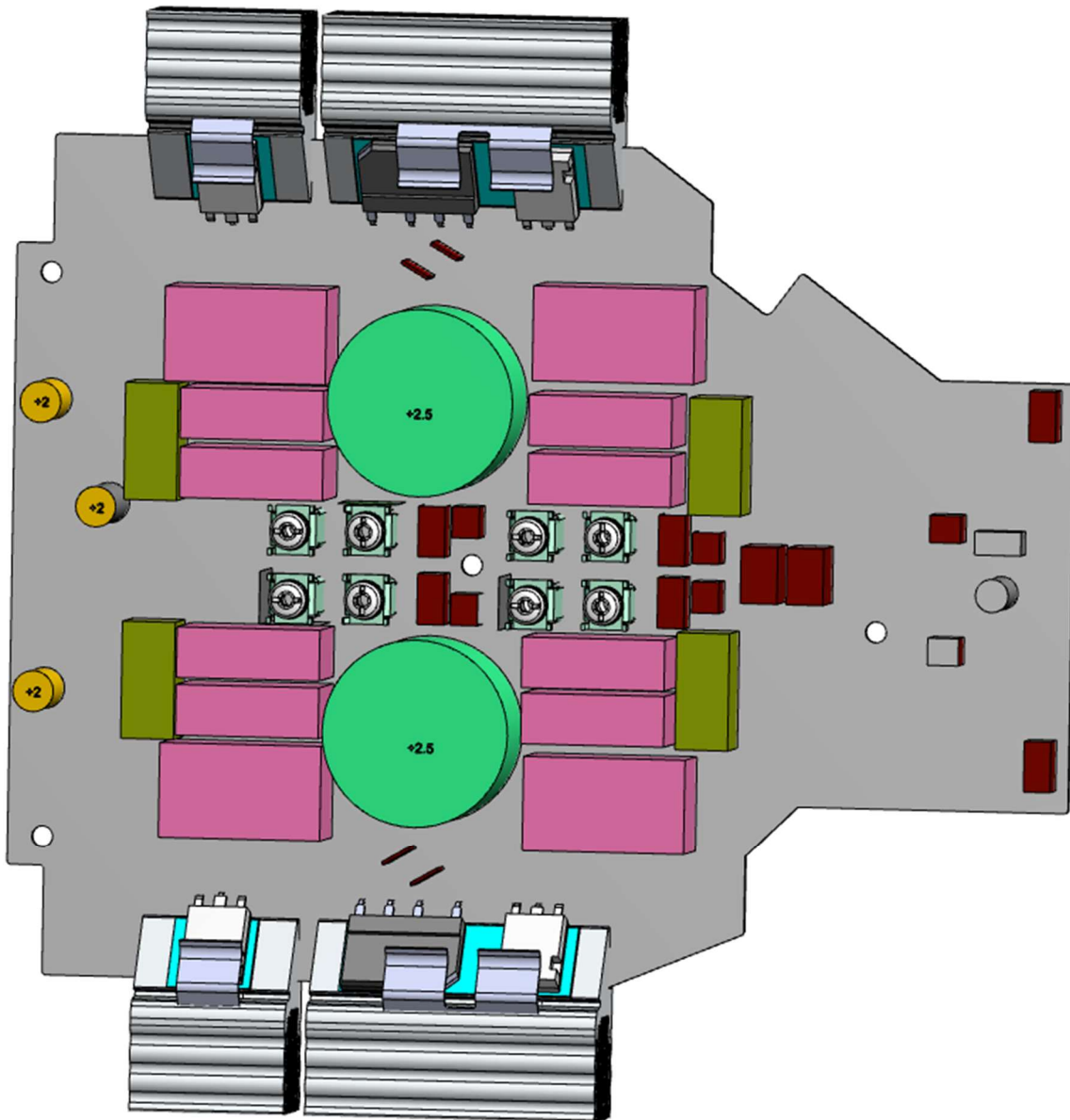
**Risk of damaging the induction generator!**

Parts which penetrate the mounting plate may collide with parts on the PCB.



- When designing your own mounting plates, make sure that no conductive parts like fixation pins, screws or nuts get in touch with components on the PCB and the air and creepage distances (e. g. 2 or 2.5 mm) are kept. This is especially valid for the chokes and capacitors (see drawing below for details).

The drawing is available as 3D PDF file on request (doc. No. C000017275).



## 2.3 Overview About Available Generator Types

Currently, the following generator types are available for Induction Basic 4:

### Master

- 2-burner
- 4-burner

### Slave

- 2-burner

Each generator type is available as VDE, CQC or KC and UL certified variant.

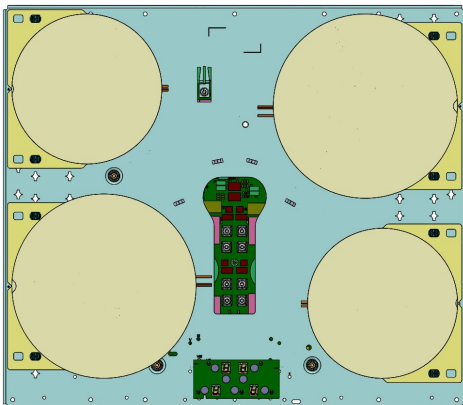
Generally, a cooktop based on Induction Basic 4 consists of at least one master generator and one user interface. Depending on customer needs, 1...2 slave generator(s) can be added to the master generator to achieve different solutions, e. g.

- 2-burner master generator => 2-burner domino cooktop
- 4-burner master generator => 4-burner cooktop
- 4-burner master generator + 2-burner slave generator => 6-burner cooktop
- 2-burner master generator + 2-burner slave generator => 4-burner cooktop with downdraft extractor hood between both generators.

## 2.4 Overview About Common Configurations

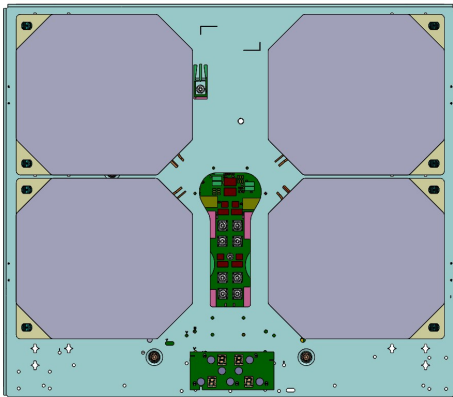
Currently, the following configurations are defined as references:

### 4-Burner 60 cm with Touch Control Lisa



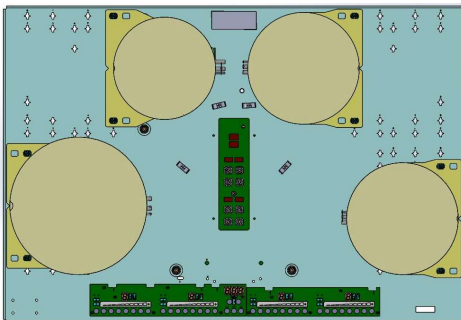
Part No.: 72.08041.506 (VDE)

**4-Burner 60 cm OCTA with Touch Control Lisa**



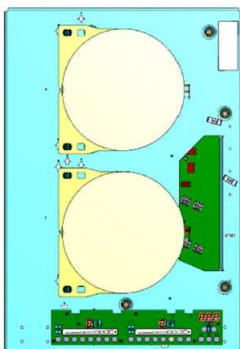
Part No.: 72.08041.502 (VDE)

**4-Burner with Flex Touch Control**



Part No.: 72.08043.501 (UL)

**2-Burner with Flex Touch Control**



Part No.: 72.08043.301 (UL)

Further configurations can be designed depending on customer needs. Contact E.G.O. Technical support for details.

## 2.5 Mounting Concept for Touch Controls

The table below provides an overview about the mounting concept of the different Touch Control types:

Touch Control	Mounting concept	Comment
Slim Slider Smart Kii (75.13130.XXX)	Housing including springs (special version for Basic 4)	Ready for installation
Lisa (75.13105.XXX)	Spacers	4 spacers 98.401.39 needed per Touch Control
Flex (75.13206.XXX) (75.13207.XXX)	Spacers	7 spacers 98.401.39 needed per master board 5 spacers 98.401.39 needed per slave board
China Slider (72.13003.XXX)	Housing including springs and mounting plate	Slider TC adaptor 98.304.00 & snap-rivet 98.401.66
K6 (75.04005.XXX)	Spacers	4 spacers 98.401.39 needed per display board 3 spacers 98.401.39 needed per splitter board
Lite (75.13196.4XX)	Housing including springs	Housing incl. springs (TC mounted) + mounting plate (98.301.56) TC fixtures (969.319) Mounting plate fixture (98.401.66) - only necessary, if glass mounting is done upside-down
Lite Slider (75.13196.8XX)	Housing including springs	Housing incl. springs (TC mounted) + mounting plate (98.301.56) TC fixtures (969.319) Mounting plate fixture (98.401.66) - only necessary, if glass mounting is done upside-down
MultiLite (75.13114.85X - 75.13114.89X)	Housing including springs	Housing incl. springs (TC mounted) + mounting plate (98.301.56) TC fixtures (969.319) Mounting plate fixture (98.401.66) - only necessary, if glass mounting is done upside-down
Lite Slider Smart Kii (75.13124.4XX)	Housing including springs	Housing incl. springs (TC mounted) + mounting plate (98.301.56) TC fixtures (969.319) Mounting plate fixture (98.401.66) - only necessary, if glass mounting is done upside-down
F1 (72.13005.1XX) (72.13005.2XX)	Spacers	5 spacers 98.401.39 needed per master board 5 spacers 98.401.39 needed per slave board
SK1 (75.13162.1XX)	Spacers	5 spacers needed for installation of one board, existing of: 3 spacers 75.495.338, 2 spacers 75.495.339

## 2.6 Mounting the Glass Ceramic

Induction Basic 4 is intended to be used with a glass ceramic with a thickness of 4 mm only. The design of the serigraphy as well as the design of the mounting frame which has to be glued to the glass ceramic is in the responsibility of the customer.



### Risk of unintended heating!

Metal parts (e.g. a surrounding metal frame) located at the class ceramic may be heated up unintendedly if they will be located near the inductors.

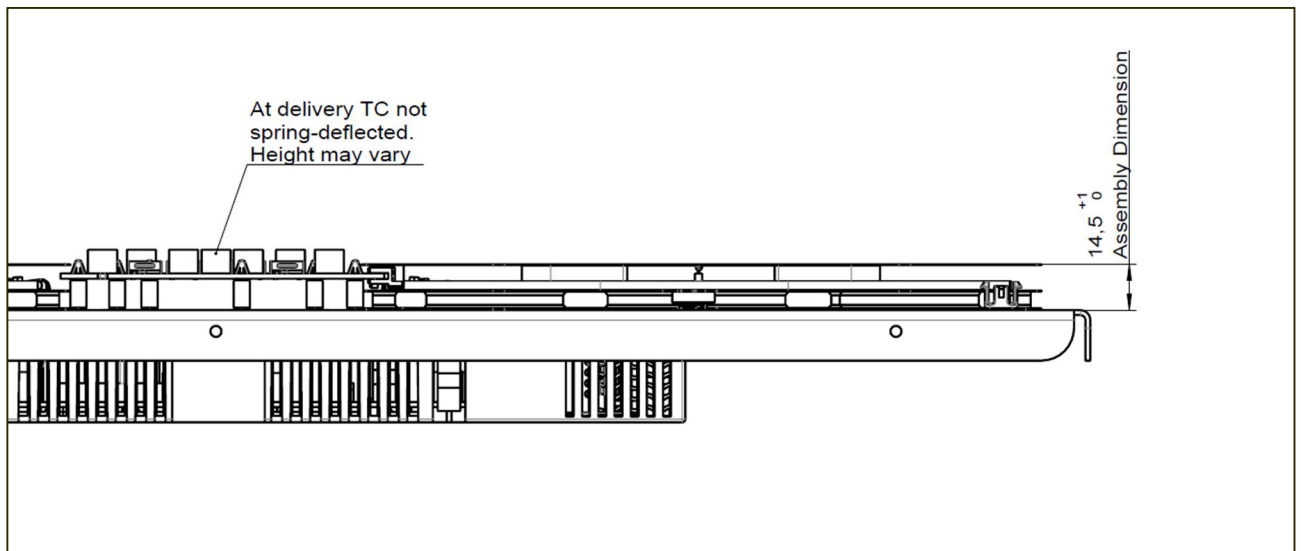
- If the cooktop will be equipped with a surrounding metal frame, the overlap of the frame to the inner side of the mounting plate must be 5 mm max.

E.G.O. recommends a mounting frame which consists of totally 4 single parts (in which respectively 2 parts are identically) per cooktop. For more details please consider document no. 90.03302.366.

Please note that the dimensions shown in this document are especially for Induction G5 and can't be transferred 1:1 for Induction Basic 4. The schematic design proposals can be used. Please consider the information in chapter 5 "Metal plate Design Guide" and keep in mind that there can be deviations to other products.

Please be aware that E.G.O. does not take any responsibility for the frame construction. Tests need to be done by customer itself.

When designing your own mounting frame parts, consider the inductors and touch controls as objects with a height of **14.5 mm**. For details, please refer to the drawings of the standard mounting plates (see chapter 2.2).





### 3 Assembly of a Basic 4 Heating System

This chapter is relevant only if Induction Basic 4 has been purchased as separate components  
**Note** or if repairing an Induction Basic 4 heating system.

This chapter describes the assembly of an Induction Basic 4 heating system step-by-step using the example of a 4-burner cooktop with round 160/200 mm inductors and Touch Control Lisa. 2-burner cooktops are assembled in the same way.

6-burner cooktops are a combination of a 4-burner generator and a special variant of a 2-burner generator. The additional procedure for the electrical interconnection is also mentioned in the assembly instructions.

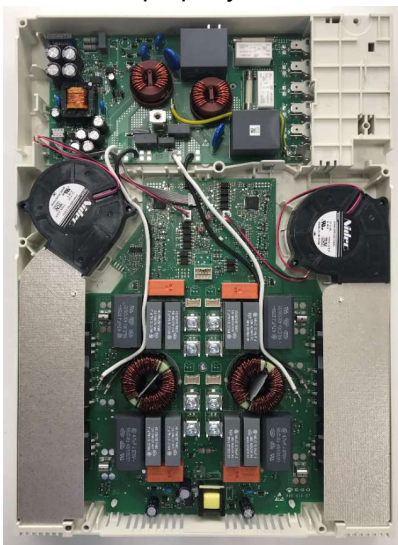
The generators themselves are pre-assembled; i. e. all generator-internal parts as well as the internal wiring (e.g. fans, filter board) have already been performed.

#### Precondition

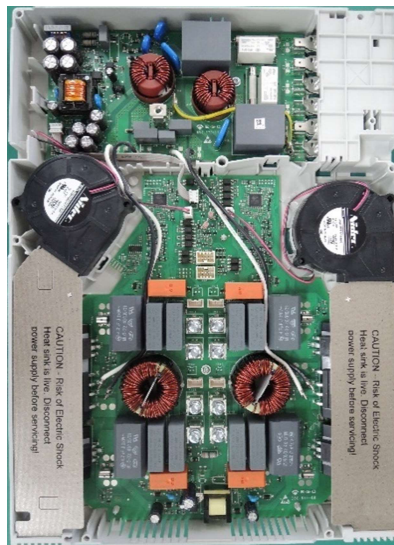
Necessary Tools:

- Power Screwdriver with adjustable tightening torque and Torx TX25 bit
- Long nose pliers
- Optional: Spanner screwdriver/bit size M2.6

Locate the generator upright with front to you. Verify that the mica plates (air ducts) on the heatsinks are located properly.



VDE/KC/CQC generator

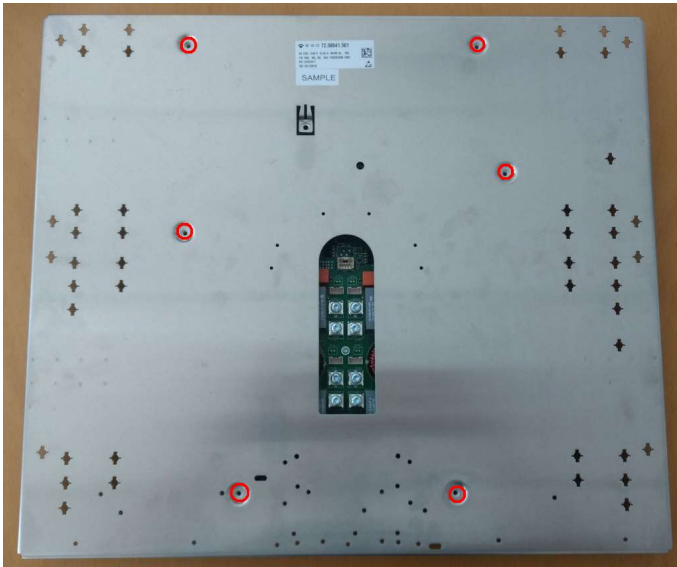


UL generator

*Valid for cooktops with slave generators only (e. g. 6-burner cooktops):* Perform the connection between the two generators according to the technical drawing (L, N and PE conductor as well as the ribbon cable).



- ☞ Align the mounting plate with the screw holes of the generator.



- ☞ Turn in the screws for fixing the mounting plate and tighten them as follows:
  - Reference screw T10 / T15 with 1.5Nm (+0.2 Nm)

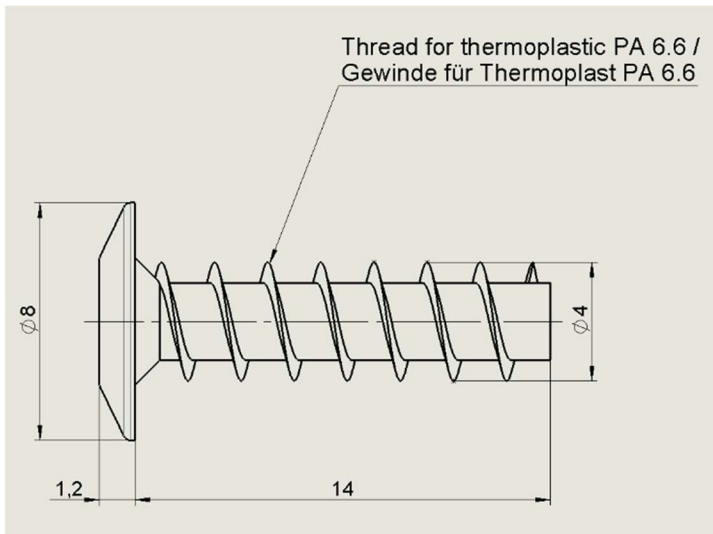
Please use a screw with the following parameters. The screw can be used for the alusheet thickness of 1,5mm.

**Note** The aluminium plate should fully cover the Basic 4 coil (no holes in the aluminium sheet below the coil, no exceeding to connection area) to prevent abnormal pot detection or other unexpected problems.

**Reference Screw T10 / 15:**

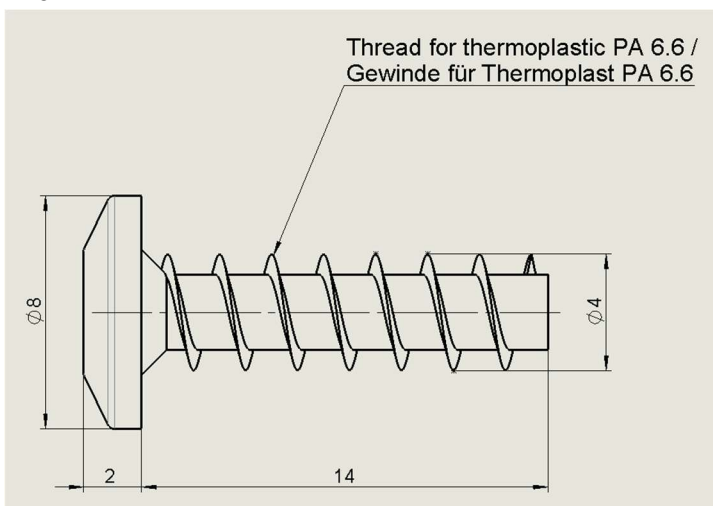


**T10:**



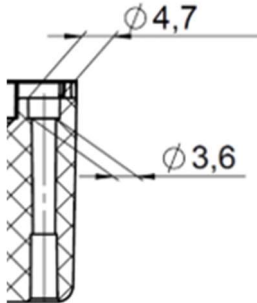
Through hardened Class 10.9 EN ISO 898-1  
Minimum breaking moment: 260 Ncm

**T15:**

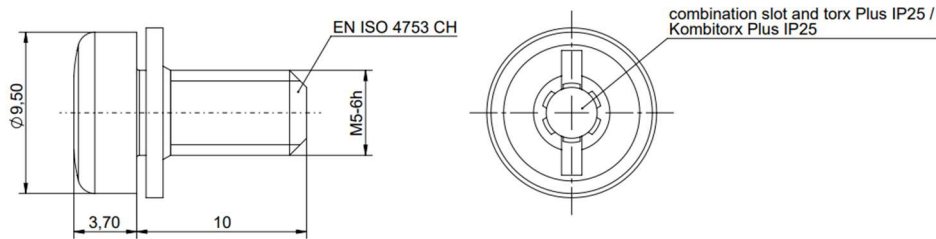


Through hardened Class 10.9 EN ISO 898-1  
Minimum breaking moment: 260 Ncm

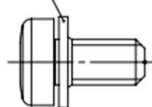
Standardized version of the screw holes:



- ☞ Turn in the M5 screw, which thread meet EN ISO4753 CH, and head not longer than 5 mm, for the earth connection (terminal X19) and tighten it with 1.5 Nm. **This step is very important for electrical safety and EMC.** The appliance and consequently the screw have to fulfill the standard IEC60335-1 chapter 27 & 28. If this screw will be designed by own, it must be paid particular attention to this. A reference drawing is C000006707.



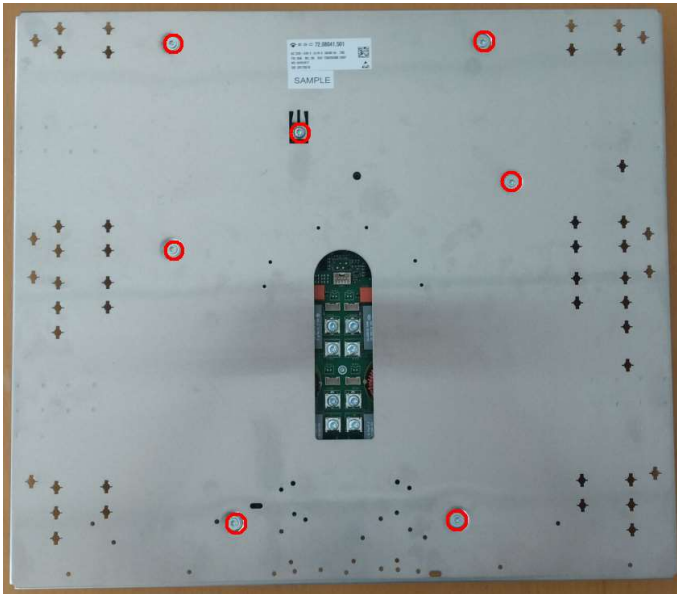
washer Z1  
washer must be rotatable  
to screw /  
Scheibe Z1  
Scheibe muss frei drehbar sein



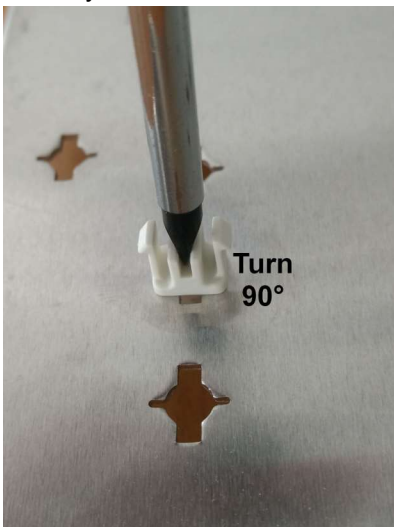
☞



- The mounting plate is fixed.



- ☞ Insert the coil fixers for Induction 4 coils for the inductors at the corresponding positions and turn them by 90° to fix them.



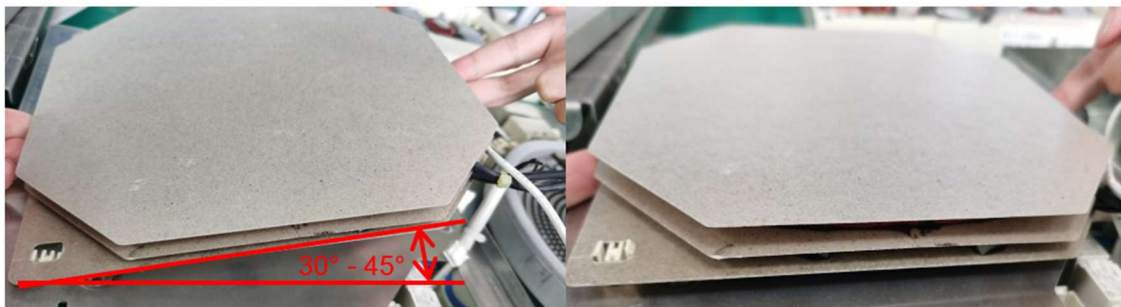
**Notes**

- Totally, 2 coil fixers for Induction Basic 4 coils are needed per inductor.
- The position of the clip is depending on the design of the cooktop
- A spanner screwdriver size M2.6 can be used for turning the clips easier.

➤ Mounting plate with assembled coil fixers:



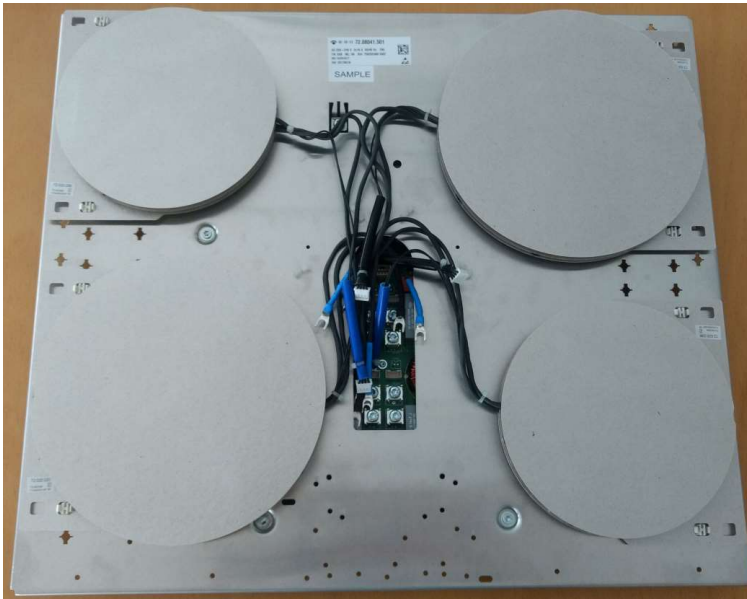
☞ Align the inductor at a 30°-45° angle with the first clip holder as shown in the photo and press it down until it snaps in (1). Then, turn the inductor until the second hole is aligned with the clip holder (2) and press it down until it snaps in (3). Make sure that the inductor is snapped in correctly.



A detailed overview about available inductors is listed in chapter 7.1.

**Notes**      Mounting of 250mm coil:  
To avoid EMC risks, the 250mm coil must not be placed on the front left position of 4-b generator.

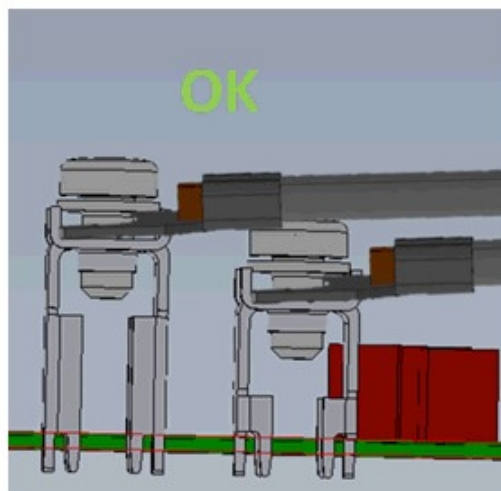
➤ Mounting plate with assembled inductors:



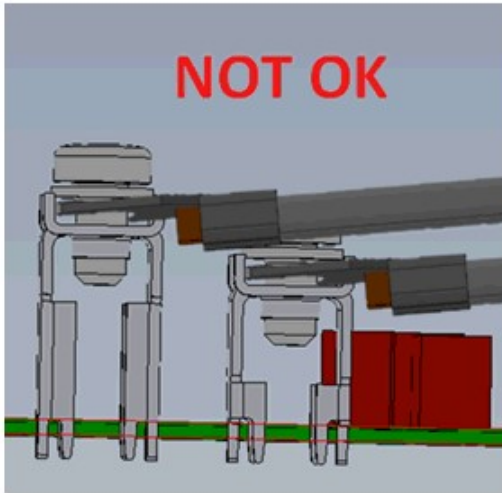
☞ Perform the wiring of the inductors respecting the notes below:

- Consider connection diagram, doc. No. 90.60088.266.
- For EMC reasons, the color-marked terminal of the inductor must always be connected to terminal X--00 (e.g. X1100, X1200, X2100, X2200).
- The crimped part of the cable must face upwards (see photos below). It has to be avoided that the cable lug's shrinking hose has contact to the adjacent cable lug.
- By all means, it has to be ensured that the allocation between temperature sensor and inductor power cables is kept.
- We recommend starting the wiring with the temperature sensor cables and both cooking zones related next to the fans.
- Tightening torque for screws is 1.5 Nm.

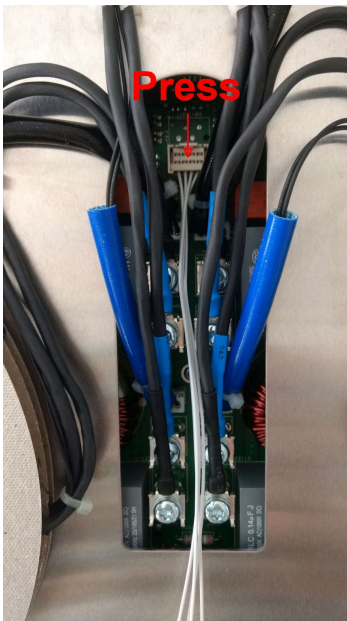
➤ Inductor which has been connected correctly:



- Inductor which has been connected **wrong**:



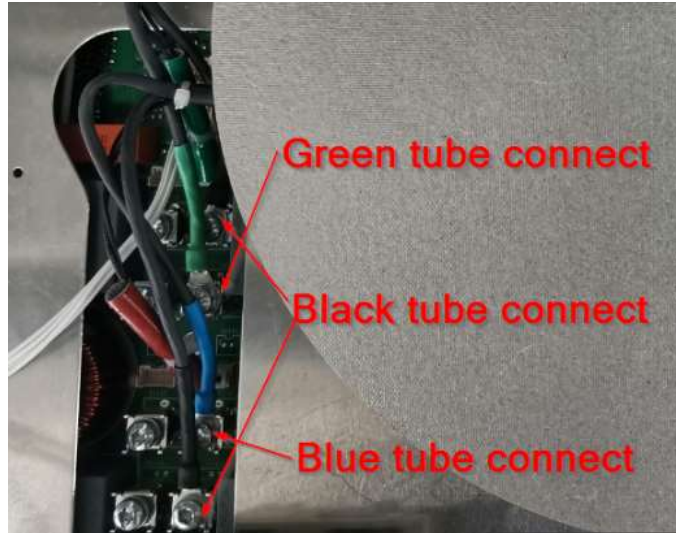
- ☞ Connect the LIN cable to connector X401 of the generator.



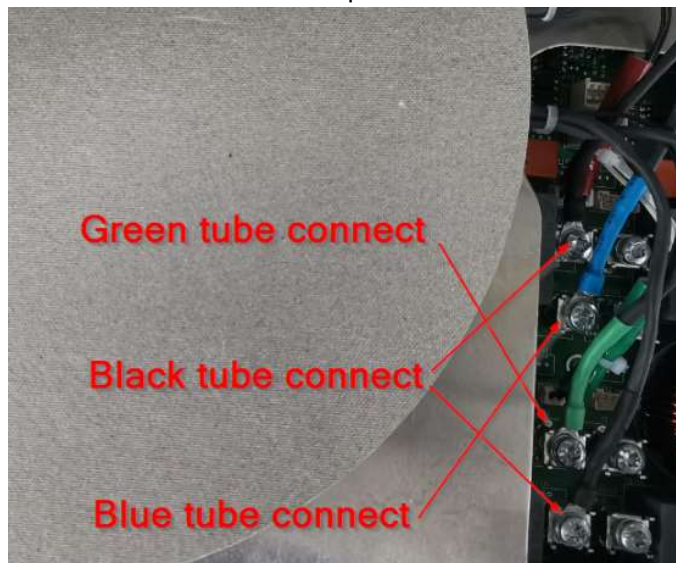
- ☞ *Valid for 6-burner cooktops only:* Connect the second LIN cable to the slave generator (connector X401).



- Connecting 280mm inductor:
  - On the right side of the cooktop:



- On the left side of the cooktop:

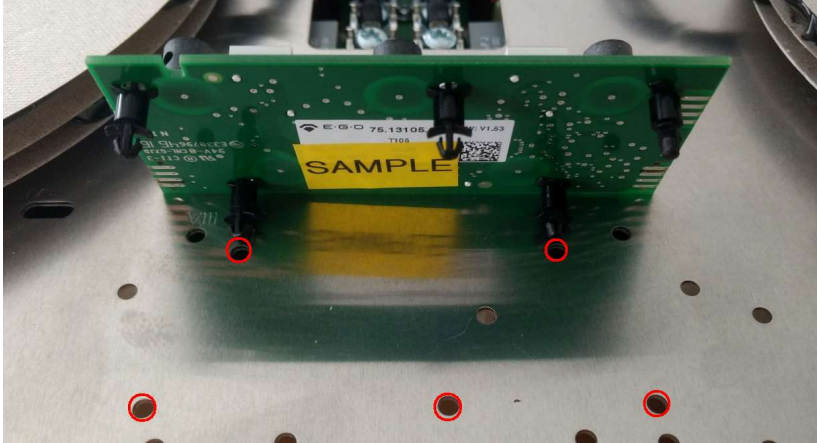


**Notes**      Mounting of 280mm coil:  
To ensure 280mm coil working performance, aluminum mounting plate must cover minimum 95% of 280mm coil





- ☞ Allocate the Touch Control and press it into the holes until the bolts snap in.



**Note** The assembly of the Touch Control is depending on the Touch Control model. See the Customer Documentation of the corresponding Touch Control for details.

- ☞ Connect the LIN cable to the Touch Control.



**Risk of damaging the Induction Generator and the Touch Control!**

A damaged LIN cable (e. g. truncated insulation) may cause voltage flashover from low voltage to extra-low voltage side, e. g. during high voltage test.

- The LIN cable must not be jammed, kinked or guided over sharp edges.

- ☞ *Valid for cooktops with slave generators only:* Assemble a clamp terminal (EGO part No. 98.401.18) with screw (EGO part No. 969.173) at the position for the strain relief and a housing cover for generator (EGO part No. 98.401.42).



**Danger to life by electric shock!**

An open generator connection box provides touchable live parts.

- The assembly of the clamp terminal with screw and the housing cover is mandatory to achieve a proper protection against accidental contact.

- The assembly of the Induction Basic 4 heating system has been finished:



To complete the cooktop:

- ☞ Assemble the glass ceramic (see section 2.5)
- ☞ Connect the mains cord (see section 4.1)
- ☞ Perform a safety and function check (see chapter 12)

Another point to note is that the appliance is only intended for appliances with a net-plug which is constructed for the voltage of 220 – 240 V.

As the max. permissible current of a Schuko plug is 16 A, the max. total power for modules to be used with a Schuko plug has to be limited to 3.5 kW by the user interfaces to prevent the plugs and the power cord from any overloads. The cooktop should be connected directly to a fixed socket-outlet only. The usage of multiple plugs is forbidden. The fixed socket-outlet has to be fused with a 16-A-fuse. No other electric devices must be connected to the same final circuit.

The connection must be carried out with a high quality Schuko plug which is specified for 16 A current.

For the main connection only connection cord with a cross section of 2.5 mm<sup>2</sup> can be used- independent from 1phase or two phase connection.

### 3.1 Cable Length Calculation for Generator Connection Cable

**Note** This section is relevant only for induction heatings which consist of more than 1 generator.

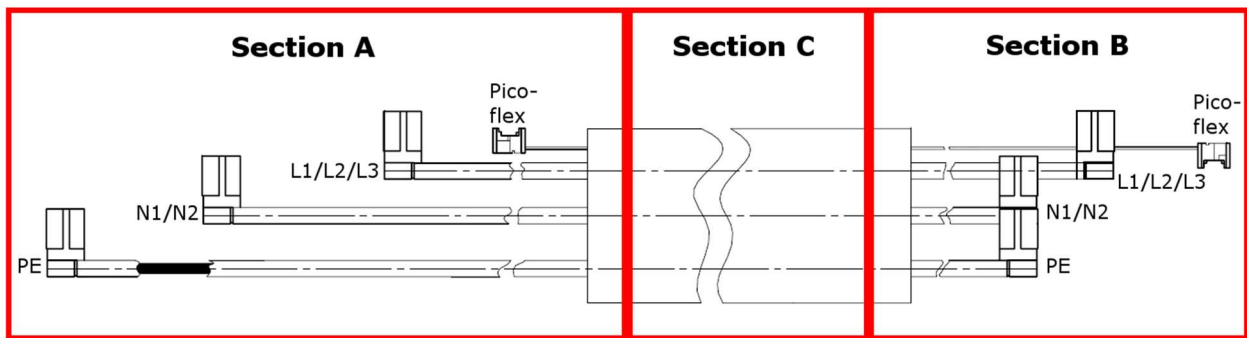
When building cooktops with more than 1 induction generator (e.g. 6-burner cooktops or 4-burner cooktops with a downdraft solution located in the middle), both generators have to be interconnected by a special cable harness. This cable harness consists of

- 3 single conductors (colors brown, blue and green/yellow) with cable cross section 1.5 mm<sup>2</sup> and non-isolated 6.3 mm FASTON connectors with lateral conductor connection at both ends for the power supply
- 4-pole ribbon cable for signal connection with Picoflex connectors at both ends for signal connection

The cable harness is not in scope of E.G.O. Its length depends on the customer's individual construction of the mounting plate. See below a guideline how to calculate to needed length for the single wires.

#### 3.1.1 Overview

The total length of the cable harness can be divided into 3 sections (A-C):



The lengths A and B are depending on the used generator type and on the position of the generator in the induction heating (left or right):

The length C is depending on the mounting plate of the induction heating – if the cable is routed directly between the generators, it is the distance between those generators.

### 3.1.2 Dimension Matrix

Wire	Name	Terminal	4-burner master		2-burner master		2-burner slave	
			Length A (left) [mm]	Length B (right) [mm]	Length A (left) [mm]	Length B (right) [mm]	Length A (left) [mm]	Length B (right) with 2-burner master [mm]
1	PE	X17 (PE)	55	225	55	150	55	150
2	N1	X13 (N1)	90	225	-	-	95	190
	N2	X15 (N2)	-	-	75	175	-	-
3	L1	X7 L1	-	-	-	-	145	245
	L2	X9 L2	-	-	125	225	-	-
	L3	X11 L3	110	280	-	-	-	-
4	PF	X201 PF	210	110	145	90	145	90
	Heat shrink tube		40	30	60	30	60	30

**Note** During shrinking process, heat shrink tubes will not only reduce their diameter, but also their lengths. The dimensions given in this matrix are related to the final length after shrinking process.

### 3.1.3 Example on Cable Length Calculation

Find below an example how to use the dimension matrix in chapter 0. A cooktop with the following constellations is designed:

- 4-burner master generator located on the left side of the cooktop
- 2-burner slave generator located at the right side of the cooktop
- a distance of 95 mm between both generators; direct cable routing

The calculation of the single wires is:

Heat shrink tube:  $60\text{ mm} + 95\text{ mm} + 40\text{ mm} = 195\text{ mm}$   
 Wire 1 (PE):  $55\text{ mm} + 60\text{ mm} + 95\text{ mm} + 40\text{ mm} + 370\text{ mm} = 620\text{ mm}$   
 Wire 2 (N1/N2):  $95\text{ mm} + 60\text{ mm} + 95\text{ mm} + 40\text{ mm} + 340\text{ mm} = 630\text{ mm}$   
 Wire 3 (L1/L2/L3):  $145\text{ mm} + 60\text{ mm} + 95\text{ mm} + 40\text{ mm} + 320\text{ mm} = 660\text{ mm}$   
 Wire 4 (Picoflex):  $145\text{ mm} + 60\text{ mm} + 95\text{ mm} + 40\text{ mm} + 110\text{ mm} = 450\text{ mm}$

Wire	Name	Terminal	4-burner master		2-burner master		2-burner slave	
			Length A (left) [mm]	Length B (right) [mm]	Length A (left) [mm]	Length B (right) [mm]	Length A (left) [mm]	Length B (right) [mm]
1	PE	X17 (PE)	55	225	55	150	55	150
2	N1	X13 (N1)	90	225	-	-	95	190
	N2	X15 (N2)	-	-	75	175	-	-
3	L1	X7 L1	-	-	-	-	145	245
	L2	X9 L2	-	-	125	225	-	-
	L3	X11 L3	110	280	-	-	-	-
4	PF	X201 PF	210	110	145	90	145	90
	Heat shrink tub		40	30	60	30	60	30

### 3.1.4 Recommended Cable Routing

See the photos below for E.G.O.'s recommendation for the wiring harness (red line) and the Lin cable (blue line) inside the generators. The positions (left, right) are related to the position of the respective generator inside the cooktop. UL version will be handled in the same way.



4-burner master generator (left)

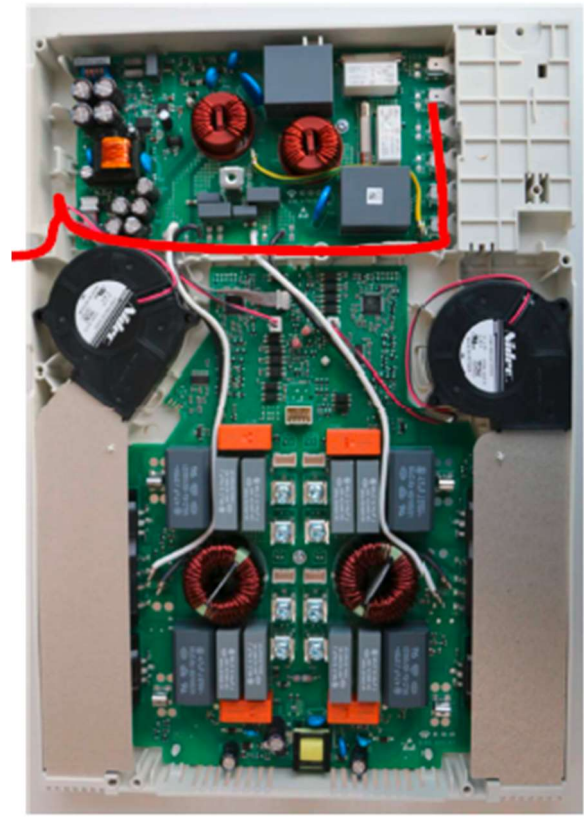


2-burner master generator (right)

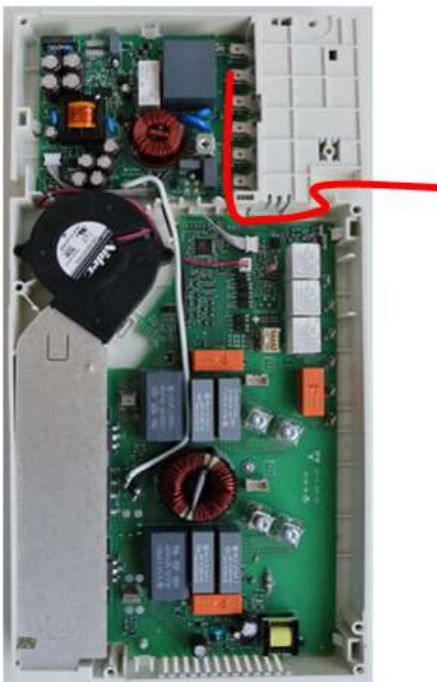




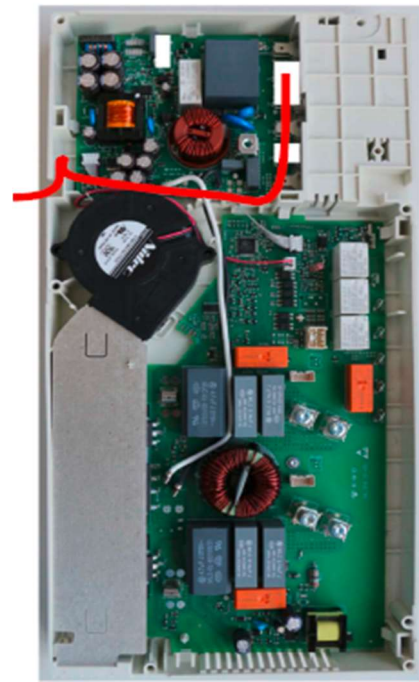
2-burner slave generator (left)



4-burner master generator (right)



2-burner master generator (left)



2-burner slave generator (right)





2-burner slave generator (left)



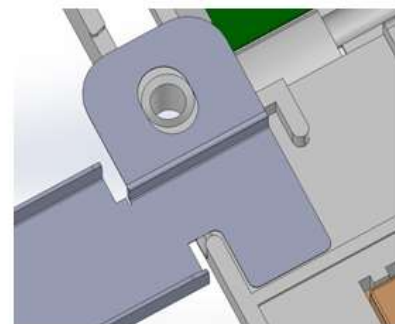
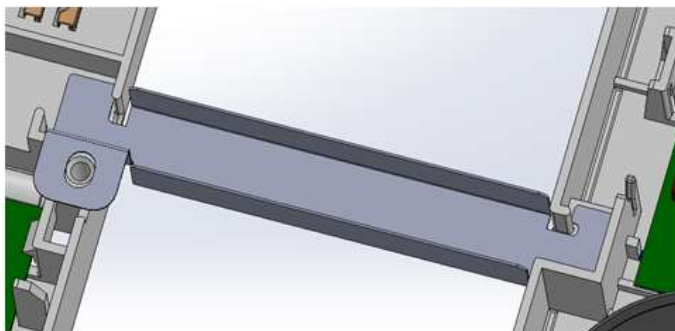
2-burner master generator (right)

**Please note:**

- When combining two generators, e.g. two 2-burner generators or one 2-burner and one 4-burner generator the connection between the two generators needs to be realized by data line cable (e.g. 955.471) no grounding and no power supply connection may be installed between the two generator boards to avoid damages or malfunction.
- It is recommended to position the cable under the mounting plate and not under or in the immediate area of the inductors. The Lin cable (blue line) can be routed together with the wiring harness (red line).

### 3.2 Interconnecting cable

Basic 4 System with more than one generator, e.g. 6 burner hobs consisting of a 4-burner generator and a 2-burner generator mounted on one carrier plate, or 4-burner hobs with integrated downdraft system are built up with interconnections between the generators. The interconnecting cables need to be secured by a metal bridge cover (e.g. 98.303.00) to fulfil EN 60335-1 and safety standards.



### Metal bridge cover



#### **Risk of EMC problems!**

A wrong cable routing or too long wires may cause EMC problems.

- Perform the cable routing as recommended in the photos above.
- Never use cables which are longer than recommended. Use the information provided in this chapter for the calculation of the suitable cable length.
- Never route cables above filter components (chokes, capacitors).



#### **Danger to life by electric shock!**

Cables which are routed outside a housing of a cooktop provide only a base isolation.

- If the cable can be touched by fingers after assembling, an additional isolation around both power supply and signal cables is needed. This can be performed best by using a shrinking tube.

## 4 Electric Connection

### 4.1 Connection to the Mains

Induction Basic 4 has a connection box with strain relief integrated into the generator which enables a flexible connection to different kind of grids. Additionally, the maximum power of the generator can be limited via UI when installing Induction Basic 4 in electric installation with reduced power capabilities.

Please note that minimum outer diameter of connecting cable must be at least 8.5mm to ensure proper strain relief functionality.



**Danger to life by electric shock!**

Metal parts of the mounting plate may carry dangerous voltages if there is a fault inside Induction Basic 4 generator

- It is absolutely necessary to connect Induction Basic 4 to protective earth (PE) conductor.
- Ensure that PE conductor is well connected to provide low resistance.

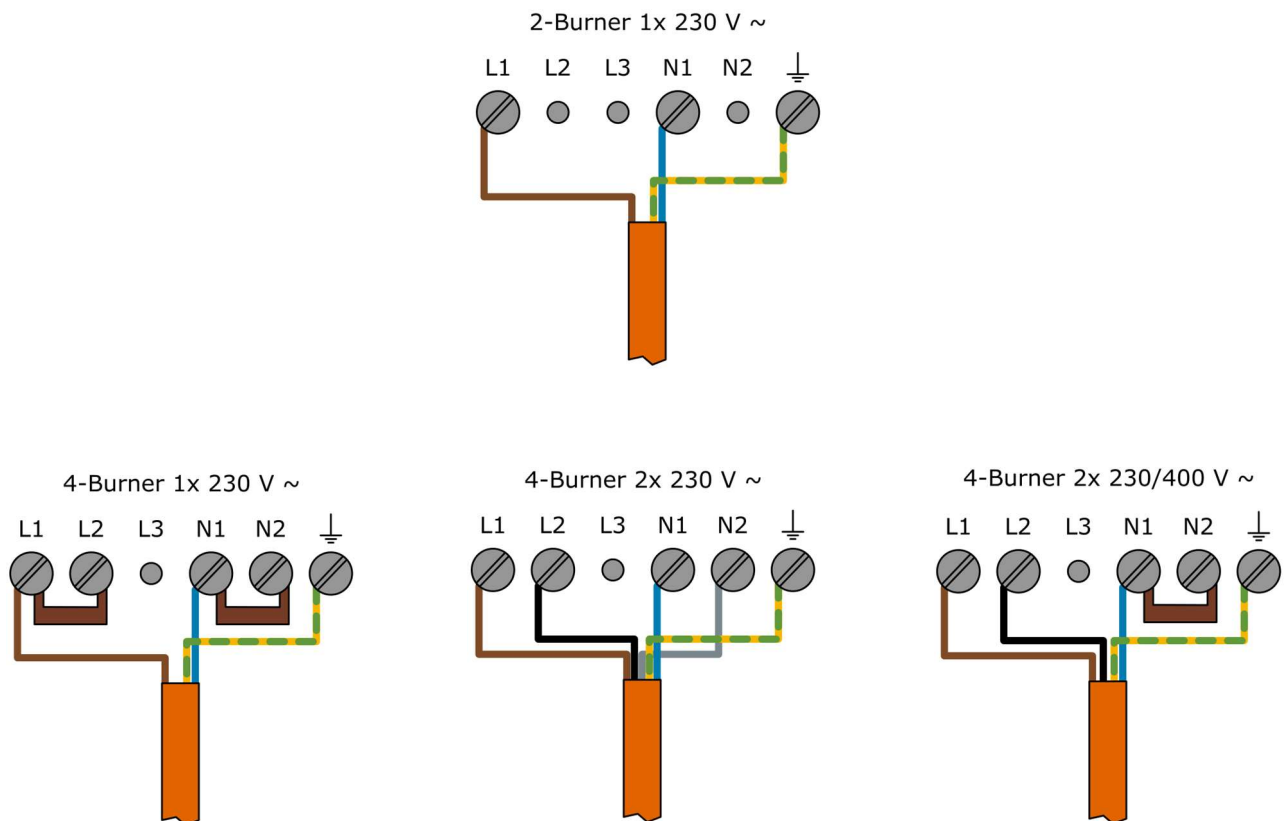


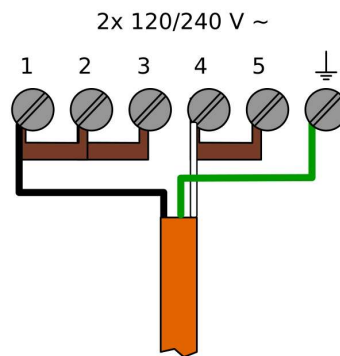
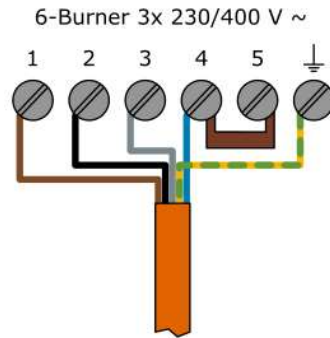
**Risk of overloading the grid!**

The max. power per line conductor must be adapted to the fuse in the house installation. This is especially valid with single phase connection.

- Set the maximum permissible power dependent on your grid according to the manual of the Touch Control.

See the connection examples below for connecting Induction Basic 4 to the mains:





**Note**

All accessory parts like strain relief, housing cover etc. are not in scope of the generator and have to be ordered separately. See chapter 7.3 for details.

## 5 Configuration

### 5.1 Allocation of Cooking Zones

Induction Basic 4 heating systems are delivered with pre-configured cooking zones (e.g. left front, right front, left rear, right rear). Changing of this configuration is possible but needed only for special purposes. Contact E.G.O. technical support for details.

### 5.2 Adaption of Coil Type

Induction Basic 4 provides a fully automatic detection of the connected coil type, i.e. no configuration has to be done manually. Detection is done by an additional resistor within the harness of the temperature sensor.

## 6 Functionalities

### 6.1 Power Modulation

The allocation between cooking level and generator power is generally non-linear and performed by the User Interface. See the documentation of the corresponding User Interface for details on the characteristics. The generators of Induction Basic 4 receive the desired power level (referred to percent of the nominal load) from the user interface. The power dissipation takes place via 2 different methods depending on the desired heating power which are mentioned in detail in the sections below.

#### 6.1.1 Adjustment of the Frequency of the Resonant Circuit for High Heating Powers

If the desired cooking level is above the minimum continuous power of the cooking zone (500 W for 145 coils, 700 W for 160 and 200 coils, 1000 W for 250 coils, 700/1,200 W for OCTA coils), the resonant frequency of the resonant circuit will be adjusted to achieve the desired heating power. This heating power will be dissipated continuously.

For details on heating power, see section 14.3.1.

#### 6.1.2 Duty Cycle Operation for Low Heating Powers

If the desired cooking level is below the minimum continuous power of the cooking zone (500 W for 145 coils, 700 W for 160 and 200 coils, 1000 W for 250 coils, 700/1,200 W for OCTA coils), the generator starts duty cycle operation, i.e. chopping the cooking zone with the minimum continuous power. The cycle duration is about 4 seconds.

For details on heating power, see section 14.3.1.

### 6.2 Cookware Detection

Induction Basic 4 is providing integrated cookware detection for all inductive cooking zones. A cooking zone will only be energized if it is covered by appropriate ferromagnetic cookware. The detection cycle takes approx. 2.5 s. During the detection, a low “tick” sound may be audible.

The detection thresholds depend strongly on the magnetic characteristics and the position of the cookware in respect to the center of the cooking zone. Typical detection values are mentioned in section 14.3. E.G.O. recommends to include those values into the end user manual to prevent customer complaints. Especially when using cookware with bottoms with “sandwich constructions”, the ferromagnetic effective diameter might be significantly different from the physical diameter. For safety reasons, it is ensured that the standard fork (steel element 10x2 cm with thickness of 2 mm according to EN 60335) will not be heated for sure.

Generally, 2 different modes for cookware detection are supported:

- Standard cookware detection
- Permanent cookware detection

### 6.2.1 Standard Cookware Detection

After a cooking zone has been selected via the User Interface, the generator will perform the cookware detection. The cookware detection is also performed during the cooking zone is energized.

### 6.2.2 Permanent Cookware Detection

Permanent cookware detection is a feature which will detect appropriate cookware all the time the cooktop is powered on, i.e. the corresponding cooking zone needs not to be switched ON.

Permanent cookware detection has to be supported by both induction generator and User Interface. See documentation of the corresponding User Interface for details.

## 6.3 Booster

Induction Basic 4 is providing a booster functionality for each cooking zone which enables the dissipation of a higher power than the nominal heating power for a limited period of time. This is useful for heating up a large amount of water in a short time.

The power gain of the booster (in respect to the nominal power) is strongly depending on the used cookware and its ferromagnetic properties. See section 14.3.1 for typical boost powers.

The activation of the booster is limited to a fixed time interval, coil and heatsink temperature:

### 6.3.1 Time Limitation

The time limitation for the booster is 5 min. After this timeout, booster function is terminated automatically and the corresponding cooking zone is heated with power level 9.

Booster function can be re-activated immediately after termination if the temperature limit of the coil and heatsink is still under the threshold.

### 6.3.2 Temperature Limitation

Booster can only be activated if the heatsink temperature and the coil temperature are below a certain value. If the heatsink temperature or the coil temperature rises above this value during boosting, the booster function will be terminated immediately. See section 14.6 for details about the temperature values.

## 6.4 Cooling

Induction Basic 4 provides an efficient cooling concept using 1 fan per 2 induction cooking zones (i. e. an induction cooktop with 4 burners has 2 fans).

The fans are operated with 2 different speeds to provide a low-noise operation. See section 14.6 for details about the thresholds.

The fans may also continue running for a certain period of time if the cooktop is turned OFF (after-cooling). Furthermore, the fan speed is electronically monitored, i. e. the generator recognizes a blocked fan and provides a dedicated error code (see section 8 for details).

The components of the Basic 4 system are rated for T85. Since the system has a significant self-heating it is recommended to keep the fan intake temperature below 70°C.

Measurement for certification was done at 70°C intake temperature.

If higher fan intake temperatures than 70°C are expected, component temperature have to be checked.

## 6.5 Protective Functions

Induction Basic 4 provides some integrated protection- and safety functions for a safe operation under different conditions:

### 6.5.1 Protection Against 400-V-Connection

A wrong connection to 400 V (e.g. if mixing up a line conductor with the neutral conductor in grids with 3 phases) would not damage the cooktop as long as the thresholds are kept (see section 14.4.1).

If connected to 400 V by mistake, the cooktop will not work at all (i. e. shows no reaction if trying to switch ON via the User Interface).

### 6.5.2 Protection Against Under- and Overvoltage

If the mains supply voltage drops below 180 V AC or rises above 265 V AC, Induction Basic 4 might stop operating and output an E6 error. See chapter 8 for details.

### 6.5.3 Temperature Monitoring

Induction Basic 4 provides extensive temperature protection mechanisms:

- Each inductor contains a temperature sensor to protect the inductor, the glass ceramic and the cookware from overheating.
- Each heatsink contains a temperature sensor for controlling the cooling fan and protect the bridge rectifier and the IGBTs from overheating.
- Some Touch Controls contain a temperature sensor to protect themselves from overheating. See the Customer documentation of the corresponding Touch Control for details.

## 6.6 Cooking support functions (CSF)

Induction Basic 4 provides up to three cooking support functions (CSF):

- CSF Frying
- CSF Steaming
- CSF Water boiling
- CSF Holding

### 6.6.1 Intended purpose of CSF

CSF are implemented in E.G.O. inductions and user interfaces, which are assembled into the final appliance intended for heating food on cookers or hobs in domestic kitchen areas in fixed buildings.

CSF are designed for the Induction Basic 4 and the following user interfaces:

- Basic 4 with TC Slim SmartKii, doc. no. 90.60081.217
- Basic 4 with TC Lite Slider SmartKii, doc. no. 90.60080.646

Any other use is not allowed by default and needs written consent of E.G.O. All cooking support functions are intended for supervised operation only.



### 6.6.2 Principle of CSF

The general principle of all CSF is that the inductance of a ferromagnetic material is dependent upon its temperature. This means that the inductance of a ferromagnetic cookware will change measurably during the heating process. This property can be used as an indication of the temperature on the bottom of the cookware without using additional sensors. It is not an absolute temperature measurement.

The actual performance of these CSF is strongly dependent upon the used cookware and some other parameters. Furthermore, some restrictions must be considered. See the following chapters for details.

The assembly and commissioning of the appliance including the CSF must be performed in the same way as the standard Induction Basic 4 and the related user interfaces. Additional sensors are not needed.

### 6.6.3 Concept of CSF

The following details must be considered for all CSF:

- All CSF are not a complete automation of cooking.
- All CSF do not measure the actual temperature of the cookware but its electrical parameters. As a result, inaccuracies can occur.
- Do not use any CSF without supervision.
- Always start with cold cookware.
- Do not use a CSF without water if water is required within this function description.
- Do not use a CSF with oil if water is required within the function description.
- In particular lightweight cookware can vibrate and slowly move away from the position for CSF. Therefore, inaccuracies can occur.
- Do not reposition cookware while CSF are active.

### 6.6.4 Concept on Induction Basic 4

CSF can be used on the following Basic 4 coil dimension:

- 200 mm

The cookware bottom size must be like the inductor diameter. A deviation of +/- 2 cm can be tolerated. The pot or pan must be placed centrally on the inductor.

Furthermore, Basic 4 generators or systems must be used, which are adapted for the use of CSF.

### 6.6.5 Cookware

The relative correlation of pot temperature to the measured signal differs between various pot materials. Therefore, the accuracy of all cooking support functions depends on the amount of signal change during the temperature change of the cookware. Consequently, accuracy and functionality depend on the cookware. Respectively different quality criteria are defined at the several cooking functions for different cookware materials. The properties of cookware series can be changed by cookware brands and manufacturers. The tables show the properties of the test status.

CSF are working in different accuracies for different pot materials:

- Functions are working most accurate with stainless steel sandwich cookware (1.4016 stainless steel floors).

The reference cookware are mentioned in the following table.

Brand	Series	Material type	Cookware type
Ikea	365+	Stainless steel sandwich capsule	Pot (Basic 4 reference)
Ikea	Oumbärlig	Stainless steel sandwich capsule	Pan (Basic 4 reference)

The suitability of cookware for CSF depends on how strong the permeability is over temperature. It also depends on the deflection of the cookware. A bigger deflection or a deep embossing lead to less accuracy. Differing cookware materials as e.g., aluminum-ring, multiply, cast iron or steel cookware must be excluded in the user manual.

#### 6.6.6 Overheating protection

All cooking support functions do not affect the class B overheat protection of the induction.

#### 6.6.7 Enabling CSF on Basic 4 Induction

The CSF enabling or disabling is controlled by TC.

#### 6.6.8 Available cooking support functions (CSF) on Basic 4

The following chapter describes the available cooking support functions. Depending on the model and version of touch control the cooking support functions can be configured.

The following remarks must be considered:

- After a reset of the induction system, cooking support functions are not restored. Formerly operating cooking support functions are set to cooking level 0.
- Operation time limit is two hours for holding function and one hour for all other functions.
- Operation time limit can be extended by cooking zone/pot timer for temperature holding function.
- Cooking support functions are not fully implemented in Demo Mode. Steaming, frying and water boiling functions can be activated for demonstration purposes. Only the heat up animation is available in this case. These functions do not proceed to further stages e. g. simmering or end of the function. Temperature holding function is not displayed in Demo Mode.
- Lifting a pot is only possible at Frying and holding after heating up process, the pot stays in memory for 20 seconds before it is deleted.

#### CSF Holding

After activating the function, the setpoint has to be detected. The detection process needs max. 15 seconds. After the detection, the temperature is controlled according to the setpoint.

When adding food, the temperature decreases. Then the power is automatically increasing to correct the temperature deviation.

The temperature holding function can be deactivated by:

- touching the function key or "0" on the corresponding user interface
- press the CSF special key again
- switching off the induction system
- leaving the position for cooking support functions.

When de-activating the function, the cooktop will resume any operation that has been activated previously (before activation of temperature holding function).

#### Moving and lifting (CSF on Basic 4 Induction)

Moving and lifting can cause inaccuracies and must be avoided.

### CSF Water Boiling

#### Preconditions:

For use of the cooking support function Water Boiling, the following pre-conditions must be considered:

- User must put a pot with fresh tap water colder than 40 °C onto a position intended for cooking support functions.
- The water height inside the pot must be between 3 cm and 6 cm.
- Salt, food, limestone or other ingredients are not allowed to be inside the pot during the water boiling function.
- The heat up process may be done with or without a lid.

#### Water boiling process:

After activation the cooking function water boiling, the cooktop heats up water until the boiling point is reached. This is done with the high power of level nine.

No water must be added during heat up process. The water boiling function reduces the power to preset level after the boiling point has been reached. During previous heat up process, it is possible to change this preset level.

<b>Note</b>	Special shaped tea pot cookware can lead to a different behaviour (e. g., early or late switch-off) of the CSF Water Boiling. Therefore, it is recommended to use pots as described in chapter 6.6.5 cookware.
-------------	--

### CSF Steaming

The steaming function can be used to steam vegetables and other food:

- inside a pot with the defined amount of water (not recommended for steaming of fine granular food) or
- inside a steaming insert (with spacers to the pot bottom or as insert at the top of the pot) with the defined water in the pot below the insert.

#### Preconditions:

In both use cases a lid must be used on the pot.

For use of the steaming function the following pre-conditions must be considered:

- User must put a pot with fresh tap water colder than 40 °C and optionally with a steaming insert onto a position for cooking support functions.
- The water height must be between 2 cm and 6 cm.

<b>Note</b>	If using a steam insert with spacers to the pot bottom, the water should not affect the food inside.
-------------	--

#### Steaming process:

- Heating water to boiling point and reduce power

#### Empty cooking protection

If all water is evaporated the steamer stops giving power to the pot.

### **CSF Frying**

This cooking support function can be used for frying several kinds of foods. A deep-frying is not possible with this function.

#### **Preconditions:**

- The frying function must be started with a pan having less than 40 °C on a position for cooking support functions.
- A small amount (a few tablespoons) of oil/fat can also be added at the beginning of heating. The maximum oil quantity for a Ø 28 cm pan is 250 ml of oil.

#### **Frying process:**

- The function heats the pan to the desired temperatures and holds it.

#### **Adjustment:**

The user can select different temperature levels on the Touch Control. Absolute temperatures are not displayed. An adjustment of the frying CSF is with up to three levels possible.

There is a possibility of a fine adjustment during the frying function. The user adjusts the desired pan temperature to correct the pan temperature to the individual needs. The adjustment is available from the beginning of heating up process.

<b>Note</b>	It is recommended to directly set the desired frying level at the beginning of the pan heat-up. Nevertheless, an adjustment of the frying level is possible within the frying process.
-------------	--

### **Moving and lifting**

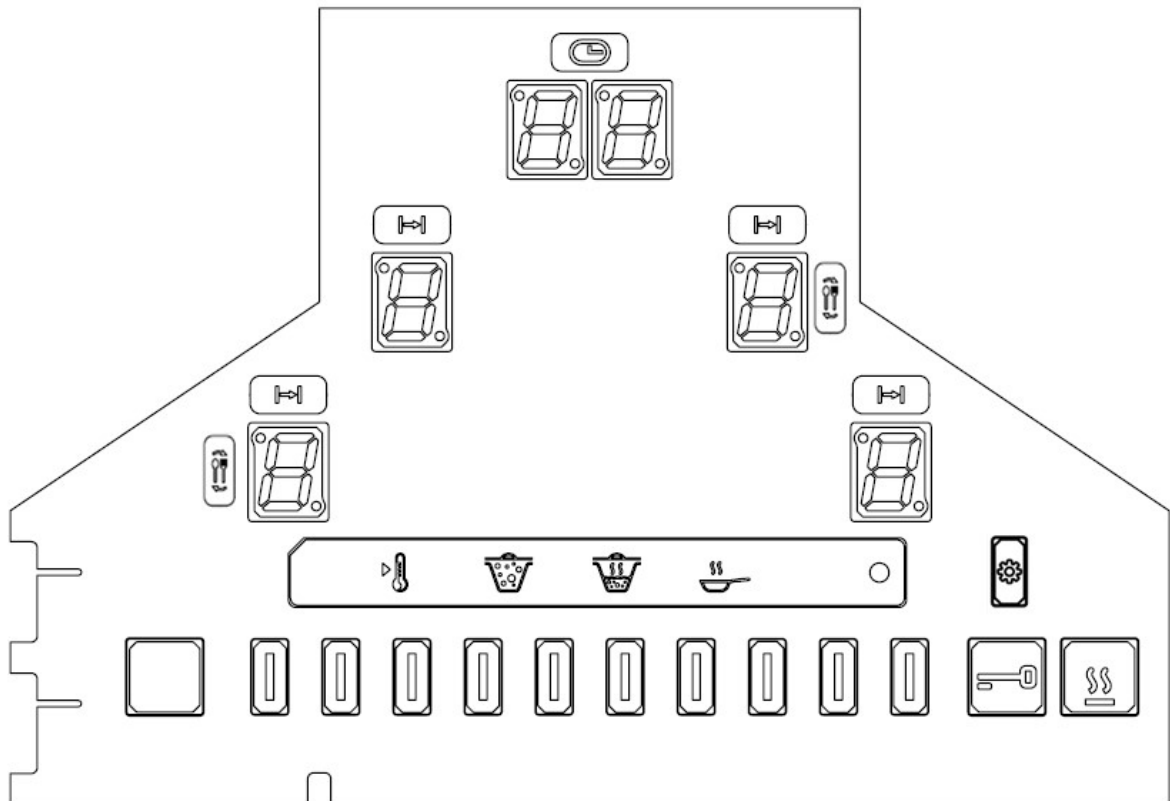
Moving and lifting can cause inaccuracies and must be avoided.

### 6.6.9 Implementation of CSF on user interfaces

Cooking support functions are available on different kinds of user interfaces. In following chapters are shown exemplary descriptions, which can be adapted to individual needs within variants.

#### Exemplary TC Lite Slider SmartKii for Basic 4 with CSF

CSF are available only with certain variants of TC Lite Slider SmartKii. This description includes the implementation with E.G.O. type number 75.13124.407 on Basic 4 heating system 72.08041.591.



Exemplary concept on TC Lite Slider SmartKii for Basic 4

#### CSF Holding on TC Lite Slider SK for Basic 4

##### Activation

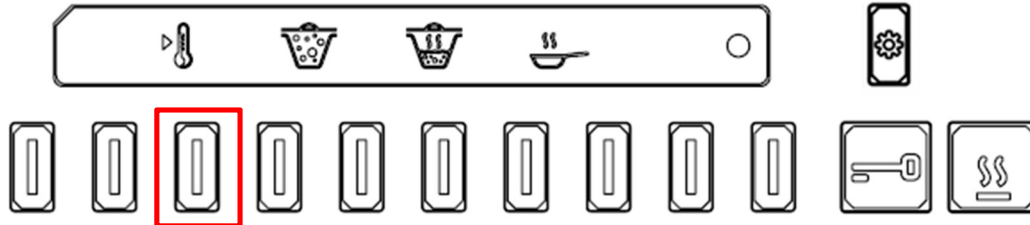
- ☞ Activate the CSF selection by pressing the related setting key.



Exemplary CSF setting key

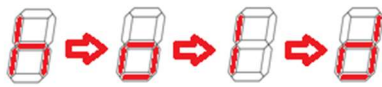
- LED brightness changes from dimmed to fully illuminated.
- Bargraph and slider appear dimmed.

- ☞ Activate CSF Holding by the selection of the related slider area, which is below the Holding icon of the bargraph.



Exemplary display of CSF Holding on Basic 4

- The CSF Holding icon on the bargraph is pulsating.
- Lasercap next to the corresponding 7-segment SK is illuminated for showing the active CSF indication.
- 7-segment SK is showing the corresponding letter “hold” interactively.



Exemplary display of CSF Holding on Basic 4

- The adjustment process to desired temperature range is indicated by as- and descending bars on the 7-segment display.

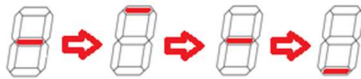


Figure 6: Exemplary display of adjustment process

- CSF Holding is ongoing after acoustic feedback.

### Deactivation

- ☞ Press level 0 on the slider.
- The cooking zone is switched off.

### CSF Water boiling on TC Lite Slider SK for Basic 4

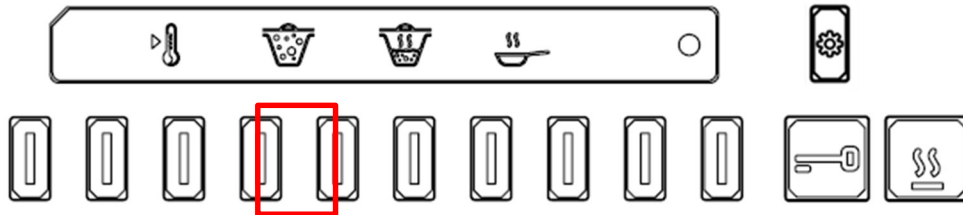
#### Activation

- ☞ Activate the CSF selection by pressing the related setting key.



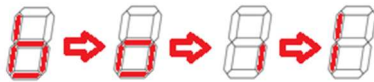
Figure 7: Exemplary CSF setting key

- LED brightness changes from dimmed to fully illuminated.
- Bargraph and slider appear dimmed.



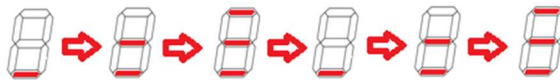
Exemplary display of CSF Water Boiling on Basic 4

- ☞ Activate CSF Water boiling by the selection of the related slider area, which is below the Water Boiler icon of the bargraph.
- The CSF Water Boiling icon on the bargraph is pulsating.
- Lasercap next to the corresponding 7-segment SK is illuminated for showing the active CSF indication.
- 7-segment SK is showing the corresponding letter “boil” interactively.



Exemplary display of CSF Water Boiling on Basic 4

- The heat-up process is indicated by ascending bars on the 7-segment display.



Exemplary heat-up animation on TC Lite Slider SK

### Deactivation

- ☞ Press level 0 on the slider.
- The cooking zone is switched off.

An acoustic signal is emitted when the boiling point is reached and switch off.

### Optional deactivation

- ☞ Set a different cooking level (CSF Holding, keep warm, etc.).
- Cooking zone timer is expired.

### CSF Steaming on TC Lite Slider SK for Basic 4

#### Activation

- ☞ Activate the CSF selection by pressing the related setting key.

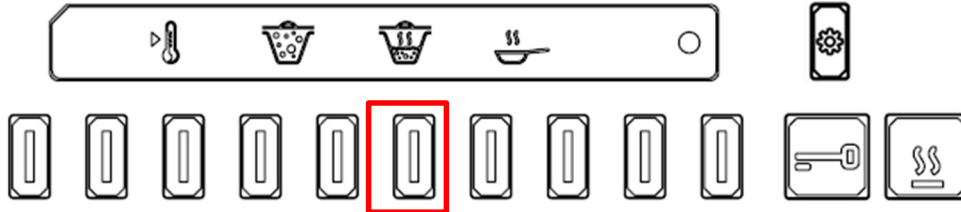


Exemplary CSF setting key

- LED brightness changes from dimmed to fully illuminated.
- Bargraph and slider appear dimmed.



- ☞ Activate CSF Steaming by the selection of the related slider area, which is below the Steaming icon of the bargraph.



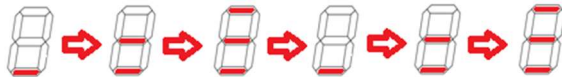
Exemplary display of CSF Steaming on Basic 4

- The CSF Steaming icon on the bargraph is pulsating.
- Lasercap next to the corresponding 7-segment SK is illuminated for showing the active CSF indication.
- 7-segment SK is showing the corresponding letter “StEAn” interactively.



Exemplary display of CSF Steaming on Basic 4

- The heat-up process is indicated by ascending bars on the 7-segment display.



Exemplary heat-up animation on TC Lite Slider SK

- When the boiling point is reached, it switches to the continuous cooking level.

### Deactivation

- ☞ Press level 0 on the slider.
- The cooking zone is switched off.

### Optional deactivation

- ☞ Set a different cooking level (CSF Holding, keep warm, etc.).
- ☞ Cooking zone timer is expired.

### CSF Frying on TC Lite Slider SK for Basic 4

#### Activation

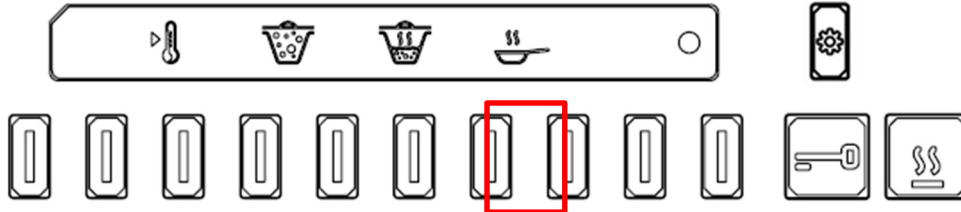
- ☞ Activate the CSF selection by pressing the related setting key.



Exemplary CSF setting key

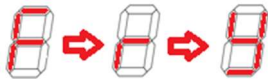
- LED brightness changes from dimmed to fully illuminated.
- Bargraph and slider appear dimmed.

- ☞ Activate CSF Frying by the selection of the related slider area, which is below the frying icon of the bargraph.



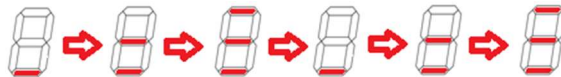
Exemplary display of CSF Frying on Basic 4

- The CSF Frying icon on the bargraph is pulsating.
- Lasercap next to the corresponding 7-segment SK is illuminated for showing the active CSF indication.
- 7-segment SK is showing the corresponding letter “FrY” interactively.



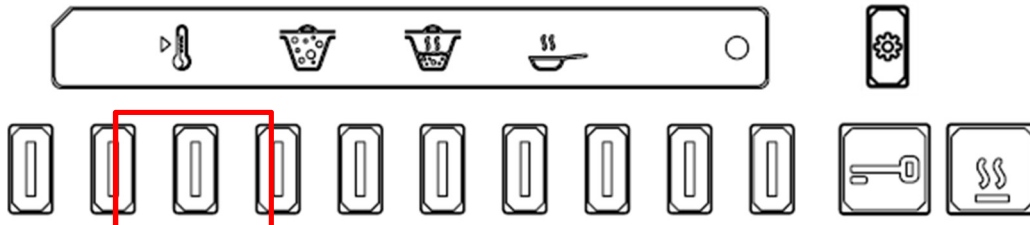
Exemplary display of CSF Frying on TC Lite Slider SK

- The heat-up process is indicated by ascending bars on the 7-segment display.



Exemplary heat-up animation on TC Lite Slider SK

- Frying (max. three CSF frying levels) are shown and selectable on the slider area.



Exemplary frying level of CSF Frying on Basic 4

Frying level	Exemplary use cases
1	Frozen potato-rösti, Schnitzel, Pancakes, bacon, zucchini, eggplant
2	Medium frying (frying stew, e.g., goulash), bacon, popcorn
3	Sausage, bacon, strong frying (e. g. steak)

- When reaching the selected frying level, the user is informed by acoustic feedback.
- Adjustments of the frying level are possible within the frying process optionally.

### Deactivation

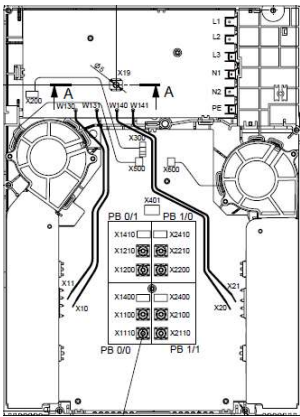
- ☞ Press level 0 on the slider.
- The cooking zone is switched off.  
An acoustic signal is emitted when the frying temperature is reached and switches to the hold temperature mode.

***Optional deactivation***

- ☞ Set a different cooking level (CSF Holding, keep warm, etc.)
- ☞ Cooking zone timer is expired



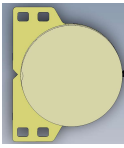
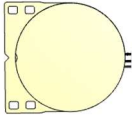
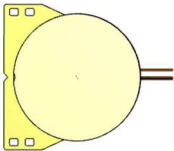
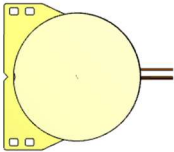
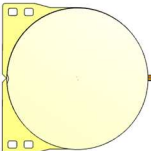
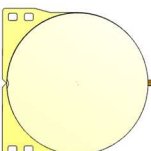
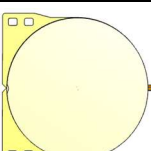
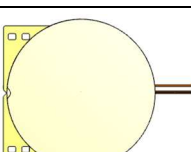
**7.1.2 4-Burner Generators**

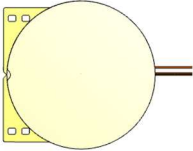
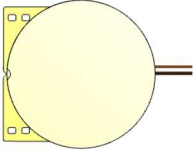
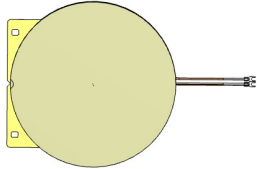
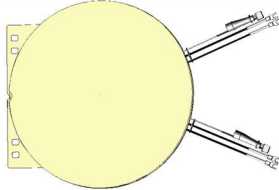
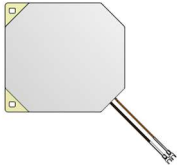
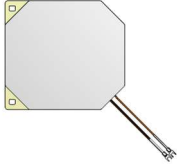
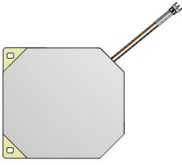
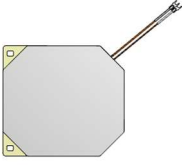
Description	Image	Cooking Zone Allocation	Ordering No.	Usage
Master generator (VDE)		CZ1, CZ2, CZ3, CZ4	72.08041.002	all systems except set-ups with 280mm coil
Master generator (VDE)		CZ1, CZ2, CZ3, CZ4	72.08041.008	all set-ups with 280mm coil
Master generator (VDE)		CZ1, CZ2, CZ3, CZ4	72.08041.009	all systems except set-ups with 280mm coil
Master generator (KC)		CZ1, CZ2, CZ3, CZ4	72.08041.201	all systems except set-ups with 280mm coil
Master generator (CQC)		CZ1, CZ2, CZ3, CZ4	72.08041.301	all systems except set-ups with 280mm coil
Master generator (UL)		CZ1, CZ2, CZ3, CZ4	72.08043.101	all systems except set-ups with 280mm coil
Master generator (VDE)		CZ1, CZ2, CZ3, CZ4	72.08041.092	CSF

## 7.2 Inductors

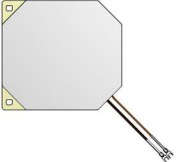
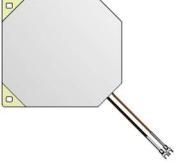
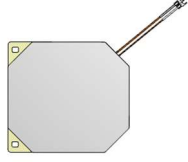
The following inductors are available for Induction Basic 4.

### VDE Coils

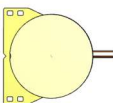
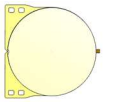
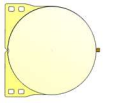
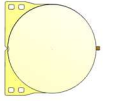
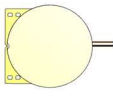
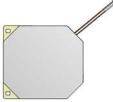

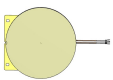
Description	Image	Heating power (nominal/booster)	Ordering No.	Usage
Induction coil round $\varnothing$ 80 mm, 350 mm cable length		1.4/1.85 kW	72.020.248	all systems
Induction coil round $\varnothing$ 120 mm, 350 mm cable length		0.9/1.35 kW	72.020.245	all systems
Induction coil round $\varnothing$ 145 mm, 320 mm cable length		1.4/1.85 kW	72.02000.006	all systems (except Domino)
Induction coil round $\varnothing$ 145 mm, 145 mm cable length		1.4/1.85 kW	72.02000.010	Domino systems only
Induction coil round $\varnothing$ 160 mm, 320 mm cable length		1.4/2.1 kW	72.02000.003	all systems (except Domino)
Induction coil round $\varnothing$ 160 mm, 145 mm cable length		1.4/2.1 kW	72.02000.011	Domino systems only
Induction coil round $\varnothing$ 160 mm, 500 mm cable length		1.4/2.1 kW	72.02000.016	as component for customer-specific appliances
Induction coil round $\varnothing$ 200 mm, 240 mm cable length		2.3/3.0 kW	72.02000.004	all systems (except Domino)

Description	Image	Heating power (nominal/booster)	Ordering No.	Usage
Induction coil round $\varnothing$ 200 mm, 170 mm cable length		2.3/3.0 kW	72.02000.012	Domino systems only
Induction coil round $\varnothing$ 200 mm, 500 mm cable length		2.3/3.0 kW	72.02000.017	as component for customer-specific appliances
Induction coil round $\varnothing$ 250 mm, 150 mm cable length		2.3/3.0 kW	72.02000.015	all systems but not on front left position of 4-b
Induction coil round $\varnothing$ 280mm, cable length 150mm		Inner coil (180mm): 2,1/2,5kW Outer coil (280mm): 2,8/3,6kW	72.02000.701	3-Burner and 4-Burner with generator 72.08041.008
Induction coil OCTA, 210 x 190 mm, 150 mm cable length		2.1/3.0 kW (single) 1.5/1.85 kW (bridge)	72.02000.007	all systems (except Domino)
Induction coil OCTA, 210 x 190 mm, 125 mm cable length		2.1/3.0 kW (single) 1.5/1.85 kW (bridge)	72.02000.013	Domino systems only
Induction coil OCTA, 210 x 190 mm, 150 mm cable length		2.1/3.0 kW (single) 1.5/1.85 kW (bridge)	72.02000.008	all systems
Induction coil OCTA, 210 x 190 mm, 500 mm cable length		2.1/3.0 kW (single) 1.5/1.85 kW (bridge)	72.02000.018	as component for customer-specific appliances




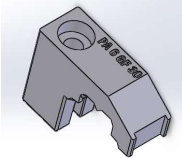
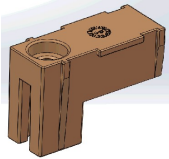

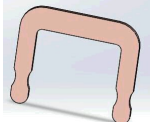

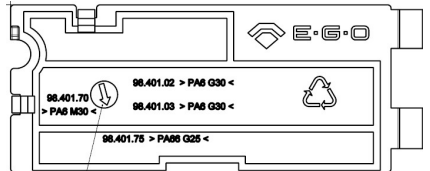
Description	Image	Heating power (nominal/booster)	Ordering No.	Usage
Induction coil OCTA, 210 x 190 mm, 500 mm cable length		2.1/3.0 kW (single)  1.5/1.85 kW (bridge)	72.02000.019	as component for customer-specific appliances
Induction coil OCTA, 210 x 190 mm, 250 mm cable length		2.1/3.0 kW (single)  1.5/1.85 kW (bridge)	72.02000.020	as component for customer-specific appliances
Induction coil OCTA, 210 x 190 mm, 250 mm cable length		2.1/3.0 kW (single)  1.5/1.85 kW (bridge)	72.02000.021	as component for customer-specific appliances

**UL Coils**

Description	Image	Heating power with 240V (nominal / booster)	Heating power with 208V (nominal / booster)	Heating power with 120V (nominal / booster)	Ordering No.	Usage
UL Induction Coil round ø 145mm cable length 250mm		1.4/1.85kW	1.3/1.7kW	-	72.02001.101	all systems
UL Induction Coil round ø 160mm cable length 250mm		1.4kW/2.1kW	1.3/1.9kW	-	72.02001.201	all systems
UL 120V Induction Coil round ø 160mm cable length 150mm		-	-	1.1/1.5kW	72.02001.002	2x 160mm with Flex TC
UL 120V Induction Coil round ø 160mm cable length 200mm		-	-	1.1/1.5kW	72.02001.001	2x 160mm with Flex TC
UL Induction Coil round ø 200mm cable length 250mm		2.3/3.0kW	2.0/2.7kW	-	72.02001.301	all systems
UL Induction coil OCTA, 210 x 190mm, Cable length 200mm		2.1/3.0kW (single) 1.5/1.85kW (bridge)	1.9/2.7kW	-	72.02001.401	all systems
UL Induction coil OCTA, 210 x 190mm, Cable length 200mm		2.1/3.0kW (single) 1.5/1.85kW (bridge)	1.9/2.7kW	-	72.02001.501	all systems
UL Induction Coil round ø 250mm cable length 200mm		2.3/3.0kW	2.0/2.7kW	-	72.02001.601	all systems but not on front left position of 4-b

### 7.3 Accessories

The following accessory parts are available for Induction Basic 4.

Description	Image	Ordering No.	Quantity
Housing cover for generator		98.401.02	1,000 pcs/carton
Strain relief (needed for master generators which get an external mains cable)		75.177.63/01	1,000 pcs/carton
Clamp terminal (needed for slave generators which get an internal wiring for power supply)		98.401.18	1,000 pcs/carton
Screw for strain relief and clamp terminal		969.173	1,000 pcs/carton
Connection bridge		75.97009.001	1,000 pcs/carton
Coil fixer for Basic 4 coils		98.400.44	7,500 pcs/carton
4-litz LIN wire, 285 mm long, 1 side coded		955.336	available only for samples
4-litz LIN wire, 110 mm long, 2 sides coded		95.500.54	available only for samples
Wiring harness between master and slave generators		95.500.19	available only for samples
Housing cover for generator (UL)		98.401.75	1,000 pcs/carton

**Note**

- The accessories are not in scope of the generators and have to be ordered separately.
- Generally, cables (LIN cables or power cord) are not included in E.G.O.'s portfolio. It is possible to deliver a small amount of LIN- or generator connection cables during sampling process.

## 8 Error Handling

E.G.O.'s cooking platform concept provides dedicated error codes for a quick and efficient trouble shooting. The User Interfaces display the error codes on the 7-segment displays for the cooking zones. An error code always starts with the letters "E" or "ER" depending on the electronic component which has generated the error:

- Error codes starting with "E..." are sent by the induction generator via LIN to the Touch Control.
- Error codes starting with "ER..." are detected directly by the Touch Control itself. Refer to the table below for possible causes and remedies. Refer to the customer documentation of the corresponding Touch Control for details on those error codes.

Error Code	Meaning	Behavior	Possible Causes	Remedy
E2	Cooking zone overheating	Cooktop switches OFF	Empty cookware	Do not heat-up empty pots
			Wrong cookware	Use appropriate cookware
			Pot or glass temperature is too high Electronic temperature too high	Remove all cookware and let the cooking appliance cool down. Restart the cooking appliance. If error persists: exchange generator.
E3	Inapplicable pot	Corresponding cooking zone(s) is/are turned OFF	Cookware is losing its magnetic characteristics	Use appropriate cookware
			Internal error in generator's circuitry	Replace the generator
			Pot creates on the module an improper operating point which can destroy devices, e.g IGBT.	1. The error is automatically cancelled after 8s and the cooking zone can be used again. In case of further upcoming errors the pots have to be changed.  2. Replace the generator if the error comes without a pot on the cooking zone.
E4	Configuration error / Configuration data is incompatible	Cooking zone cannot be turned ON	Induction module is not configured yet	Perform a manual configuration (see documentation of Touch Control for details)
			Induction module configuration data error	Erase and re-configure cooking zone.  If the listed points are not successful replace the module

Error Code	Meaning	Behavior	Possible Causes	Remedy
E5	No communication between User Interface and Induction Generator	Cooking zone cannot be turned ON	LIN cabling or power supply cabling defective (e. g. missing line conductor)	Check cabling and power supply voltage
			No mains voltage on slave board	Check mains voltage connection on slave board
			Internal error in generator's or filter's circuitry	Replace the generator
			(Mixed version) HiLight Relay Voltage Error –Defect hardware device	Replace the generator
			Error configuration data	Erase and re-configure cooking zone.
E6	Power supply voltage is out of range (voltage and/or frequency)	Cooking zone cannot be turned ON	Power supply voltage is out of range (see technical data for details)	Check mains voltage
			Wrong mains frequency or mains voltage phase signal problem.	Check mains voltage phase signal
			Internal error in generator's circuitry	Replace the generator
E7	Internal error	Cooking zones are turned OFF	-	Replace the generator
E8	Fan error	Corresponding cooking zones are turned OFF	Fan blocked by dust or fabrics	Clean and remove foreign bodies
			Fan or module electronics defective	Replace the generator
E9	Temperature sensor error for cooking zone	Corresponding cooking zone is turned OFF	Temperature sensor line for cooking zone is open or short-circuited	Replace inductor
		Corresponding cooking zone is	Frozen goods are cooling	Wait until temperature sensor is heated up to a

Error Code	Meaning	Behavior	Possible Causes	Remedy
		turned ON on a low energy level to defrost a large amount of frozen goods	the temperature sensor to below 0°C as the energy level is too low	level over 0°C and choose a higher energy level to defrost
EA	Internal error	Cooking zones are turned OFF	Interference or abnormal signal (e.g. EMC disturbances, condensation on PCB) detected	1. Switch off hob, remove all pots and let the hob cool down 2. If error persists: replace generator
			Hardware defect (e.g. flash or MCU wrong, defect inductor)	1. Switch off hob, remove all pots and let the hob cool down 2. If error persists: replace generator 3. If inductor is defect: replace inductor
EH	Temperature sensor stuck for cooking zone	Corresponding cooking zone is turned OFF	Not enough temperature change after switch on the hob	Cool down the glass

**Note** If no error code is displayed and the User Interface is no reacting on any keypress, check power supply voltage for missing line conductors, missing bridges and wrong connection to 400 V.

## 9 Power Management

### 9.1 General

Induction Basic 4 in conjunction with EGO User Interfaces provides a power management to protect the line conductors from overload (e.g. exceeding 16 A per line conductor).

Several limitation algorithms are implemented. See the Technical Customer Documentation of the corresponding User Interface for details.

### 9.2 Appliances Designed to be Connected via Schuko Plug

For cooktops which are intended to be connected via a Schuko plug, the user interface has to limit the maximum power consumption of the cooktop to prevent the Schuko plug from overloads. See the warning advice below for details.



**WARNING**

#### **Risk of fire!**

Electrical connections which are overloaded may get hot and cause fire or burns.

- The user interface of the cooktop has to limit the maximum power consumption of the cooktop to 3.5 kW.
- Connect the cooktop only directly to a fixed-socket outlet. Never use multiple plugs.
- The fixed socket-outlet must be fused with a 16-A-fuse.
- Connect no other electric devices to the same final circuit.
- Only use high-quality Schuko plugs which are specified for 16 A permanent current.
- Only power cords with a cross section of 2.5 mm<sup>2</sup> can be used

Furthermore, we recommend adding special notes to the user manual for the end customer. See chapter 10.2 for details.



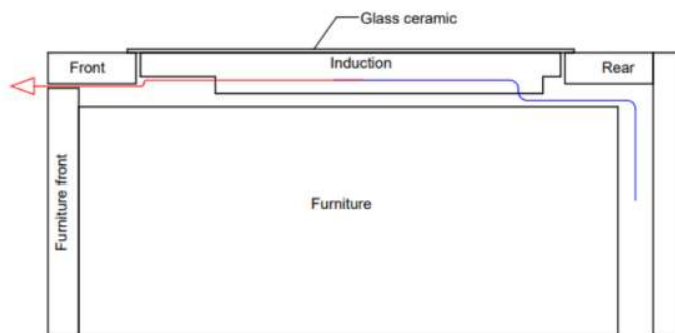
## 10 Recommended Information for End Customer

The manufacturer of the appliance is responsible for providing complete and detailed information about a safe installation and operation of the cooktop. E.G.O. recommends providing at least the topics mentioned below inside the installation and operating manual to ensure a safe usage and avoid malfunctions:

### 10.1 Recommended Information for the Installation Manual

- Connect the protective earth conductor to the cooktop.
- Use a flexible and heat-resistant connection cord, e.g. SiHF-J. Apply wire end ferrules to the cable ends before connecting them to the generator.
- Ensure that the cutout inside the worktop meets the recommended dimensions. Fitting the cooktop too tight may cause mechanical tensions during heat-up or partly clog the air outlets of the generator.
- The air inlet is on the bottom of the generator housing. An air gap of a minimum of 15 mm below the generator is recommended.

In addition to this, an air outlet in the furniture with a minimum of 2 mm in the front is recommended. Closed furnishing around the induction cooktop leads to a decrease in performance. It is important to avoid that warm air from the outlets is taken in by the blower of the air inlet. There must be additional air gaps behind the furniture and between the countertop and the induction generator.



- The use of a cooking appliance, which is built-in over or on a dishwasher, is not allowed.
- It is important to avoid that the warm air from the outlets is easily retaken by the blower of the air inlet. It is recommended to specify an aperture in the furniture to blow out the cooling air.

### 10.2 Recommended Information for the Operating Manual

- Even if the cooktop itself is not heated during usage, the glass ceramic will get hot due to heat reflection of the cookware. Do not touch the glass ceramic's surface as long as the user interface indicates residual heat. Risk of burning!
- Booster function must only be used to heat-up water. Using booster function with oil or fat may reach extremely high temperatures. Risk of fire!
- Heating magnetic tins is forbidden. Closed tins may explode when heating up. Open tins may overheat because the temperature monitoring is not adapted to magnetic tins.
- Use suitable cookware made of ferromagnetic material. Copper, aluminum ceramic material will not be recognized. Sandwich constructions (e. g. aluminum pot with iron plate inside the bottom) will work. The "applicable for induction" logo marks suitable cookware.
- To ensure a good temperature monitoring, the cookware's bottom should be as even as possible. An air gap (e. g. stamped imprints with the manufacturer's logo in the center point) will affect the temperature monitoring significantly and may cause damages (e. g. deformed bottom surfaces due to overheating).
- Place the cookware directly on the glass ceramic. Do not put any papers, cloths or trivets beyond the pot. Risk of burning!

- The induction is compliant with valid EMC standards and EMF guidelines and should not cause any disturbances to other electronic devices. Persons with heart pacemakers or other electronic implants should consult their doctor or the manufacturer of the implants to clarify if they provide a sufficient interference resistance.
- The quality of pot has a strong influence onto the cooking performance. Provide a list of common pot types which have been tested and provide a good performance. Other pot types – even if marked with the logo “applicable for induction” may provide a lower performance.
- Ensure a good ventilation for the induction cooktop as a clogged air intake (e. g. placed dishcloths inside the drawer beyond the cooktop) will cause a strong derating in cooking performance.
- Valid only for cooktops which are connected via Schuko plugs:
  - Connect the cooktop only directly to a fixed-socket outlet. Never use multiple plugs.
  - The fixed socket-outlet must be fused with a 16-A-fuse.
  - Connect no other electric devices to the same final circuit.
- Generally, inductive cooking may cause some audible noises, e. g. chirping, wheezing and humming. Induction Basic 4 has some integrated mechanisms to reduce noises during operation. For technical reasons, these noises cannot be avoided completely.

As the cookware is part of the cooking process, it has also a significant influence on to the appearance of noises. Consider the hints in case some disturbing noises appear:

  - Put the cookware centrally on to the respective cooking zone.
  - Try to shift the cookware a little bit onto the cooking zone.
  - When using 2 cooking zones in bridge mode, put the cookware centrally on both cooking zones (i. e. the coverage of both cooking zones should be equal).
  - Ensure that there are no foreign bodies between the glass ceramic and the cookware’s bottom (e. g. salt grains).
  - Ensure that a lid on top of the cookware is not able to vibrate.
  - Try other cookware. Especially pots made of a compound material may cause noises
  - The reason for noise could be the bottom of the cookware Especially the multilayer bottom could cause increased noise.
  - Avoid that 2 or more pots are touching each other.
  - Use cookware with flat bottom to avoid movement of the cookware.
- Basic 4 with Cooking Support Functions (CSF):

As cooking support functions do not measure the temperature of the cookware, but its electrical parameters, inaccuracies can occur all the time.

  - Do not use any cooking support function without supervision.
  - Always start with cold cookware (except of the temperature holding function).
  - Do not use any cooking support function without water if water is required by the function description.
  - Do not use any cooking support function with oil if water is required by the function description.
  - Especially lightweight pots can vibrate and move slowly away from the position for cooking support functions. Therefore, inaccuracies can occur.
  - Do not replace cookware while cooking support functions are active.

## 11 Maintenance and Repair

### 11.1 General Information

Induction Basic 4 needs no periodical maintenance.

In case of malfunctions, follow section 8 for diagnostics. If no error code is displayed, check power supply voltage for (voltage of line conductors, missing bridges and wrong connection to 400 V).

If there are customer complaints considering poor performance, perform the following checks:

- Proper mounting of the cooktop, especially for good ventilation
- Types of used cookware as this has a significant influence to the performance. See section 14.3.5 for details.

### 11.2 Spare Parts Overview

Inductors with integrated cooking zone temperature sensors are available as spare parts. In case of defects of a fan, the filter or generator board, the whole generator has to be replaced.

Further small parts are available as accessory parts – see chapter 7.3 for details.

## 12 Final Testing

The end manufacturer of the cooktop is responsible for the safety of the product. Especially the safety standards EN 60335 and EN 50106 have to be considered. Checking the continuity of the protective conductor and a high voltage test are mandatory.

### 12.1 Continuity of Protective Conductor

The low resistance check of the protective conductor ensures that all metal parts at the outside of the housing have a proper connection to the ground wire. The following thresholds are valid:

Item	Value
Test current	$\geq 10 \text{ A}$
Threshold for resistance	$< 0.1 \Omega$

### 12.2 High-Voltage Test

The high-voltage test of the appliance ensures that the creepage distances have been kept during production and no conductive parts can get in contact with the housing.



#### Risk of damages of the Induction Basic 4!

The Induction generator may be pre-damaged if the high voltage is applied directly in full amount.

- Only use high-voltage testers which are electronically controlled und apply the high-voltage in a ramp.

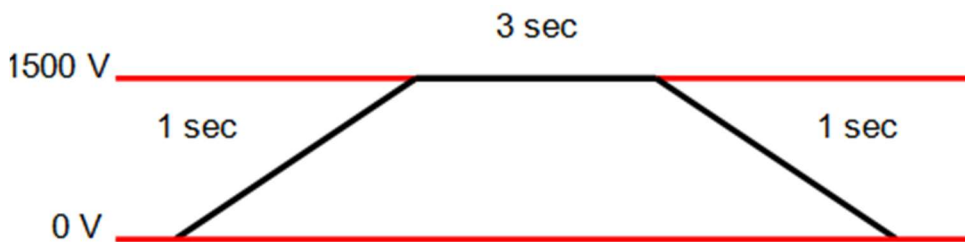
Generally, 2 different methods for the high voltage test are applicable.

#### 12.2.1 Test with DC Voltage (Recommended)

A high-voltage test with DC voltage has to be performed with min. 1,500 V DC. The following thresholds are valid:

Item	Value
Permitted leakage current	$\leq 10 \text{ mA}$ (all generator types)

Voltage ramp for DC test voltage:



#### Note

- The time values for ramp up and ramp down are minimal values. They may be increased if needed.

### 12.2.2 Test with AC Voltage

A high-voltage test with AC voltage has to be performed with at least 1,000 V AC. Deviating from EN 50106, the max. permitted leakage current can be calculated according to the calculation formula beyond:

$$I_{Y\text{-capacitor}} = 2\pi * 50 \text{ Hz} * C_{Y,\text{total}} [+20\%] * U_{\text{HiVoltage,AC}}$$

The capacitor  $C_Y$  (without tolerances) is:

Generator	$C_Y/nF$
2B	38.6
2B Mix	48.6
4B	70.6
6B	109.2

The recommended  $I_V$  is:

Voltage (50Hz, 1000VAC)

Generator	$I_V/mA$
2B	17
2B Mix	21
4B	30
6B	46

Voltage (60Hz, 1000VAC)

Generator	$I_V/mA$
2B	20
2B Mix	25
4B	36
6B	55

Voltage ramp for AC test voltage:



- Note**
- The time values for ramp up and ramp down are minimal values. They may be increased if needed.

### 12.3 Functional Test

After all safety-relevant tests have been passed successfully, a functional test containing the following items should be performed:

- Functionality of all sensor keys
- Functionality of all display elements
- Dissipated power of all cooking zones (e.g. on cooking level 9 with reference pots)

### 12.4 Notes on EMC Test

Induction Basic 4 generators generally are designed to be compliant with valid EMC standards. Nevertheless, the design of the final cooktop (e. g. surrounding metal frame, routing of power supply and signal cables inside) has a significant influence on EMC issues.

When designing new induction heatings please consider chapter 3.1.4 Recommended Cable Routing and we strongly recommend a verification that the EMC emissions according to the valid standards are kept. This can be done by a type testing.

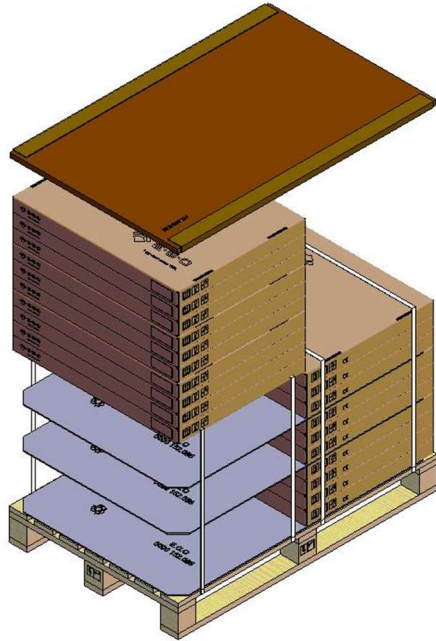
For EMC test according to CISPR 14-1, we recommend using standard cookware which is recommended in Chapter 14.3.4 which is compliant with the demands of the standard.

Additional details considering the cookware's properties can be found in section A.9 of CISPR 14-1.

## 13 Logistics

### 13.1 Delivery of heating systems

Induction Basic 4 heating systems will be delivered by multiple layers on pallets:



#### Packaging information:

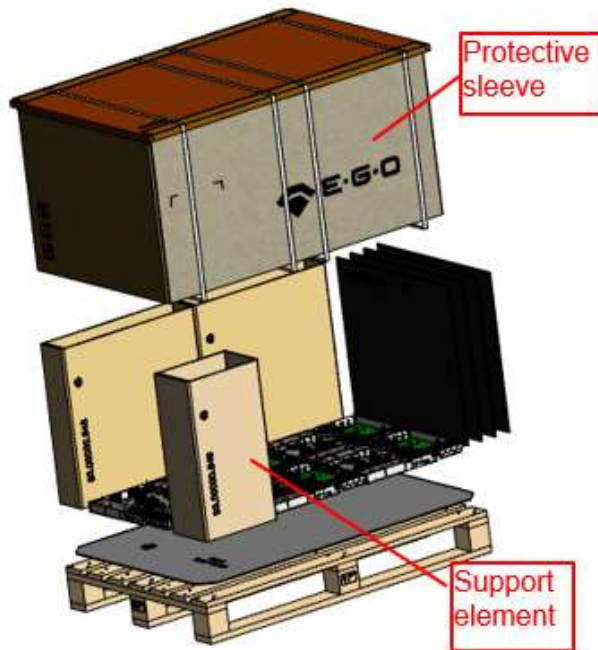
Standard reference type with 60cm will be packed by 28 pieces per pallet. Other heating system sizes or variants result in a different amount of packaging units and have to be defined.

**Note** The minimum ordering quantity is 1 fully loaded pallet.



### 13.2 Delivery of components

Induction Basic 4 generators as components will be delivered by multiple layers on pallets fixed by stacking pins and packed in protective sleeve and cover as shown in the illustrations below:



#### Packaging information at a glance:

Generator	Unit load		
	Quantity	Max. dimensions (L x W x H)	Approx. total weight
2-burner	112 pcs	1,15 x 0,75 x 1 m	210 kg
4-burner	80 pcs	1,15 x 0,75 x 1 m	210 kg

#### Note regarding stacking pins:

- Multiple use of stacking pins is not possible
- Proper disposal of packaging material and stacking pins is the responsibility of the customer
- Pins are made of nonconductive plastic material

**Note** The minimum ordering quantity is 1 fully loaded pallet.

## 14 Technical Data

### 14.1 Conformity

The conformity with valid standards and directives is mentioned in detail in Product Compendium Household Induction, doc. No. 90.60027.188

### 14.2 Environmental Conditions

Item	Value
Operation	
Max. air intake temperature (at sea level <sup>*1)</sup> )	+70 °C
Temperature inside cooktop (at sea level <sup>*1)</sup> )	0 ... +85 °C
Humidity	95 % relative humidity (no condensation) <sup>*2)</sup>
Storage	
Ambient temperature	-25 ... +85 °C
Humidity	98 % relative humidity

<sup>\*1)</sup> Derating: 40 % of nominal values at 4,000 m above sea level.

<sup>\*2)</sup> An air humidity test has to be performed at 40 °C max.

### 14.3 Cooking Zones

#### 14.3.1 Power Output

Cooking zone	Booster Power 2 <sup>*2)</sup>	Booster Power 1	Nominal Power	Lowest Continuous Power
145 mm round coil (not CQC)	-	1,85kW	1,4kW	500 W
160 mm round coil	-	2,1kW	1,4kW	700 W
200 mm round coil	-	3,0kW	2,3kW	700 W
250 mm round coil (not CQC)	-	3,0kW	2,3kW	1,0kW
280mm dual coil Inner coil (180mm)	-	3,6kW 2,5kW	2,8kW 2,1kW	1,4kW 700W
OCTA coil	-	3,0kW (single) 1,85kW (bridged)	2,1kW (single) 1,5kW (bridged)	700W/1,2kW <sup>*1)</sup>

<sup>\*1)</sup> For technical reasons, the minimum continuous power for heating power 700 W < desired heating power < 1,200 W is 1,200 W.

<sup>\*2)</sup> By request

**Note** The values mentioned above are located to cookware placed centric related to the cooking zone and material EN-GJL-200 according to EN 1561. Depending on the cookware's bottom, those values can be considerable different.

#### 14.3.2 Performance

Item	Value
Min. operation time without derating (all cooking zones energized <sup>*1)</sup> )	20 min
Boosting time <sup>*2)</sup>	5 min

<sup>\*1)</sup> Mounting according mounting recommendations, altitude = sea level, T<sub>ambient</sub> max. 45 °C

<sup>\*2)</sup> Booster can be re-activated immediately if heatsink and coil temperature is below the threshold

### 14.3.3 Cookware Detection Thresholds

Cooking zone	Lower value <sup>*1)</sup>	Upper value <sup>*2)</sup>
145 mm round coil (not for CQC)	ø 60 mm	ø 90 mm
160 mm round coil	ø 60 mm	ø 90 mm
160 mm round coil (bridge)	ø 160 mm	ø 200 mm
200 mm round coil	ø 80 mm	ø 110 mm
250 mm round coil (not CQC)	ø 100 mm	ø 130 mm
280mm round coil inner coil	ø 80 mm	ø 110 mm
280mm round dual coil	ø 220 mm	ø 250mm
OCTA coil (single)	ø 80 mm	ø 110 mm
OCTA coil (bridge) valid for a distance of 4mm (Mica to Mica)	ø 190 mm	ø 230 mm

\*1) Pots ≤ this value will certainly not be detected

\*2) Pots ≥ this value will certainly be detected

**Note** The values mentioned above are located to cookware placed centric related to the cooking zone and material EN-GJL-200 according to EN 1561. Depending on the cookware's bottom, those values can be considerable different.

### 14.3.4 Recommended Pot Diameters

Coil	recommended min. pot
145 mm	110 mm
160 mm	110 mm
200 mm	110 mm
250 mm	145 mm
280mm inner coil	110mm
280mm dual coil	250mm
Octa (single)	110 mm

### 14.3.5 Recommended Cookware

#### Nominal Power, Reference Cookware

Nominal voltage ( $U_n$ ) 230 V +\|- 1%

Nominal frequency ( $f_n$ ) 50 Hz

The nominal power is measured with the reference cookware WMF Gala Plus, or similar style Silit Competence with 1.4520 bottom material, and two liters of boiling water. The reference cookware covers the inductor completely and is centered on the cooking element. The reference cookware WMF Gala Plus has a bottom material 1.4520 and is similar styled as Silit Competence. The inductive characteristics of this reference cookware are representative for a lot of sandwich cookware series with bottom material 1.4016 or 1.4520.

**Performance Tolerance**

- Tolerance in nominal / Level 9 operation -10/+5 %
- Tolerance of lowest continuous power level -25/+15 %

**14.4 Electrical Data**

**14.4.1 Power Supply Voltage**

Item	Value
Rated voltage	220 – 240 V AC
Rated frequency	50/60 Hz
Rated current	16 A per phase
Recommended MCB (according to IEC 60364)	16 A, tripping characteristic B

**14.4.1 Over- and Undervoltage Protection**

Item	Value
Undervoltage	
Detection	$U_{\text{under}} < 180 \text{ V AC}$
Hysteresis	$U_{\text{under}} + 10 \text{ V AC}$
Overvoltage	
Detection	typically $> 340 \text{ V AC}$
Maximum allowed voltage	440 V AC
Max. duration	30 min at $T = 40 \text{ }^\circ\text{C}$

**14.4.2 Power Consumption**

Item	Value
Standby consumption <sup>*1)</sup>	$\leq 0.3 \text{ W}$ (related to the whole cooktop) Requirements of 1275/2008 EC Annex 2 are met.
Energy consumption according to EN 60350 (VDE versions only)	$< 195 \text{ Wh/kg}$

\*1) Standby state is defined as follows:

- Cooktop is switched OFF
- No fan is active
- No residual heat indication is active

**14.4.3 Output Loads for Internal SMPS**

Item	Value
+ 5 V DC	660 mA max (3.3 W) <sup>*1)</sup>
+ 13.2 V DC	275 mA max. (3.63 W) <sup>*1)</sup>

\*1) The max. total power (+5 V DC and +13.2 V DC together) is 4.4 W

**14.4.1 EMC Requirements**

Standard	Title
CISPR 14-1 / EN 55014-1	Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission
CISPR 14-2 / EN 55014-2	Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity

IEC / EN 61000-3-2	Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
IEC / EN 61000-3-12	Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase
IEC / EN 61000-3-3	Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
IEC / EN 61000-3-11	Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Equipment with rated current ≤ 75 A and subject to conditional connection

### 14.5 Lifetime

Item	Value
Designed product lifetime	> 2,500 h (~ 10 years) Test conditions: <ul style="list-style-type: none"> <li>• 10,000 cooking cycles à 15 min</li> <li>• Starting with booster until water is boiling</li> <li>• Rest of time:                             <ul style="list-style-type: none"> <li>2/3 on cooking level 6</li> <li>1/3 on cooking level 3</li> </ul> </li> </ul>
B10 life to failure rate <sup>*1)</sup>	1,750 h

\*1) B10 life to failure rate means that max. 10 % of the products have failed during the specified time.

### 14.6 Temperature Thresholds

Item	Heatsink		Coil	
	ON	OFF	ON	OFF
Fan level 1	35 °C	xxx		
Fan level 2	45 °C	xxx	-	-
Booster	≤70 °C	90 °C	≤120 °C	125 °C

### 14.7 Standards & Certifications

#### 14.7.1 Safety Standards

See Product Compendium 90.60027.188 for details considering compliance of Induction Basic 4 generators and induction heatings with safety standards.

#### 14.7.2 Environmental Standards

All Induction Basic 4 generators are compliant with RoHS and REACH. See Product Compendium 90.60027.188 for details.

#### 14.7.3 Certifications

All Induction Basic 4 generators are certified either by VDE, UL, CQC or KC. See the corresponding type drawing of the generator for details on certifications.

## 15 Glossary

Term	Definition
Booster	Technology which provides a higher power than the nominal power for cooking zone during a limited period of time
Converter	Electrical circuitry which generates the high-frequency inductor current (integrated in module)
Domino	Induction heating containing 2 heating zones and UI
Filter	Electrical circuitry which protects against feedback effects from and into the mains (integrated inside the generator)
Generator	Assembly consisting of housing, electronic circuit and mains connection
Heating system	Assembly consisting of generator, inductors and user interface including internal cabling, but no main lead or class ceramic
Inductor	Induction coil including temperature sensor to transmit the electromagnetic field to the cookware
LIN	<b>Local Interconnect Network</b> Network for connection between EGO user interfaces and generators
Mixed hob	Hob which contains both inductive and radiant heating cooking zones
Nominal power	The power a cooking zone is designed for (at nominal voltage and frequency of the mains supply)
Power supply	Electrical circuitry which generates the internal extra-low voltage for the user interfaces and the generator's control circuit (integrated in module)
TC	<b>Touch Control</b> Control unit containing display elements and sensor keys which serves as an interface between the cooktop and the user
UI	<b>User Interface</b> Control unit containing display and operating elements (e.g. knobs) which serves as an interface between the cooktop and the user

## 16 Changelog

Date	Responsible	Changes
2017-10-05	CHMIELEC	<ul style="list-style-type: none"> <li>Preliminary release</li> </ul>
2017-11-08	CHMIELEC	<ul style="list-style-type: none"> <li>Additional information for mounting plate added (chapter 2.2)</li> <li>Link to connection diagram added (chapter 3)</li> <li>Power output fixed (chapter 14.3.1)</li> </ul>
2017-11-15	CHMIELEC	<ul style="list-style-type: none"> <li>Note for usage of user interfaces added (chapter 1)</li> <li>Part No. for master/slave cable added (chapter 3)</li> <li>Rated value for nominal voltage fixed (chapter 14.4.1)</li> <li>Technical data for SMPS updated (chapter 14.4.3)</li> </ul>
2017-11-28	CHMIELEC	<ul style="list-style-type: none"> <li>Technical data for SMPS updated (chapter 14.4.3)</li> </ul>
2017-11-30	CHMIELEC	<ul style="list-style-type: none"> <li>Rated power values for 160 mm coil updated (chapter 14.3.1)</li> </ul>
2017-12-14	CHMIELEC	<ul style="list-style-type: none"> <li>Disassembly note for heating systems added (chapter 1)</li> <li>Minimum distances between inductors and TC updated (chapter 2.2)</li> <li>Notes for audible noises added (chapter 10.2)</li> <li>Assembly of clamp terminal added (chapters 3 and 7.3)</li> <li>Chapter 12.4 "Notes on EMC Test" added</li> <li>Power output for 160 mm cooking zone changed (chapter 14.3.1)</li> <li>Cookware detection thresholds updated (chapter 14.3.3)</li> </ul>
2017-12-20	CHMIELEC	<ul style="list-style-type: none"> <li>Warning notice for air and creepage distances added (chapter 2.2)</li> </ul>
2018-01-03	CHMIELEC	<ul style="list-style-type: none"> <li>Notes for cross-wiring of inductors removed (chapters 2.1.2, 3 and 5.2)</li> </ul>
2018-01-11	CHMIELEC	<ul style="list-style-type: none"> <li>Drawing number for 4-burner CQC mounting plate added (chapter 2.2)</li> <li>Chapter 2.5 "Fixation Concept for Touch Controls" added</li> <li>Information about mounting frames and fixation concept re-worked (chapter 2.6)</li> </ul>
2018-01-26	CHMIELEC	<ul style="list-style-type: none"> <li>Assembly dimensions fixed (chapter 2.6)</li> <li>Logistics updated (chapter 13)</li> </ul>
2018-03-29	CHMIELEC	<ul style="list-style-type: none"> <li>Chapter 7 reworked completely</li> <li>Minimum distances adapted (chapter 2.2)</li> </ul>
2018-04-16	CHMIELEC	<ul style="list-style-type: none"> <li>Description for wrong connection improved (chapter 6.5.1)</li> <li>Description for coil distances improved (chapter 2.2)</li> <li>6-burner generator connection added (chapter 4.1)</li> <li>Warning advices and notes for cooktops with Schuko plugs added (chapters 9.2 and 10.2)</li> <li>Notes on EMC test improved (chapter 12.4)</li> <li>Lowest continuous power for OCTA coils fixed (chapter 14.3.1)</li> </ul>
2018-07-02	CHMIELEC	<ul style="list-style-type: none"> <li>Minimum distances between 160 mm inductors added (chapter 2.2)</li> <li>Mounting accessories for TC Lite family added (chapter 2.5)</li> <li>Part numbers for 4-burner generators fixed (chapter 7.1.2)</li> <li>Notes for usage of clamp terminal/strain relief added (chapter 7.3)</li> <li>Chapter EMC requirements reworked (chapter 14.4.1)</li> </ul>
2018-08-23	CHMIELEC	<ul style="list-style-type: none"> <li>Description for inductor connection improved (chapter 3)</li> </ul>
2018-10-23	LUETTMAP	<ul style="list-style-type: none"> <li>Added 250 coil information (chapter 6.1.1; 6.1.2; 7.2 ; 14.3 and 14.3.3)</li> <li>Power limits and notes for modules for Schuko plugs added (chapter 3)</li> <li>Error Handling information (chapter 8)</li> <li>Symbol 6 Burner changed (chapter 4.1)</li> <li>Changed part number of spacers (chapter 2.5)</li> </ul>

2018-11-28	WAECHTEB	<ul style="list-style-type: none"> <li>Make clear that 2.5mm<sup>2</sup> cable must be used (chapter 2.2 and chapter 3)</li> </ul>
2018-12-12	LUETTMAP	<ul style="list-style-type: none"> <li>Changed TC positions (chapter 2.2)</li> <li>Added minimum outside cable diameter (chapter 4.1)</li> </ul>
2019-01-22	WACHTEB LUETTMAP	<ul style="list-style-type: none"> <li>Additional temperature information (chapter 6.4)</li> <li>Added chapter 3.2 Interconnecting cable</li> </ul>
2019-06-07	LUETTMAP	<ul style="list-style-type: none"> <li>Changed C<sub>Y,total</sub> (4-burner generator) from 53.4 nF to 64 nF (chapter 12.2.2)</li> </ul>
2019-08-07	WACHTEB	<ul style="list-style-type: none"> <li>Adapt values of wiring because of radio emission (37 MHz issue) (chapter 3.1.2)</li> <li>New pictures for the wiring (chapter 3.1.4)</li> </ul>
2019-08-28	LUETTMAP	<ul style="list-style-type: none"> <li>Change minimum mains cord diameter from 8.0mm to 8.5mm (chapter 4.1)</li> <li>Added information of a connection between two generators by a data line cable (chapter 3.1)</li> <li>Added Nominal power details (chapter 14.3.5)</li> </ul>
2020-01-02	WACHTEB	<ul style="list-style-type: none"> <li>Adaption picture (chapter 13)</li> </ul>
2020-01-15	KLEINHAS	<ul style="list-style-type: none"> <li>Changed part no. to 72.08040.205 (chapter 7.1.1)</li> </ul>
2020-01-17	KLEINHAS	<ul style="list-style-type: none"> <li>Amended chapter 8, error code E9, "defrosting"</li> </ul>
2020-01-31	KLEINHAS	<ul style="list-style-type: none"> <li>Reference to document 90.03302.366 (chapter 2.6)</li> </ul>
2020-06-12	WACHTEB	<ul style="list-style-type: none"> <li>UL info added in chapter 2.3,2.5,3.0,7.1,7.2, recommended pot diameter added 14.3.4, Chapter 12.4 adapted, 12.2.2 change the table C<sub>Y</sub> and added table with I<sub>Y</sub></li> </ul>
2020-08-13	WACHTEB	<ul style="list-style-type: none"> <li>Add screw information related to fixation of aluminum sheet to generator (chapter 3)</li> </ul>
2020-10-26	SUEPFLEP	<ul style="list-style-type: none"> <li>Added screw description (chapter 3)</li> <li>Added further coils (chapter 7.2)</li> <li>Adapted cookware detection thresholds (chapter 14.3.3)</li> <li>Orthography (chapter 16)</li> </ul>
2021-01-13	SUEPFLEP	<ul style="list-style-type: none"> <li>Added screw drawing (chapter 3)</li> <li>Orthography (chapter 8)</li> <li>Added minimum distance to surrounding parts as mounting instruction (chapter 10.1)</li> <li>Update 250 mm coil (chapter 14.3.1 and 14.3.3)</li> </ul>
2021-05-03	SUEPFLEP	<ul style="list-style-type: none"> <li>Added UL and Touch Control SLK (chapter 1)</li> <li>Added position of bridged 160 mm coils (chapter 2.2)</li> <li>Updated drawing no. of 2-burner standard mounting plate CQC and added material (chapter 2.2)</li> <li>Changed part no. of reference system VDE 60 cm with TC Lisa and updated picture of UL reference system (chapter 2.4)</li> <li>Updated comment for mounting concept of China Slider (chapter 2.5)</li> <li>Updated picture of VDE/KC/CQC generator (chapter 3)</li> <li>Added information and picture about inductor alignment (chapter 3)</li> <li>Orthography (chapter 3 and 6.5)</li> </ul>



		<ul style="list-style-type: none"> <li>• Updated part no. 4-burner generator CQC (chapter 7.1.2)</li> <li>• Error handling (chapter 8)</li> <li>• Added 160 mm (bridge) information (chapter 14.3.3)</li> <li>• Temperature thresholds (chapter 14.6)</li> </ul>
2021-11-05	HEYSEI	<ul style="list-style-type: none"> <li>• Changed Picture of UL Generator (chapter 3)</li> <li>• Added B4 UL (chapter 2.4)</li> <li>• Added B4 UL coils (chapter 7.1)</li> <li>• Additional screws T10/15 and standardized screw holes (chapter 3)</li> <li>• Deleted T25 screw (chapter 3)</li> <li>• Power Consumption EcoDesign change to 195Wh/kg (chapter 14.4.2)</li> <li>• Changed pictures of: 72.02000.007 72.02000.008 72.02000.020 72.02000.021 (chapter 7.2)</li> <li>• Added connection plan 2x120/240V~ (chapter 4.1)</li> </ul>
2021-11-15	HEYSEI	<ul style="list-style-type: none"> <li>• Added the description “UL” at the specific UL coils in the overview table (Chapter 7.2)</li> </ul>
2021-12-16	HEYSEI	<ul style="list-style-type: none"> <li>• Added 280mm coil (Chapter 7.2)</li> <li>• Added 280mm coil (Chapter 14.3.3 Cookware Detection Thresholds)</li> <li>• Added 280mm coil (Chapter 14.3.4 Recommended Pot Diameters)</li> <li>• Added 280mm coil (Chapter 14.3.1 Power Output)</li> </ul>
2022-01-27	HEYSEI	<ul style="list-style-type: none"> <li>• Added comment “...distance of 4mm..” according to OCTA coil (bridge) (Chapter 14.3.3)</li> <li>• Added hint for increased noise of multilayer bottom cookware (Chapter 10.2)</li> </ul>
2022-02-04	HEYSEI	<ul style="list-style-type: none"> <li>• Added “4-Burner systems only” for 280mm coil (Chapter 7.2 Inductors)</li> </ul>
2022-02-14	HEYSEI	<ul style="list-style-type: none"> <li>• Corrected Octa coils 72.02000.007 and 72.02000.008 (Chapter 7.2 Inductors)</li> </ul>
2022-02-17	HEYSEI	<ul style="list-style-type: none"> <li>• Corrected permanent power of 280mm coils from (Chapter 7.2)</li> <li>• Corrected lowest continuous power of 280mm coil (Chapter 14.3.1)</li> </ul>
2022-02-24	HEYSEI	<ul style="list-style-type: none"> <li>• Updated “Subject to change”</li> </ul>
2022-03-28	HEYSEI	<ul style="list-style-type: none"> <li>• Corrected systems for 280mm coil (Chapter 7.2 Inductors)</li> </ul>
2022-07-08	HEYSEI	<ul style="list-style-type: none"> <li>• Update of Chapter 7.2 Inductors</li> </ul>
2022-09-09	HEYSEI	<ul style="list-style-type: none"> <li>• Update Chapter 14.4.1 EMC requirements minimum pot diameter for EMC testing</li> </ul>

2023-01-11	HEYSEI	<ul style="list-style-type: none"> <li>• Including 120V UL generator into chapter 7.1</li> <li>• Including 160mm coils for 120V system into chapter 7.2</li> </ul>
2023-02-13	HEYSEI	<ul style="list-style-type: none"> <li>• Included cable connection plan of 280mm coil into chapter 3.1.4</li> </ul>
2023-05-03	HEYSEI	<ul style="list-style-type: none"> <li>• Added phase out hint to Wave TC in Chapter 1</li> <li>• Added 13.1 and 13.2 to the Chapter 13 Logistics</li> <li>• Chapter 3: Added recommendation on 250mm to not mount on the front left position of 4-b generator due to EMC risks</li> <li>• Chapter 3: Added recommendation to add a ferrite ring on 280mm coil cable connection</li> <li>• Chapter 2.6: Changed tolerance 14,5 (+1/-0)mm and drawing</li> <li>• Chapter 7.2 Coils: Added power table for usage of 208V and 120V</li> <li>• Chapter 7.3 Accessories: Picture of UL cover changed</li> </ul>
2024-03-08	HEYSEI	<ul style="list-style-type: none"> <li>• Chapter 8: error Handling standardized</li> <li>• Chapter 7.1.2: addition of 72.08041.008 and 72.08041.009</li> <li>• Chapter 10.1: updated of air gap inlet distances</li> <li>• Added Chapter 6.6: CSF</li> <li>• Chapter 2.2: four-way bridging of OCTA coils is not allowed</li> <li>• Chapter 3.1.4: added recommendation of Lin cable routing</li> <li>• Chapter 2.2: added detailed distance specifications</li> <li>• Chapter 2.5: added SK1</li> </ul>