



Document:	Manual CT/CTM/CTS long REV-3
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Modification journal

Revision:	Date:	Modifications	Visa:
0	2003-12-11	Ground document, premier edition EPROM 5.00	MH
1	2004-07-08	Changes due to EPROM 5.01	FC
2	2005-07-11	Supplement of the article disposal	KR
3	2006-07-03	Supplement of the declaration of conformity	KR
4			
5			
6			
7			
8			
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10			

Overview modifications

Page	REVISION											Page	REVISION											Page	REVISION												
	0	1	2	3	4	5	6	7	8	9	10		0	1	2	3	4	5	6	7	8	9	10		0	1	2	3	4	5	6	7	8	9	10		
1	X											35	X		S	S																					
2	X											36	X	X	S	S																					
3	X		X									37	X	X	S	S																					
4	X			X								38	X	X	S	S																					
5	X		X	S								39	X	X	S	S																					
6	X		X	S								40	X	X	S	S																					
7	X		S	S								41	X		S	S																					
8	X		S	S								42	X		S	S																					
9	X		S	S								43	X	X	S	S																					
10	X		S	S								44	X	X	S	S																					
11	X		S	S								45	X	X	S	S																					
12	X		S	S								46	X		S	S																					
13	X		S	S								47	X		S	S																					
14	X		S	S								48	X		S	S																					
15	X		S	S								49	X		S	S																					
16	X		S	S								50	X		S	S																					
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30	X	X	S	S																																	
31	X		S	S																																	
32	X		S	S																																	
33	X		S	S																																	
34	X	X	S	S																																	

X	Modifications in contents, corrections
S	New paging

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**EU/UE
KONFORMITÄTSERKLÄRUNG
DECLARATION OF CONFORMITY
DECLARATION DE CONFORMITE**

Wir
We
Nous

Thermoplan AG

(Name des Anbieters) (supplier's name) (nom du fournisseur)

Röhrlistrasse 22 CH-6353 Weggis

(Anschrift) (address) (adresse)

**erklären in alleiniger Verantwortung, dass das Produkt
declare under our sole responsibility that the product
deklarons sous notre seule responsabilite que le produit**

Kaffeemaschine Black&White

Typen CTS 1, CTS 2, CTM 1, CTM 2, Ct 1, CT 2

(Bezeichnung Typ oder Modell, Los-, Chargen- oder Seriennummer, möglichst Herkunft und Stückzahl)
(name, type or model, lot, batch or serial number, possibly sources and numbers of items)
(nom, type ou modele, nom de lot, d'échantillon ou de serie, eventuellement sources et nombres d'exemplaires))

**auf das sich diese Erklärung bezieht, mit der / den folgenden Norm(en) oder normativen
Dokument(en) übereinstimmt.
to which this declaration relates is in conformity with the following standard(s) or other
normative
document(s)
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normatif(s)**

EN 60335-1:1996 / EN60335-2-15:1996 / EN 55014-1 / EN 55014-2

(Titel und/oder Nummer sowie Ausgabedatum der Norm(en) oder der anderen normativen Dokument(e)
(title and/or number and date of issue of the standard(s) or other normative document(s)
(titre eSou no. et date de publication de la (des) norme(s) ou autre(s) documentis) normatif(s)

**Gemäss den Bestimmungen der Richtlinie(n); following the provisions of Directive(s);
conformement aux disposition de(s) Directive(s)**
(falls zutreffend) (if applicable) (le cas échéant)

73 / 23 / EWG +89 / 336 / EWG

CH-6353 Weggis, 28.08.1998

(Ort und Datum der Ausstellung)
(Place and Date of issue)
(Lieu et date)

Domenic Steiner

(Name und Unterschrift oder gleichwertige Kennzeichnung des Befugten)
(name and signature or equivalent marking of authorized person)
(nom et signature du signataire autorisé)

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Zusatzgeräte zu Kaffeemaschine Black&White

Typen CH, TS, MF5

(Bezeichnung Typ oder Modell, Los-, Chargen- oder Seriennummer, möglichst Herkunft und Stückzahl)
(name, type or model, lot, batch or serial number, possibly sources and numbers of items)
(nom, type ou modèle, nom de lot, d'échantillon ou de série, éventuellement sources et nombres d'exemplaires))

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(name and signature or equivalent marking of authorized person)
(nom et signature du signataire autorisé)

Important hints

MOUNTING

Only an instructed service-engineer may mount the unit.
The manufacturer is not liable for injuries caused by an improper mounting of the unit.

It is a prescription to:

- a) mount the unit on a massive base.
- b) The unit may not have a direct contact to the customer. The only exception are automatic coffee-machines which are made for the self-service use.

POSITION AND ENVIRONS

It is recommended to mount the unit at a free place for not taking influence on the air-circulation.

Do not install the machine at a warm or moist place.

POWER SUPPLY

The power supplies have to correspond with the nameplate data.

This appliance is electrically safe only when properly earthed as set forth in the current electric safety specifications. Check for compliance and, when in doubt, have the wiring thoroughly inspected by skilled personnel. The manufacturers shall not be liable for any damage caused by faulty earthing.

Using adapters, multiple plugs and cable extensions is not recommended. Should they be indispensable, use simple or multiple adapters and extensions that comply with the current safety regulations, take care not to exceed the limit current load shown on simple adapters and extensions, and the limit power load shown on multiple adapters.

To prevent dangerous overheating, uncoil the power cable to its full length.

WATER CONNECTION

The unit requires a water connection of 3/8-inch.

The distance between the machine and the water connection should not be more than 1 meter. The water pressure must be between 2 and 4 bar. If the water pressure is more than 4 bar, you have to build in a reduction-valve.

WATER QUALITY

For getting a good and tasty coffee, the water quality is an important factor.
It is important to use drink-water only!

The optimal total water-hardness is 5-8 dH° / 8-14 fH°. In the most cases, the use of an active-coalfilter is necessary. Ask a specialist.

WATER DRAIN

The distance between the water drain and the machine should not be more than 1 meter.

It is important that the water drain (tube) does not hang down.

Important hints

OPERATION

The unit may be used only by trained personnel.

The units must not be used to produce other products than described in the manual.

General safety notes

Beside the hints and notes the following general safety notes have to be observed in any case:

SCALD
DANGER

Operations with hot water have to be made carefully.

- Do not handle underneath the product-outlets.
- Coffee-, milk-, tea- and steam-products cause scalding if coming in touch with.
- Do not touch any of these outlets during or after dispensing a product.
- Keep attention if you handle with milk in a unit with a milk-heater (Foamer/MilkFoamer). Touching the milk- and heating-basin could cause scald.

AIRING / WATER-PRO-
TECTION

Do not cover the ventilation-grating.

Take care that no water enter into the ventilation-grating.

CLEANING OF THE
UNIT

The daily cleaning is not only an absolutely „must“, it is also a guarantee for a constant good neutrality of taste and a longer life for the machine.

AFTER-SALES SERVICE

On the display of the coffee-machine appears a message, if a service is required.

In any case the machine has to be serviced all six months through a trained technician. Plug out the power-supply before servicing the machine.

Important: The power-supply must be disconnected before working on the unit.

TRANSPORT

- Before the transporting the milk-container has to be emptied.
- Pay attention to the weight of the machine
- Use gloves for moving by hand.

Important hints

DISPOSAL

Packaging Material

- The packaging material (cardboard, plastic foil PE and polystyrene EPS) shall be properly recycled.

Disassembly of Equipment

- Disconnect equipment from power. If the equipment is hard-wired it must be disconnected by an authorized service agent!

Safety Instructions

- In order to avoid any accidents caused by inappropriate use or in particular by playing children the equipment must be put out of operation.
- Unplug unit from power source or in case of have hard-wired installations have it disconnect by an authorized service agent! Subsequently, cut off plug from power cord.

Disposal Instructions

- The proper disposal of your old appliance will help prevent damages to the environment and injuries to human health.
- The old equipment is not worthless waste. If disposed properly it is possible to recycle its raw materials.
- Make sure that the old equipment is disposed of or recycled according to local regulations.
- For any further information about disposal, please contact your manufacturer agent.

CHANGES
WORK

It is forbidden to change something at the unit. The manufacturer is not liable for accidents caused by changes made inside or outside the machine.

Only trained technical personnel is allowed to work on the inside of the machine.

The way to the perfect coffee enjoyment

COFFEE

- Use only high quality coffee.
Type, roasting, mixture and the strength of the coffee should correspond to the desires of your customers. You will be able to see the result in your coffee-turnover and profit.
- Never open a receptacle which contains coffee longer than necessary.
- Do not refill the bean-hoppers before longer breaks (night, holidays...).
- We recommend to supply and empty a double-portion coffee after a longer break. Afterwards you get a coffee of good quality.
- Store your coffee in a cool and dry place. You can store the coffee deep-frozen for several months without losing quality.

FOR COFFEE-ENJOYERS

Your coffee-machine, besides the choice of the powder quantity, has special setting-possibilities for the three most important steps for the whole product-range for:

1 cup mill 1	1 cup mill 2
2 cups mill 1	2 cups mill 2

Pre-brew time

This time shows how long the coffee-powder will be moistened in the brewing chamber. This time chosen is perfect, if no water drips into the cup yet.

Relax time

During the relax time it is possible for the coffee-powder to swell. The coffee-powder gives in this time already the first aroma to the water. For the ristretto and espresso this time is to choose longer than for a long coffee, where only a short or no pre-brew and relax time should be set. The relax time is about the same or slightly higher than the pre-brew time.

Press after

This is the last but most important setting of the pre-brew-cycle. Here, the swollen powder will be pressed after. For smaller coffee quantities as there are for Ristretto and Espresso the press after time is set stronger to access the right outlet time. The basic rule is, that the brewing time should be the same for all products. That means, if the water quantity is low (Ristretto, Espresso), the outlet time is smaller.

SETTING

User

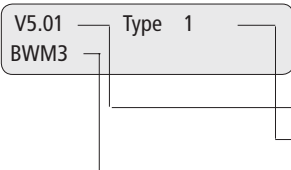
As an exclusivity your machine offers the menu „coffee aroma“.

An automatic harmonized possibility to change the pre-brew steps in one menu. See page 14 and P106-P109.

Service-Engineer

The trained service-engineer and coffee-specialist may set these steps separately too.
See P204-P207 and P312-P314.

EPROM/CPU-Version



When you turn on the machine, the display shows several information. The meaning of it is the following:

V5.01 = EPROM-version
Type 1 = Configuration
BWM3 = CPU-version

Milk container cover

Air supply cover

Keyboard

Hopper mill 2

Powder dispenser

Hopper mill 1

Display



Coffee outlet

Milk outlet

Coffee grounds container

Hot water outlet

Cup platform

Drip container

Programming key

Programming key

Keyboard

Display

Hopper mill 2

Powder dispenser

Hopper mill 1



Coffee grounds container

Coffee outlet

Cup platform

Drip container

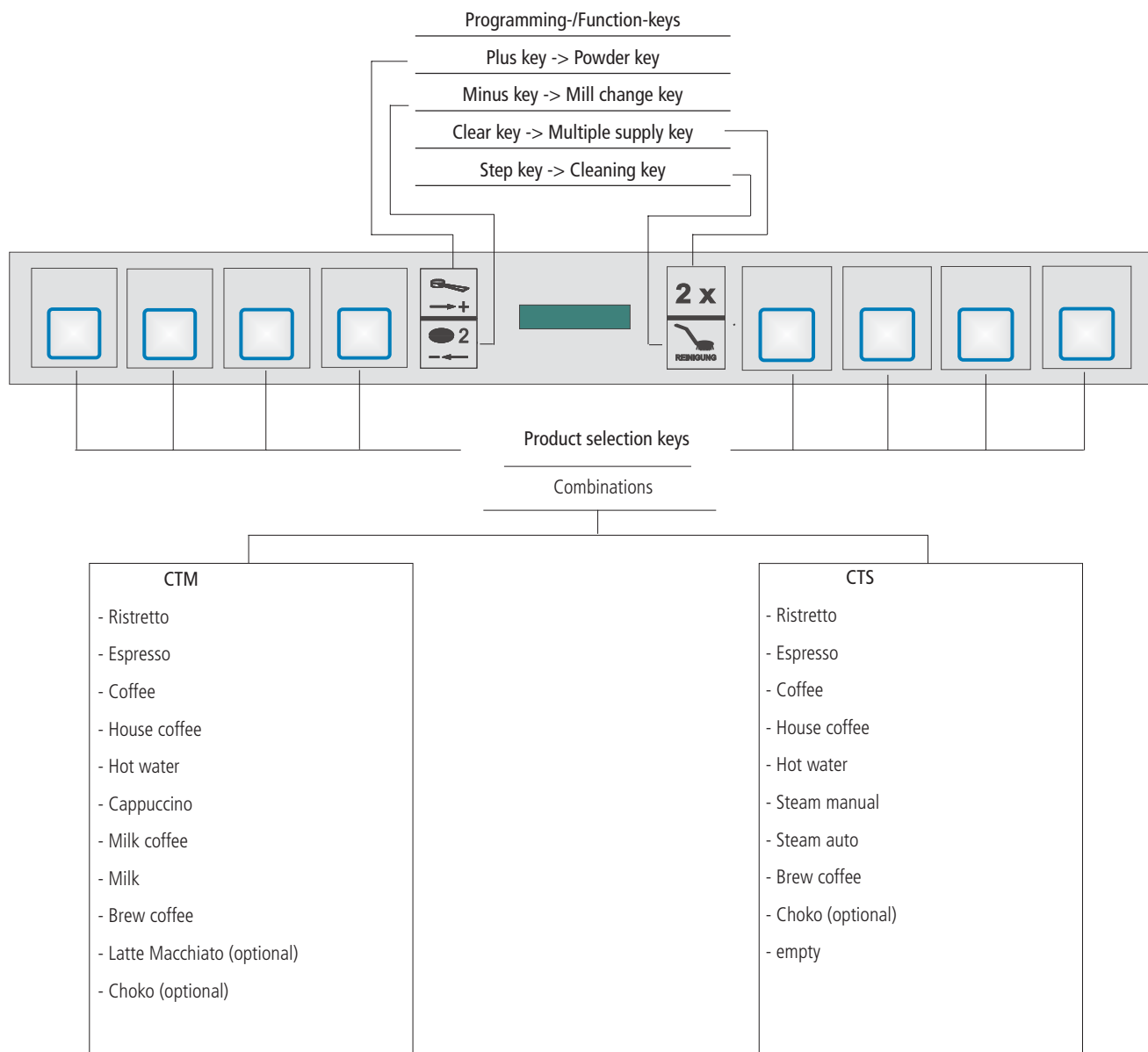
Hot water outlet

Steam outlet

Programming- / Function-keys and product selection keys



Programming- / Function-keys and Product selection keys



Product selection: examples

The keyboard consists of

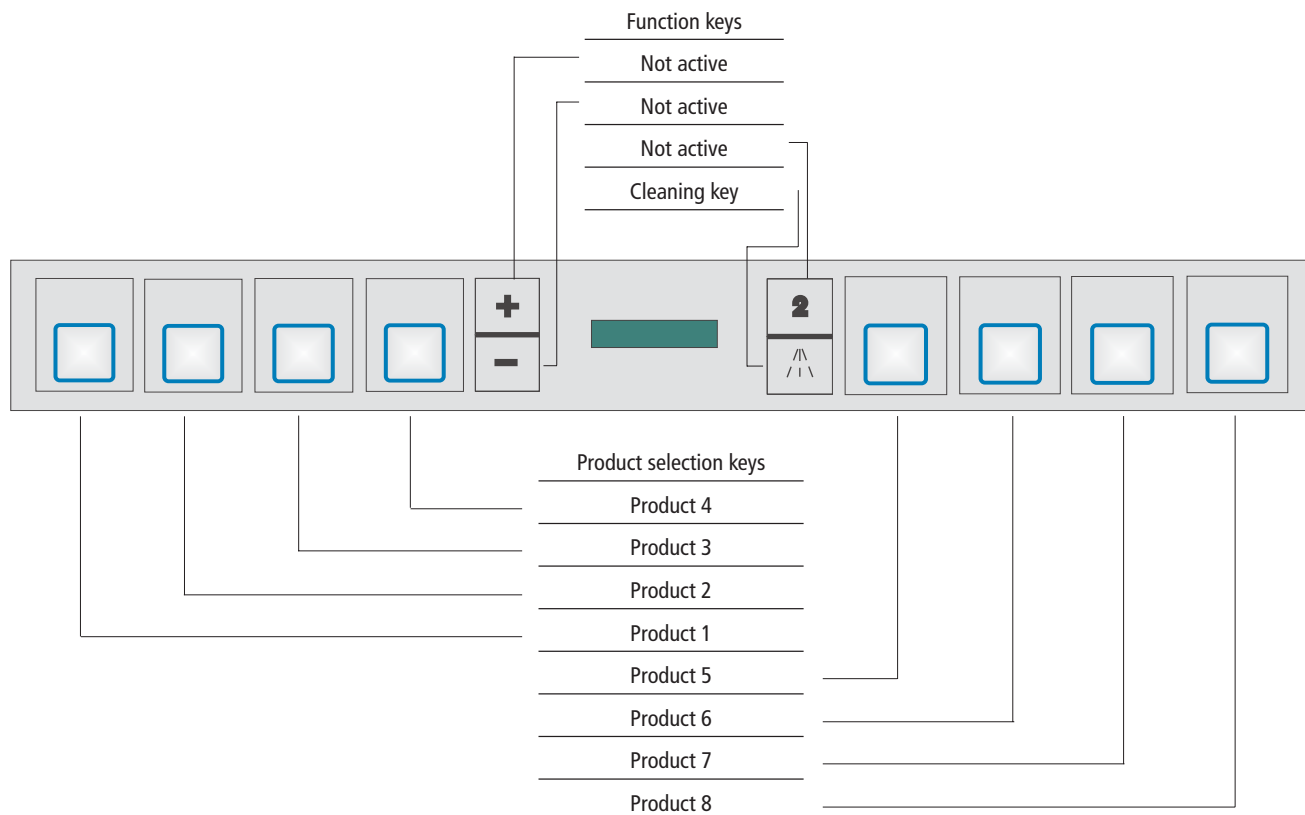
- 8 product selection keys and
- 4 function keys.

The product selection keys are preprogrammed at the factory (see page 13), but can be easily reprogrammed at any time by the user to suit individual needs.

The „Mill change“ key and the Double-portion key make it possible to program four different product variations (such as four espresso portions) using the same product selection key. The „Powder“ key expands the range by 2 additional products.

		Espresso from Mill 1
2 x		Double espresso from Mill 1
2 — ←		Espresso from Mill 2
2 — ←	2 x	Double espresso from Mill 2
— → +		Powder espresso (decaffeinated)
— → +	2 x	Double powder espresso (decaffeinated)

General hints



In units set on „self-service“ only the product keys are active for the customer.

The employers are able to activate the cleaning as follows:



Rinse

Turn the programming key to the right and back. The „cleaning“-key is unlocked and you can do the Rinse now. The „cleaning“-key is unlocked until you cover a product. If you want to rinse again repeat this operation.



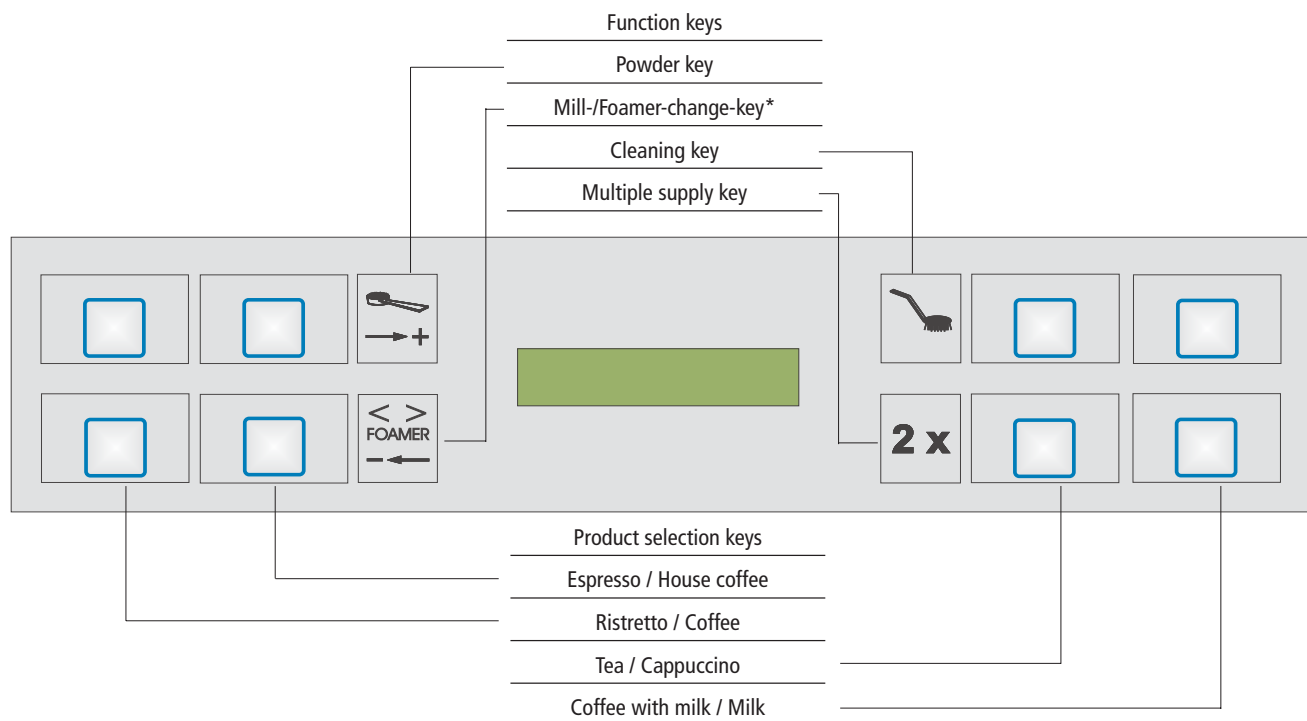
Major cleaning

The automatical cleaning-procedure, according to page 31, can be started by the same way: Turn the programming key to the right and back. The „cleaning“-key is unlocked now.

It is also possible to unlock the „cleaning“-key with the „service master card“:

Enter the card and press the „cleaning“-key. „Supplies total“ appears on the display. Pull out the card. The „cleaning“-key is unlocked now.

Function and product selection keys



***Function of the Mill-/Foamer-change-key in the model CT plus 2x MF5/10.**

In the combination of a CT with one Milk-Foamer the change-key has the function to program a mill to a product. See P211.

In the combination of a CT with two Milk-Foamer the change-key has the function to change the MilkFoamer.









In the version CT plus 2x MF5/10 the MilkFoamer on the right side of the CT „>“ is used as standard. Press the Mill-/Foamer-change-key if you want to use the MilkFoamer on the left side „<“.

If you want to supply the milk definitely from the Foamer „<“, press the Mill-/Foamer-change-key for 5 seconds. The return to the Foamer „>“-supply works in the same way.

The orders „cleaning“ or „Foamer Off/On“ are given to both MF in the same time. If you want to use just one MF, you have to turn off the main switch of the second one.

Base settings - Quantities

- Model CT
- Models CTM + CTMF5/10
- Model CTS

			
Ristretto	Espresso	Coffee	House coffee
			
W:80 C:20 M:-	W:150 C:20 M:-	W:270 C:20 M:-	W:270 C:20 M:-
2 x W:160 C:30 M:-	W:300 C:30 M:-	W:540 C:30 M:-	W:540 C:30 M:-

- Model CT
- Models CTM + CTMF5/10
- Model CTS

				
Tea	Cappuccino	Coffee with milk	Milk	Steam
				
W:270	W:160 C:20 M:30	W:160 C:20 M:20	W:- C:- M:60	S:90 C:- M:-
2 x W:6 (CTS)	W:320 C:30 M:60	W:320 C:30 M:40	W:- C:- M:120	
				
	Latte Macchiato		Brew coffee	
				
	W:160 C:20 M:30		W:270 C:20 M:-	
2 x	W:320 C:30 M:60		W:540 C:30 M:-	

Coffee products

Ristretto/Espresso/ 1 cup

		Coffearoma less				Coffearoma more		
COFFEEAROMA	ms	-30	-20	-10	0	10	20	30
Pre-brew	ms	-180	-120	-60	500	60	120	180
Relax time	ms	-360	-240	-120	1000	120	240	360
Press after	Tic /ms	-15	-10	-5	10	5	10	15
Powder quantity	ms	450	-300	-150	20	150	300	450
About - 1.5 gr		+1.5 gr						

Ristretto/Espresso/2 cups

		Coffearoma less				Coffearoma more		
COFFEEAROMA	ms	-30	-20	-10	0	10	20	30
Pre-brew	ms	-180	-120	-60	500	60	120	180
Relax time	ms	-360	-240	-120	1000	120	240	360
Press after	Tic /ms	-15	-10	-5	5	5	10	15
Powder quantity	ms	450	-300	-150	30	150	300	450
About - 1.5 gr		+1.5 gr						

Coffee/House coffee/Cappuccino/LatteMacchiato/Coffee with milk/1 cup

		Coffearoma less				Coffearoma more		
COFFEEAROMA	ms	-30	-20	-10	0	10	20	30
Pre-brew	ms	-180	-120	-60	500	60	120	180
Relax time	ms	-360	-240	-120	500	120	240	360
Press after	Tic /ms	-15	-10	-5	5	5	10	15
Powder quantity	ms	450	-300	-150	20	150	300	450
About - 1.5 gr		+1.5 gr						

Coffee/House coffee/Cappuccino/LatteMacchiato/Coffee with milk/2 cups

		Coffearoma less				Coffearoma more		
COFFEEAROMA	ms	-30	-20	-10	0	10	20	30
Pre-brew	ms	-180	-120	-60	0	60	120	180
Relax time	ms	-360	-240	-120	0	120	240	360
Press after	Tic /ms	-15	-10	-5	0	5	10	15
Powder quantity	ms	450	-300	-150	30	150	300	450
About - 1.5 gr		+1.5 gr						

General hints for the programming

Turn programming key clockwise to access programming level 1.

The service-engineer may enter to the programming levels 1-4 by inserting the service-master-card. Now, he can choose all the menus directly by pressing the „step“-key, without entering into the single programming levels.

„Supplies total“ menu is displayed.

Supplies total

FUNCTION OF THE
„STEP“-KEY

Press the „step“-key to enter the programming-menus.

Step forward

Press „step“-key.

**Step backwards**

1. Press and hold „2x“-key.
2. Now, you are able to step backwards by pressing the „step“-key.

2 x



TEST-COFFEE

It is necessary to test the values, changed in the programming-mode, immediately. By pressing the corresponding product-key for 2sec., a test-coffee can be supplied without leaving the programming-mode.

For the test-coffee, the waiter-, cash- and coin-systems are not active.

INSTRUCTION
MODELS

The manuals and programming instruction for the single models CT, CTM, CT MF5/10 and CTS you find on the following pages.

2 x

All the models have 8 product-keys.

With the „2x“-key it is possible to supply 2 cups of the desired coffee-product.

DOUBLE-PRODUCT
KEYS**Important hint**

On the other hand it is possible to programm the keys for double-product supplies. In the CT-model for example, with double-products ex works (values see page 14), resp. through the service-engineer on customers demand.

Important is, that double-product settings or changes in the menus

- Water quantity
- Coffearoma
- Powder quantity
- Bypass

are made in the program „1 cup“.

Programming level 1 CTM


Keys	Action	Display messages
------	--------	------------------

Turn programming key clockwise to access Programming level 1.

The **service-engineer** may enter to the Programming levels 1-4 by inserting the service-master-card. Now, he can choose all the menus directly by pressing the step-key, without entering into the single Programming levels.

	„Supplies total“ menu is displayed.	Supplies total
	Press „Step key“ repeatedly to access other menus.	Milk quantity 1 cup
		Milk quantity 2 cups
		* Macchiato Waittime 0 s
		Water quantity 1 cup
		Water quantity 2 cups
		Coffee aroma M1 1 cup
		Coffee aroma M1 2 cups
		Coffee aroma M2 1 cup
		Coffee aroma M2 2 cups



* Appears only, if „LatteMacchiato“ is programmed on one of the product keys.

	Press „Step key“ in „Coffee aroma M2 2 cups“ menu to return to first menu „Supplies total“.	Supplies total
--	---	----------------

	To return to working level turn programming key counterclockwise or take out the service-master-card.	Save data
--	---	-----------

	After a few seconds „Ready“ message appears on display.	Ready
--	---	-------

Note:	In machines with combination with milk (CTM, CTMF5/10, CT+2x MF5/10) is always announced the operating state of the foamer on the display „Foamer ON“ or „Foamer OFF“. „Foamer ON“ = The foamer is ON. „Foamer OFF“ = The foamer is OFF. How to turn on and off the foamer see page 26.	Ready Foamer ON/OFF
-------	--	------------------------

Keys	Action	Display messages
	Turn programming key clockwise to access Programming level 1.	
	The service-man may enter to the Programming levels 1-4 by inserting the service-master-card. Now, he can choose all the menus directly by pressing the step-key, without entering into the single Programming levels.	
	„Supplies total“ menu is displayed.	Supplies total
	Press „Step key“ repeatedly to access other menus.	Water quantity 1 cup
		Water quantity 2 cups
		Tea/Steam time
		Coffee aroma M1 1 cup
		Coffee aroma M1 2 cups
		Coffee aroma M2 1 cup
		Coffee aroma M2 2 cups
	Press „step“ key in „coffee aroma M2 2 cups“ menu to return to first menu „supplies total“.	Supplies total
	To return to working level turn programming key counterclockwise or take out the service-master-card.	Save data
	After a few seconds „Ready“ message appears on display.	Ready

Menus

P101 Supplies total

The „Supplies total“ menu provides information on the number of products served. Press desired product selection key to display corresponding number of servings. Three different product totals are available:

2 x

„Clear“-key

2

„Mill change“-key

+

„Powder“-key

- **Supplies without „Mill change“ key** (that means all products which are fixed on M1 or M2)
This appears automatically at first. Firstly the total and after pressing the single product keys, the product totals appear on the display.
Reset product totals to zero: Press and hold „Clear“-key. Afterwards press the specific product key and the counter will be set to 0.
- **Supplies with „Mill change“ key**
Press „Mill change“ key. The total appears again and the product totals which were supplied with the „Mill change“ key. Reset product totals to zero as described above.
- **Supplies of powder coffee manually fed**
Press „Powder“ key to leave the menu „Supplies total“ and to enter supplies of powder coffee manually fed. Now you can see the total and product supplies. Reset product totals to zero as described above.

Note

It is possible to get into this program without the programming key by pressing the „Minus“ and the „Step“ key simultaneously. Hold these keys for 5 seconds until the message „supplies total“ appears. Now, you see the total of supplied products, but you can not reset it to zero.

Press „Step“ key to return to the programm. „Ready“ appears on the display.

P102 Milk quantity
1 cup

In this menu, you can set the level of milk filling. Once the product is selected, you can do it by pressing the „Minus“ and „Plus“ keys. Nevertheless, we recommend the following method:
Press the milk-product key you wish to set; a setting range is displayed. Press rapidly twice the same product key. The product will flow into the cup. As soon as the desired level is reached, press the same product key: the flow stops and the quantity is memorized.

MF5+CT+MF5

2 xMilk quantity
1 cup <

For the model CT with 2 MF5 the milk quantity of each Foamer can be setted separately.
„<“ appears additive on the display and shows wich Foamer can be setted.
By pressing the „2x“- Key, the second Foamer can be setted. „>“ appears additiv on the display.

P103 Milk quantity
2 cup

In this menu, you can set the level of milk filling. Once the product is selected, you can do it by pressing the „Minus“ and „Plus“ keys. Nevertheless, we recommend the following method:
Press the milk-product key you wish to set; a setting range is displayed. Press rapidly twice the same product key. The product will flow into the cup. As soon as the desired level is reached, press the same product key: the flow stops and the quantity is memorized.

MF5+CT+MF5

Milk quantity
2 cups <

To set the milk quantity for 2 cups do as described in Menu 102 „Milk quantity 1 cup“.

P104 Macchiato
Waittime 0 s

When this menu is displayed, you can set the standby time between the producing of milk and coffee in the „Latte Macchiato“ product.

Ex works: 0 seconds. That means after you press „Latte Macchiato“, the milk gets supplied. Then the machine waits 0 sec. until the coffee gets produced. With this setting, you make sure, that the milk calm down in the glass before the coffee flows in it. So the hot milk stays on the bottom and the foamed milk gets up with the coffee. So you have straight borders between milk, coffee and steamed milk.

P105 Water quantity
1 cup

When this menu is displayed, you can set the level of coffee or tea filling for 1 cup (maximal water quantity is 0.8 liter). Once the product is selected, you can do it by pressing the „Minus“ and „Plus“ keys. Nevertheless, we recommend the following method:

Press the coffee- or tea-product key you wish to set; a setting range is displayed. Press rapidly
twice the same product key. The product will flow into the cup. As soon as the desired level is reached, press the same product key: the flow stops and the quantity is memorized.

Menus

P106

Water quantity
2 cups

When this menu is displayed, you can set the level of coffee or tea filling for 2 cups (maximal water quantity is 0.8 liter). Once the product is selected, you can do it by pressing the „Minus“ and „Plus“ keys. Nevertheless, we recommend the following method:

Press the coffee- or tea-product key you wish to set; a setting range is displayed. Press rapidly twice the same product key. The product will flow into the cup. As soon as the desired level is reached, press the same product key: the flow stops and the quantity is memorized.

P107

Tea/Steam time

When this menu is displayed, you can set the quantity of water or steam. Once the product is selected, you can do it by pressing the „Minus“ and „Plus“ keys. Nevertheless, we recommend the following method:

Press the „Tea“ key; a setting range is displayed. Press rapidly twice the „Tea“ key. The water will flow into the cup. As soon as the desired level is reached, press the „Tea“ key again: the flow stops and the quantity is memorized. Activate then the „Steam“-key and press it rapidly twice. If the desired heating-time is reached you can memorized it by pressing again the „Steam“ key. Press „Step“ key and „Tea/Steam time“ appears on the display

P108

Coffee aroma
M1 1 cup

The coffee aroma of single-portion products from Mill 1 can be adjusted to personal taste in the „Coffee aroma M1 1 cup“ menu. This redefines the prebrew process and the quantity of coffee powder very simply.

Press desired coffee product selection key, then adjust coffee aroma by pressing „Minus“ (weaker) or „Plus“ (stronger) key.

Note

The quantity of coffee powder can also be adjusted in the „Powder quantity M1 1 cup“ menu (P204) at Programming level 2.

P109

Coffee aroma
M1 2 cups

The coffee aroma of double-portion products from Mill 1 can be adjusted to personal taste in the „Coffee aroma M1 2 cups“ menu. This redefines the prebrew process and the quantity of coffee powder very simply.

Press desired coffee product selection key, then adjust coffee aroma by pressing „Minus“ (weaker) or „Plus“ (stronger) key.

Note

The quantity of coffee powder can also be adjusted in the „Powder quantity M1 2 cups“ menu (P205) at Programming level 2.

P110

Coffee aroma
M2 1 cup

The coffee aroma of single-portion products from Mill 2 can be adjusted to personal taste in the „Coffee aroma M2 1 cups“ menu. This redefines the prebrew process and the quantity of coffee powder very simply.

Press desired coffee product selection key, then adjust coffee aroma by pressing „Minus“ (weaker) or „Plus“ (stronger) key.

Note

The quantity of coffee powder can also be adjusted in the „Powder quantity M2 1 cup“ menu (P206) at Programming level 2.

P111

Coffee aroma
M2 2 cups







The coffee aroma of double-portion products from Mill 2 can be adjusted to personal taste in the „Coffee aroma M2 2 cups“ menu. This redefines the prebrew process and the quantity of coffee powder very simply.

Press desired coffee product selection key, then adjust coffee aroma by pressing „Minus“ (weaker) or „Plus“ (stronger) key.







Note

The quantity of coffee powder can also be adjusted in the „Powder quantity M2 2 cups“ menu (P207) at Programming level 2.

Programming level 2 CTM

Keys	Action	Display messages
	Turn programming key clockwise to access „Porgramming level 2“.	
	Note for the service-engineer on page 19.	
	Press „Step“ key to access „Coffee aroma M2 2cups“ menu at „Programming level 1“.	Coffee aroma M2 2 cups
  	Simultaneously press „Minus“ and „Plus“ keys, then press „Step“ key briefly. Hold down „Minus“ and „Plus“ keys until „OK“ message appears on the display. You are now in the „Language“ menu at Programming level 2.	OK Language englisch
	Press „Step“ key repeatedly to access other menus.	Coffee temperature 88 °C 190°F Coffeereadylevel 80 °C 176°F Key selection Powder quantity M1 1 cup Powder quantity M1 2 cups Powder quantity M2 1 cup Powder quantity M2 2 cups Mill change Cappuccino mode Bypass 1 cup Bypass 2 cups Multiple Filter not active
	Press „Step“ key in „Filter“ menu to return to first menu „Supplies total“.	Supplies total
	To return to working level turn programming key counterclockwise or take out the service-master-card.	Save data

Programming level 2 CTS

Keys	Action	Display messages
	Turn programming key clockwise to access „Programming level 2“.	
	Note for the service-engineer on page 19.	
	Press „Step“ key to access „Coffee aroma M2 2cups“ menu at „Programming level 1“.	Coffee aroma M2 2 cups
 2  	Simultaneously press „Minus“ and „Plus“ keys, then press „Step“ key briefly. Hold down „Minus“ and „Plus“ keys until „OK“ message appears on the display. You are now in the „Language“ menu at Programming level 2.	OK Language englisch
	Press „Step“ key repeatedly to access other menus.	Coffee temperature 88 °C 190°F Coffeereadylevel 80 °C 176°F Key selection Powder quantity M1 1 cup Powder quantity M1 2 cups Powder quantity M2 1 cup Powder quantity M2 2 cups Mill change Bypass 1 cup Bypass 2 cups Multiple
	Press „Step“ key in „Filter“ menu to return to first menu „Supplies total“.	Filter not active
	To return to working level turn programming key counterclockwise or take out the service-master-card.	Supplies total Save data

Menus

P201 Language
english Press „Minus“ or „Plus“ key to select display-language (english, german, french, italian or spanish) in „Language“ menu.

P202 Coffee tempera-ture
88° C Water temperature can be set between 78 and 99° in „Coffee temperatur“ menu by pressing „Minus“ or „Plus“ key.

P203 Coffeereadylevel
80 °C 176°F In the menu „Coffeereadylevel“ one can set the temperature, at which minimal setting the output will be denied, by pressing the „Minus“ or „Plus“ key. If the coffee temperature is under this setting, one have to wait until the boiler is heated up again. The message „Please wait“ appears on the display. One can set the temperature between 70 and 80 °C (158 and 176°F), but it is always 8°C (14°F) under the actual setted coffee temperature. The setting range changes proportionally to the presetted coffee temperature.

P204 Key selection In this menu, you have the possibility to re-allocate the keys.
Press the product key you wish to re-allocate. With the „Plus“ and „Minus“ keys, scan the list of products and stop on the desired product. The selected key takes the base values linked to the allocated product. If particular values desired (water quantity, powder quantity) differ from the base values, you must set them with the corresponding menus.

Every time you re-allocate a key, the personalized values revert to base values, as shown on page 14 (base settings).

Note

It is possible to re-allocate two identical products, for example cappuccino, to two different keys with either different settings of water and powder quantity or with the same values.

P205 Powder quantity
M1 1 cups In the menu „Powder quantity M1 1 cup“ you have the possibility to change the powder quantity of Mill 1 by pressing the „Plus“ and „Minus“ keys.
Press the product key you wish to alter. Then, by pressing the „Plus“ key, you increase the powder quantity, by pressing the „Minus“ key, you reduce the powder quantity.

Example for reducing the powder quantity

Do not modify the powder quantity in steps of more or less than two units. If for example the value on the display is 20 (about 8 gr.), press the „Minus“ key until the value 18 appears. Once the modification is completed, return to working mode, make four coffees and taste it. If the result does not correspond to your expectations return to the menu „Powder quantity M1 1 cup“ and repeat the process, that means reduce value from 18 to 16.

Powder quantity control

Put a container or a small plate (saucer) into the drawer. Now press the product key you want to check rapidly twice; the mill grinds and the programmed amount of powder drops into the drawer on the plate and you are able to weigh the quantity.

Test product

By pressing and holding the product key, on can check the adjusted settings and dispense a complete product.

Menus

P206

Powder quantity
M1 2 cups

In the menu „Powder quantity M1 2 cups“ you have the possibility to change the powder quantity of Mill 1 by pressing the „Plus“ and „Minus“ keys.

Press the product key you wish to alter. Then, by pressing the „Plus“ key, you increase the powder quantity, by pressing the „Minus“ key, you reduce the powder quantity.

Example for reducing the powder quantity

Do not modify the powder quantity in steps of more or less than two units. If for example the value on the display is 30 (about 12 gr.), press the „Minus“ key until the value 28 appears. Once the modification is completed, return to working mode, make four coffees and taste it. If the result does not correspond to your expectations return to the menu „Powder quantity M1 2 cups“ and repeat the process, that means reduce value from 28 to 26.

Powder quantity control: Identical to P205

Test product: Identical to P205

P207

Powder quantity
M2 1 cup

In the menu „Powder quantity M2 1 cup“ you have the possibility to change the powder quantity of Mill 2 by pressing the „Plus“ and „Minus“ keys.

Press the product key you wish to alter. Then, by pressing the „Plus“ key, you increase the powder quantity, by pressing the „Minus“ key, you reduce the powder quantity.

Example for reducing the powder quantity

Do not modify the powder quantity in steps of more or less than two units. If for example the value on the display is 20 (about 8 gr.), press the „Minus“ key until the value 18 appears. Once the modification is completed, return to working mode, make four coffees and taste it. If the result does not correspond to your expectations return to the menu „Powder quantity M2 1 cup“ and repeat the process, that means reduce value from 18 to 16.

Powder quantity control: Identical to P205

Test product: Identical to P205

P208

Powder quantity
M2 2 cups

In the menu „Powder quantity M2 2 cups“ you have the possibility to change the powder quantity of Mill 2 by pressing the „Plus“ and „Minus“ keys.

Press the product key you wish to alter. Then, by pressing the „Plus“ key, you increase the powder quantity, by pressing the „Minus“ key, you reduce the powder quantity.

Example for reducing the powder quantity

Do not modify the powder quantity in steps of more or less than two units. If for example the value on the display is 30 (about 12 gr.), press the „Minus“ key until the value 28 appears. Once the modification is completed, return to working mode, make four coffees and taste it. If the result does not correspond to your expectations return to the menu „Powder quantity M2 2 cups“ and repeat the process, that means reduce value from 28 to 26.

Powder quantity control: Identical to P205

Test product: Identical to P205

P209*

Pre-infusion

Use „Plus“ or „Minus“ key in this menu to increase, reduce or inactivate the „Pre-infusion“ time.

P210*

Relax time

Use „Plus“ or „Minus“ key in this menu to increase, reduce or inactivate the „Relax time“.

P211*

Press after

Use „Plus“ or „Minus“ key in this menu to make the „Press after“ stronger, lighter, relaxed or inactive.

* Access only with the „Service master card“

Menus

- P212*** Air valve not active
- Press desired product key and set with „Minus“ or „Plus“ key in „Air valve“ menu the time when air valve opens after pre-infusion. This setting is valid for every coffee-product. Base setting is „not active“.
-
- P213** Mill change
- In this menu, you can assign the coffee products to Mill 1 or Mill 2.
Press the product key you wish to alter. Then, press the „Plus“ key; „Allocate product to Mill 2“ is displayed. By pressing the „Minus“ key, the product is re-allocated to Mill 1.
- Note**
Base setting attributes all products to Mill 1. In this configuration, with the „Mill change“ key, you can obtain all products on Mill 2.

On the contrary, if you attribute one product to Mill 2, this one will only be associated to Mill 2.
-
- P214** Cappuccino mode
- In the „Cappuccino mode“ menu, after pressing the desired milk product selection key, 3 different times for the milk foam can be selected using the „Minus“ or „Plus“ key; „Before“, „During“ and „After“ the dispensing of the coffee.
- Note**
We recommend the „Before“ mode for best results for Cappuccino. For coffee with milk, we recommend the „During“ mode.
-
- P215** Bypass 1 cup
- In the „Bypass 1 cup“ menu, use the „Minus“ or „Plus“ key to set the ratio between the quantity of coffee and hot water.
Press desired product selection key. The percentage of coffee can be programmed by pressing the „Minus“ key (less) or the „Plus“ key (more). The setting range is 0 - 99% coffee-portion respectively „no Bypass“.
- Note**
If a value of 70% is chosen, for example, this means that 70% coffee and 30% hot water will be dispensed. This function is selected only for large cups. It reduces the amount of coffee used and produces a „mild“ coffee at the same time.
-
- P216** Bypass 2 cups
- In the „Bypass 2 cups“ menu, use the „Minus“ or „Plus“ key to set the ratio between the quantity of coffee and hot water.
Press desired product selection key. The percentage of coffee can be programmed by pressing the „Minus“ key (less) or the „Plus“ key (more). The setting range is 0 - 99% coffee-portion respectively „no Bypass“.
- Note**
If a value of 70% is chosen, for example, this means that 70% coffee and 30% hot water will be dispensed. This function is selected only for large cups. It reduces the amount of coffee used and produces a „mild“ coffee at the same time.

Menus

P217

Multiple

This menu allows you to assign to the selected product key a set number of product multiplications or a set number chosen by the user. The two possibilities are the following:
(no multiple on milk-products possible)

Possibility 1

Multiple Pro4
1 cup

Select the product to which you wish to assign the multiplying function for example product 4 (house coffee). The display shows „Multiple Pro4 / 1 cup“ (standard setting).

Multiple Pro4
3 cups

By pressing the „Plus“ key, you can assign now for example 3 cups to product 4. The display shows Multiple Pro4 / 3 cups“.

House coffee 3

If you press the product 4 key in the working mode now, 3 cups are produced consecutively.

2 x

If you press the „2x“ key and afterwards the product key, 3 double products (cups) will be supplied consecutively.

Possibility 2

Multiple Pro2
1 cup

Select the product to which you wish to assign the multiplying function for example product 2 (espresso). The display shows „Multiple Pro2 / 1 cup“ (standard setting).

Multiple Pro2
Multiple

Press „Minus“ key to assign „Multiple“ to the product 2. Display shows „Multiple Pro2 / Multiple“.

Espresso

If you press now the product 2 in the working mode, 1 espresso will be supplied.

2 x

Espresso x

If you press the „2x“ key and then the product 2 key, a double espresso will be supplied.

2 x

Espresso 2

If you press the „2x“ key twice and then the product 2 key, two single espressos will be supplied consecutively.

2 x

Espresso 3

If you press the „2x“ key three times and then the product 2 key, three single espressos will be supplied consecutively.

With the „2x“ key you can preprogram a maximum of 9 cups.

P218

Filter
not active

In this menu, you can decide when the filter must be changed. With the „Plus“ or „Minus“ key, increase or reduce the number of liters. We strongly recommend to use this function if there is hard water in your area.



Note

After you changed the filter, press 3 times the „Clear“ key to reset the water counter to zero. The reset will be confirmed on the display with „OK“. Afterwards the fixed number of liters appears on the display. The counter starts again at 0.



Milk circuit: turn Foamer on and off

Keys	Action	Display messages
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Foamer on.

<div> <div>  2 </div> <div>  </div> </div>	<p>Press „Mill change“ key and one of the Milk product selection keys. Hold both keys until the message „Foamer ON“ appears on display.</p> <p>On the display appears „Ready Foamer ON“ as long as the foamer will be turned off again.</p>	<div>Foamer ON</div> <div>Ready Foamer ON</div>
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Foamer off.

<div> <div>  2 </div> <div>  </div> </div>	<p>Press „Mill change“ key and one of the Milk product selection keys. Hold both keys until the message „Foamer OFF“ appears on display.</p> <p>On the display appears „Ready Foamer OFF“ as long as the foamer will be turned on again.</p>	<div>Foamer OFF</div> <div>Ready Foamer OFF</div>
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CTMF5/10 and CT with 2 MF5/10

If the F5/10 is switched off at the main switch, and one try to turn on the Foamer as described on the command unit, the display shows „Main switch Foamer Off“.

Main switch Foamer Off

User display messages

Display messages		Action
Please wait	Boiler is heating, temperature setting not yet reached. No servings possible.	Wait. Heating time approx. 3 minutes
Ready	Coffee machine ready for next serving.	-
Ready Foamer on	If you use the model CTM or CT MF5 the message „Ready Foamer on“ or „Ready Foamer off“ appears on Display instead of „Ready“.	
Milk not ready	Milk or milk foam being heated. Temperature setting for milk or milk foam not yet reached. No milk servings possible	Wait. Heating time for milk products approx. 12 minutes.
Empty Drawer	Drawer full. No coffee servings possible.	Empty grounds drawer.
Drain tub	Tub under drawer full of water. Servings still possible.	Water must be removed from tub using a cloth or sponge. If this happens frequently, call customer service.
Drawer missing	Drawer missing or incorrectly inserted. All coffee product selection keys are blocked. The tea and milk product selection keys are unaffected by this message.	Insert grounds drawer.
Fill hopper M1	Hopper Mill 1 is empty or A foreign body has entered the mill, preventing it from rotating.	Fill hopper with beans. Reverse the direction of rotation with „Mill change“ key and press a coffee product key, then try again to select a product on Mill 1.
Fill hopper M2	Hopper Mill 2 is empty or A foreign body has entered the mill, preventing it from rotating.	Fill hopper with beans. Reverse the direction of rotation by selecting a product on Mill 1, then try again to select a product on Mill 2.
Milk low	Indicate that the container of milk is half empty.	Fill it if it's necessary.

User display messages

Display messages

Foamer off

Milk circuit out of service.
If the milk-product-keys are not programmed for products without milk, no servings with these keys are possible.

Action

If desired, switch on Foamer.
Press and hold the „mill 2“ key, then press and hold a milk-product key until on the display „Foamer ON“ appears.

Powder error

Too much coffee powder in powder shaft or „Mill 1“ or „Mill 2“ is producing too much coffee powder

Reduce quantity of coffee powder, flush system and press desired product selection key again.

Change filter

Water filter is saturated. This message is displayed until the filter is changed and the water counter is set to zero. All products can be served.

Call technical service. Change water filter and reprogram it in „Filter“ menu (P213) at Programming level 2. Press „Clear“ key three times to reset counter to zero. This will be confirmed with „OK“ on the display.

Service required

Preprogrammed number of servings has been reached. This message is displayed until service counter is set to zero. All products can be served.

Call technical service. Service machine and reprogram in „Service interval“ menu (P307) at Programming level 3. Press „Clear“ key three times to reset counter to zero. This will be confirmed with „OK“ on the display.

Clean appliance

Preprogrammed number of servings before cleaning has been reached. This message is displayed until the machine is cleaned with the appropriate tablets. All products can still be served.

Start cleaning process for coffee water system only. See pages 37-39.

Flow error

The water-supply is interrupted or the coffee powder is grinded too fine.

Check water-supply. If it is okay, set a coarser grind by moving the mill regulating lever to the right. Afterwards press the product selection key again.

Piston error

The brew chamber can't move.

Check if the piston is blocked through a foreign body. Afterwards rinse the system and press the desired product selection key again. If problem remains, call technical service.

Overtime error

Coffee water flow is too slow. The coffee powder thrown into the powder shaft is too fine or the setting of the grinder is wrong.

Rinse system and press the desired product selection key again. If problem remains, call technical service.

User display messages

Display messages

Action

NTC coffee def.

The boiler temperature sensor is damaged. Water circuit is out of order.

- With the model CTM all milk servings are not possible.
- With the model CTS tea- and steam-servings are still available.

Call technical service.

NTC foamer def.

The Foamer temperature sensor is damaged. Milk circuit is out of order. Coffee- and tea servings are still available.

Call technical service.

Save data

The parameters edited at the single „Programming level“ are saved.

Tension high/low

The option „voltage control“ is working.

Call technical service because you are too much variation of tension.

Main switch
Foamer Off

One tries to turn on the Foamer although the main switch on the Foamer is switched off.

Switch Milkfoamer on.

Waterflowerror

The flowmeter notices a water flow although no product is dispensed.

Call technical service because a valve is leaking, that can cause a submersion.

No water
in steam boiler

The steam boiler is empty and will not be refilled.



Call technical service.

Cleaning CT, CTS

Cleaning instructions

The following steps should be conducted at the end of each days service and additionally if the „Clean appliance“ message is displayed. Use only the Black&White cleaning tablets (art.no. 70.00.06/1 box with 90 tablets or 70.00.05/carton with 36 boxes) for the water circuit, for the milk circuit use only the Thermoclean cleaning detergent (art.no. 70.00.01/2.5l or 70.00.02/5l).

Cleaning of water circuit

Keys	Action	Display message
	Press and keep depressed „cleaning“-key.	
	<p>The message „Add tablet Press cleaning key“ appears on display. Put a cleaning tablet into the powder channel. Make sure that the tablet is not stuck in the channel.</p>	<div>Add tablet press cleaning key</div>
	<p>If you press the cleaning key without adding a tablet the message „No tablet press cleaning key“ appears on display. Put in a tablet now and press the „cleaning“ key again. If you do not add a tablet, the cleaning process starts without a tablet.</p>	<div>No tablet press cleaning key</div>

The automatic cleaning program lasts approx. 12 minutes.

During the process the cleaning counter appears on display. „Co: 1 „Mi: 0“ means the coffee part has been cleaned 1 time before and the milk part never.	<div>Cleaning Co: 1 Mi: 0</div>
After the cleaning „Ready“ message is displayed.	<div>Ready</div>



Note: If the power-supply gets interrupted during the cleaning, the display will show, after the return of the power-supply, „rinse machine“. By pressing the rinse key the machine will rinse the system 10 times. In this way, all the cleaning detergent remaining will be flushed away.

Selfservice: In the selfservice-mode the „cleaning“ key is locked. To unlock turn the programming key to the clockwise and back. Now the „cleaning“ key is unlocked and you can start cleaning.





Cleaning instructions

The following steps should be conducted at the end of each days service and additionally if the „Clean appliance“ message is displayed. Use only the Black&White cleaning tablets (art.no. 70.00.06/1 box with 90 tablets or 70.00.05/carton with 36 boxes) for the water circuit, for the milk circuit use only the Thermoclean cleaning detergent (art.no. 70.00.01/2.5l or 70.00.02/5l).

Cleaning of water circuit

Keys	Action	Display message
	Press and keep depressed „cleaning“-key. The messages „Select Coffee“, „Select Milk“, „Select Milk and Coffee“ (each for approx. 4 sec.) appear consecutively on display. When message „Select Coffee“ appears, release cleaning-key immediately. The message „Add tablet Press cleaning key“ appears on display. Put a cleaning tablet into the powder channel. Make sure that the tablet is not stuck in the channel.	Select Coffee
	If you press the cleaning key without adding a tablet the message „No tablet press cleaning key“ appears on display. Put in a tablet now and press the „cleaning“ key again. If you do not add a tablet, the cleaning process starts without a tablet.	Add tablet press cleaning key
		No tablet press cleaning key
	During the process the cleaning counter appears on display. „Co: 1 Mi: 2“ this means the coffee part has been cleaned once before and the milk twice.	Cleaning Co: 1 Mi: 2
	After the cleaning „Ready Foamer ON/OFF“ message is displayed.	Ready Foamer ON/OFF

Cleaning of milk circuit

Keys	Action	Display message
	Lift milk suction pipe out of the container. Press a milk key to empty it.	
	Disconnect air supply tube from air supply cover.	
	Remove milk tube from air supply cover and container from its housing by pulling upwards. Clean these parts.	
	Cleaning milk container: Remove any remainig water from under the milk bucket. After cleaning fill 0,7 dl (CTM) or 0,5 dl (MF5/MF10) water into the heating tank (use measuring cup). Then reassemble suction pipe and milk container. Attention: Milk container is hot! Take care.	
	Dispose of milk bag. Remove the foamer head. Press security release button, turn it counterclockwise until it stops. Then pull towards you.	
	Separate the different head elements and clean them with lukewarm water. After cleaning reassemble the foamer head and refit.	
	Fill up milk bucket with two litres of warm water (40° - 50°C). Add 0.6 dl of detergent.	
	Press and keep depressed „cleaning“-key. The messages „Select Coffee“, „Select Milk“, „Select Milk and Coffee“ (each for approx. 4 sec.) appear consecutively on display. When message „Select Milk“ appears, release cleaning-key immediately. The cleaning process starts. During the process the cleaning counter appears on display. „Co: 1 Mi: 2“ means the coffee part has been cleaned once before and the milk twice.	Select Milk
		Cleaning Co: 1 Mi: 2
	After the automatic cleaning, „Ready Foamer OFF F“ message appears on the display. The heating is off.	Ready Foamer OFF F
	Empty milk bucket of remaining detergent before filling with 2 litres of cold water into the milk bucket (WITHOUT DETERGENT).	
	Afterwards press and hold any milk- or white coffee selection key until milk bucket is empty. Dry bucket and insert new bag for next day operation.	
 2 	To turn the Foamer OFF and exit the cleaning program press and hold „Minus“ key and push additionally any milk key. „Foamer OFF“ appears on display.	Foamer OFF









Cleaning instructions


The following steps should be conducted at the end of each days service and additionally if the „Clean appliance“ message is displayed. Use only the Black&White cleaning tablets (art.no. 70.00.06/1 box with 90 tablets or 70.00.05/carton with 36 boxes) for the water circuit, for the milk circuit use only the Thermoclean cleaning detergent (art.no. 70.00.01/2.5l or 70.00.02/5l).

Cleaning of milk and water circuit simultaneously

Keys	Action	Display message
	Lift milk suction pipe out of the container. Press a milk key to empty it.	
	Disconnect air supply tube from air supply cover.	
	Remove milk tube from air supply cover and container from its housing by pulling upwards. Clean these parts.	
	Cleaning milk container: Remove any remaining water from under the milk bucket. After cleaning fill 0,7 dl (CTM) or 0,5 dl (MF5/MF10) water into the heating tank (use measuring cup). Then reassemble suction pipe and milk container.	
	Attention: Milk container is hot! Take care.	
	Dismount the foamer head. Press security release button, turn it counterclockwise until it stops. Then pull towards you.	
	Separate the different head elements and clean them with lukewarm water. After cleaning reassemble the foamer head and refit.	
	Fill up milk bucket with two litres of warm water (40° - 50°C). Add 0.6 dl of detergent.	
	Press and keep depressed „cleaning“-key. The messages „Select Coffee“, „Select Milk“, „Select Milk and Coffee“ (each for approx. 4 sec.) appear consecutively on display. When message „Select Coffee and Milk“ appears, release cleaning-key immediately. The message „Add tablet Press cleaning key“ appears on display. Put a cleaning tablet into the powder channel. Make sure that the tablet is not stuck in the channel.	Select Coffee and Milk
	Press „cleaning“ key. The automatic cleaning process starts and will last approx. 12 minutes.	Add tablet press cleaning key
	If you press the cleaning key without adding a tablet the message „No tablet press cleaning key“ appears on display. Put in a tablet now and press the „cleaning“ key again. If you did not add a tablet, the cleaning process starts without a tablet.	No tablet press cleaning key
	During the process the cleaning counter appears on display. „Co: 1 Mi: 2“ means the coffee part has been cleaned once before and the milk twice.	Cleaning Co: 1 Mi: 2
	After the automatic cleaning, „Ready Foamer OFF F“ message appears on the display. The heating is off.	Ready Foamer OFF F
	Empty milk bucket of remaining detergent before filling with 2 litres of cold water into the milk bucket (WITHOUT DETERGENT).	
	Afterwards press and hold any milk- or white coffee selection key until milk bucket is empty. Dry bucket and insert new bag for next day operation.	
2	To turn the Foamer OFF and exit the cleaning program press and hold „Minus“ key and push additionally any milk key. „Foamer OFF“ appears on display.	Foamer OFF

Programming level 3

Keys	Action	Display messages
	Turn programming key clockwise to access „Programming level 3“.	
	Note for the service-man on page 19.	
	Press „Step“ key repeatedly until „Coffee aroma M2 2 cups“ menu at Programming level 1 appears on display.	Coffee aroma M2 2 cups
 2  	Press „Step“ key followed quickly by simultaneously pressing the „Plus“ and „Minus“ keys. Remove finger from „Step“ key still holding „Plus“ and „Minus“ keys until „OK“ message appears on display. You are now in the „Language“ menu at Programming level 2.	OK Language English
	Press „Step“ key repeatedly until „Filter“ menu at Programming level 2 appears on display.	Filter not active
 	Press „Step“ key briefly and then hold down „Plus“ key until „OK“ message appears on display. You are now in the „Service counter“ menu at Programming level 3.	OK Service counter
	Press „Step“ key repeatedly to access other menus.	Milk temp. 73° C 163°F Milkreadylevel 50° C 122°F Grounds 800 g Debit/Credit OFF Machine type normal Service interval 50000 Rinse Interval 15 min Cleaning alarm 1000 Extension Milk mode

Keys	Action	Display messages
	Press „Step“ key in „Milk mode“ menu to return to first menu „Supplies total“.	Supplies total
	To return to working level turn programming key counterclockwise or take out the service-master-card.	Save data
	After a few seconds „Ready Foamer ON/OFF“ message appears on display.	Ready Foamer ON/OFF

Menus

- P301** Service counter All brewing processes since coffee machine was installed are displayed in „Service counter“ menu. This counter cannot be reset to zero.
- P302** Milk temperatur
73 °C Press „Minus“ or „Plus“ key in „Milk temperature“ menu to set milk temperature: CTM: 45 - 88 °C, CTS: 55 - 98°C. The base setting is 73° C and should normally not be changed.
- P303** Milkreadylevel
80 °C 176°F In the menu „Milkreadylevel“ one can set the temperature, at which minimal setting the output will be denied, by pressing the „Minus“ or „Plus“ key. If the milk temperature is under this setting, one have to wait until the foamer is heated up again. The message „Milk cold“ appears on the display. One can set the temperature between 50 and 64 °C (122 and 147°F), but it is always 4°C (7°F) under the actual setted milk temperature. The setting range changes proportionally to the presetted milk temperature.
- P304** Grounds
800 g Press „Minus“ or „Plus“ key in „Grounds“ menu to set capacity of container: range is „not active“ to 1600 grams. Base setting is 800 grams.
- Note**
If the coffee machine is not used often, this setting should be low to ensure that the container will be emptied regularly for hygienic reasons.
- The setting „not active“ is only used when the grounds are falling through the counter into a larger grounds container under the machine.
- P305** Debit/credit
OFF The coffee machine features an electrically-insulated serial interface. Press „Minus“ or „Plus“ key in „Debit/credit“ menu to choose from the following selections: „OFF“, „Credit“, „Debit“, „Card“, „Saldo“. Base setting is „OFF“.
- „Off“ = Machine works autonomous. Product control with daily counter.
„KMI“ = Connection with an Interface to dispensing equipments
„CBox“ = Connection with an Interface to a cash-register-system
„Card“ = Waiter Card
„Saldo“ = Cash-Card
„MDB“ = Connection with an interface MDB2 to a cashier-system, coin changer etc.
„WEB“ = inactive
„iBut“ = special key for waiter systems, etc.
- P306** Machine type
normal Press „Minus“ or „Plus“ key in „Machine type“ menu to select type of operation, „normal“ or „self-service“. Base setting is „normal“.
- Note**
If a coin tester is connected to the coffee machine, for example, it is logical to set the machine to „self-service“. In this setting the keys „M2“, „Powder“, „2X“ and „Cleaning“ are blocked.
- P307** Service interval
50000 Press „Minus“ or „Plus“ key in „Service interval“ menu to set service intervals in steps of 1000. Base setting is „50000“. After servicing the machine, the service interval-counter has to be reset to zero by pressing three times the „Clear“ key. This will be confirmed with „OK“ on the display.
- Note**
The machine should be regularly cleaned, descaled and checked for safety advice integrity. The service interval depends on the intensity of use, but the machine should be serviced by a trained technician at least every six months.

Menus

P308

Rinse Interval
15 min

Press „Minus“ or „Plus“ key in „Rinse interval“ menu to set standby time (between not active and 60 minutes) after which the coffee machine performs a minor cleaning cycle automatically. Base setting is „15 min.“.

Example

If no coffee is dispensed for 15 minutes, the machine makes automatically a minor cleaning. After another 15 minutes without serving coffee this cleaning starts automatically before the next serving is dispensed.

P309

Cleaning alarm
1000

Press „Minus“ or „Plus“ key in „Cleaning alarm“ menu to determine how many servings („not active“ to 2000) are dispensed before message „Clean appliance“ appears on display. Base setting is „1000“.

P310

Extension

Press „Minus“ or „Plus“ key in „Extension“ menu to select slot extension: „None“, „Foamer“, „Tea/Steam“, „Milk/Tea/Steam“, „Foamer external“. Base setting depends on machine type.

Examples

Model CT: „None“; Model CTM: „Foamer“; Model CTS: „Tea/Steam“; Modell CTMF5/10 with BCF5: „Foamer extern“; Model CTMF5/10 with FEG2 and CT with 2x MF5/10: „B&W Bus“.













P311

Milk mode

After pressing desired milk product selection key in „Milk mode“ menu, use „Plus“ or „Minus“ key to select from following kinds of milk: „Foam“ or „Milk“.

Note

For a Cappuccino, for example, you have to set „Foam“.

Keys	Action	Display message
	Turn programming key clockwise to access Programming level 4.	
	Note for the service-man on page 16.	
	Press „Step“ key repeatedly until „Coffee aroma M2 2 cups“ menu at Programming level 1 appears on display.	Coffee aroma M2 2 cups
 2  	Press „Step“ key followed quickly by simultaneously pressing the „Plus“ and „Minus“ keys. Remove finger from „Step“ key, still holding „Plus“ and „Minus“ keys until „OK“ message appears on display. You are now in the „Language“ menu at Programming level 2.	OK Language English
	Press „Step“ key repeatedly until „Filter“ menu at Programming level 2 appears on display.	Filter not active
 	Press „Step“ key briefly and then hold down „Plus“ key until „OK“ message appears on display. You are now in the „Service counter“ menu at Programming level 3.	OK Service counter
	Press „Step“ key repeatedly until „Milk mode“ menu at Programming level 3 appears on display.	Milk mode
 2 	Press „Step“ key briefly and then hold down „Minus“ key until „OK“ message appears on display. You are now in the „Powermanagement“ menu at Programming level 4.	OK Powermanagement
	Press „Step“ key repeatedly to access other menus.	Mill position Voltagecontrol not active Cold start rinse 10 dl Standby temp. not active Water normal Option counter On Drawer time: 5s CTM: Milkstarttemp. high
	Press „Step“ key in „Milkstarttemp.“ menu to return to first menu „Supplies total“.	Supplies total
	To return to working level turn programming key counterclockwise or take out the service-master-card.	Ready Foamer ON/OFF

Menus

- P401** **Power supply** Use „Minus“ or „Plus“ key to select between
 „Powermanagement ON“ = Prior heating coffee - side, then milk - side.(CTM automatic)
 or „Powermanagement OFF“ = Heating coffee - side and TS-side in the same time. (CTS automatic)
-
- P402** **Mill position** Use „Minus“ or „Plus“ key in „Mill position“ to change the position of the coffee chamber. Range is 310-320.
 To check the setted position in the menu, you can press „2x“-key. The coffee chamber runs to the mill position. Now you can check the mill position with the special tool. If you press „2x“-key again, the coffee chamber runs back to stanby - point.
-
- P403** **Voltagecontrol not active** Press „Minus“ or „Plus“ key to set the range in % for the voltage control. The system will be interrupted as soon as the voltage is higher or lower than the set percentage. After the normal power is back, the machine is usable again and the message „Ready“ appears. If the system is interrupted, the display will show the percentage of the difference to the normal voltage and the message „Voltage high“ or „Voltage low“ appears.
- If the machine is running while the voltage gets to high or low, the current product will be finished and counted.(Usable only with a special CPU-version)
-
- P404** **Cold start rinse 10 dl** Press „Minus“ or „Plus“ key in „Cold start rinse“ menu to set amount of water for cold start flush. Base setting is 10 dl. The water-quantity can be set between „not active“ and 100 dl.
- Note**
- 1) Cold start rinse is required only if the coffee machine is cold.
 - 2) It is possible to interrupt the „Cold start rinse“:
 - Press the „Step“ key during 2 seconds. The display will ask for another „Cold start rinse“.
 - 3) It is also possible to stop the „Cold start rinse“ definitely:
 - Press during 2 seconds simultaneously the „Plus“-, the „Minus“- and the Cleaning-key. On the display the message „Please wait“ appears and the machine starts heating up.
-
- P405** **Boilerpurge ON/OFF** In the menu „Boilerpurge ON/OFF“ one can set the boiler rinse active or inactive by pressing the Plus- or Minus key.
Only CTS! ON: If the grounds drawer has to be emptied, (display order: „empty drawer“) everytime after reinserting the drawer, the message „Boilerpurge / push rinse“ appears on the display. Press rinse key. The old water of the steam boiler will now flow out the tea spout. During this time, coffee can be dispensed. This function is not active, if it is setted on OFF or Grounds (P304) is setted on „inactive“.
 Ex works: OFF
- 
-
- P406** **Standby Temp. not active** In menu P405 the standby temperature can be setted between not active and 15°C.
 If now 3 minutes no coffee product is supplied, the setted standby temperature gets activated:
 The boiler temperature overheats in the setted range, for the next supply of coffee will be in a eniojable temperature.
 Note: The max. temperature is 114°C (99°C max. boiler + 15°C max. overheat)
-
- P407** **Water normal** Press „Minus“ or „Plus“ key to choose the way of water connection: „Water normal“ or „Water tank“. - „Water normal“ means that the mormal water pressure is making the tea-supply and the back-flush of the system. - „Water tank“ means that the water-pressure is made by the pump. Base setting is „Water normal“.
- Water tank** **Note**
 The water-tank may not be placed under the level of the coffee-machine.

Menus

P408

Option counter
On

With this menu you can activate with the „minus-“ or „plus-“ key the supply counter in the working-level. If you activate this option, you can check the supply counters without entering the programming level:

Press „minus-“ and then „rinse-“ key during 5 seconds. The supply counter appears on display as described in P101. You can quit the counter by pressing the „rinse-“ key again.

- The counter cannot be erased in this option.

P409

Drawer
time: 5s

By pressing „Minus“ or „Plus“ key you can set the minimal time for emptying and re-inserting the drawer between 0 and 60 seconds. Base setting is 5 seconds.

P410

Milkstarttemp.
high

In this menu you can set the temperature to supply milk-products. With the „plus“- or „minus“-key you can choose „low“ (about 45°C) or „high“ (about 65°C). The base setting is „high“.

Note:

This menu is only active, if the old motion print BCF5 is mounted on the Foamer or the FT-feeler is missing. (no turbo-heating).

Newer models with the FEG2 motion print with turbo-heating work with the menu P303 „Milkreadylevel“.

Display messages: Messages for user

Code	English	German	French
B01	Please wait	Bitte warten	Attendre s.v.p.
B02	Ready Foamer ON/OFF	Bereit Foamer ON/OFF	Prêt Foamer ON/OFF
B03	Milk not ready	Milch kalt	Lait pas prêt
B04	Empty drawer	Behälter leeren	Vider bac à marc
B05	Drain tup	Wanne leeren	Vider cuve
B06	Drawer missing	Behälter fehlt	Bac manque
B07	Fill hopper M1	Keine Bohnen M1	Remplir grains M1
B08	Fill hopper M2	Keine Bohnen M2	Remplir grains M2
B09	Milk low	Milchniveau tief	Lait bas
B10	Foamer off	Foamer off	Foamer off
B11	Powder error	Pulverfehler	Trop de poudre
B12	Change filter	Filter wechseln	Changer filtre
B13	Service required	Service nötig	Service requis
B14	Clean appliance	Gerät reinigen	Nettoyer machine
B15	Flow error	Auslauffehler	Coulage eau déf.
B16	Piston error	Kolbenfehler	Erreur piston
B17	Overtime error	Zeitfehler	Temps dépassé
B18	NTC coffee def.	NTC Kaffee def.	NTC café déf.
B19	NTC foamer def.	NTC Foamer def.	NTC foamer déf.

Display messages: Programming level 1

Code	English	German	French
P101	Supplies total	Bezüge total	Débîts total
P102	Milk quantity 1 cup	Milchmenge 1 Tasse	Quantité lait 1 tasse
P103	Milk quantity 2 cups	Milchmenge 2 Tassen	Quantité lait 2 tasses
P104	Macchiato Waittime 15 s	Macchiato Wartezeit 15 s	Macchiato Pause 15 s
P105	Water quantity 1 cup	Wassermenge 1 Tasse	Quantité eau 1 tasse
P106	Water quantity 2 cups	Wassermenge 2 Tassen	Quantité eau 2 tasses
P107	Tea/steam time	Tee/Dampf Zeit	Temps thé/vapeur
P108	Coffeearoma M1 1 cup	Kaffee aroma M1 1 Tasse	Arôme café M1 1 tasse
P109	Coffeearoma M1 2 cups	Kaffee aroma M1 2 Tassen	Arôme café M1 2 tasses
P110	Coffeearoma M2 1 cup	Kaffee aroma M2 1 Tasse	Arôme café M2 1 tasse
P111	Coffeearoma M2 2 cups	Kaffee aroma M2 2 Tassen	Arôme café M2 2 tasses

Display messages: Programming level 2

Code	English	German	French
P201	Language english	Sprache deutsch	Langue française
P202	Coffee temp. 88 °C	Kaffeetemperatur 88 °C	Température café 88 °C
P203	Coffeereadylevel 70°C 190°F	Kaffeefreigabe 70°C 190°F	Temp pret cafe 70°C 190°F
P204	Key selection	Produktewahl	Attribuer touche
P205	Powder quantity M1 1 cup	Pulvermenge M1 1 Tasse	Quantité poudre M1 1 tasse Milk temp. 73 °C
P206	Powder quantity M2 2 cups	Pulvermenge M1 2 Tassen	Quantité poudre M1 2 tasses
P207	Powder quantity M2 1 cup	Pulvermenge M2 1 Tasse	Quantité poudre M2 1 tasse
P208	Powder quantity M2 2 cups	Pulvermenge M2 2 Tassen	Quantité poudre M2 2 tasses
P209*	Prebrew	Vorbrühzeit	Pré-infusion
P210*	Relax time	Entspannzeit	Pause
P211*	Press after	Nachpressung	Serrage
P212*	Air valve not active	Luftventil nicht aktiv	Surpression désactivée
P213	Mill change	Mühle wechseln	Attribuer moulin
P214	Cappuccino mode	Cappuccino Art	Mode Cappuccino
P215	Bypass 1 cup	Bypass 1 Tasse	Bypass 1 tasse
P216	Bypass 2 cups	Bypass 2 Tassen	Bypass 2 tasses
P217	Multiple	Mehrfachbezug	Répétition
P218	Filter not active	Filter Nicht aktiv	Filtre désactivé

* Access only with the „service-master-card“

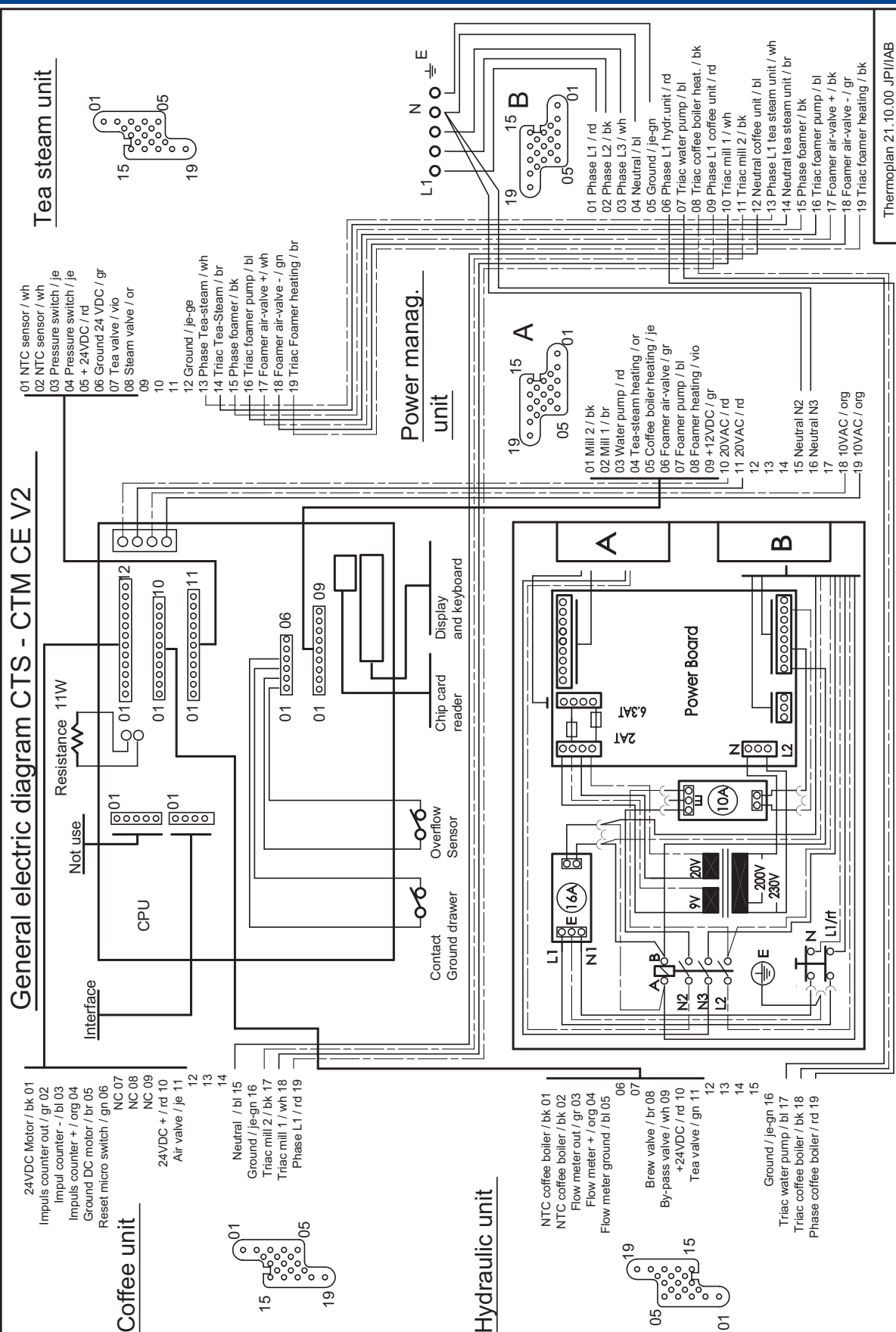
Display messages: Programming level 3

Code	English	German	French
P301	Service counter	Servicezähler	Compteur service
P302	Milk temp. 73 °C	Milchtemperatur 73 °C	Température lait 73 °C
P303	Milkreadylevel 50°C 122°F	Milchfreigabe 50°C 122°F	Temp pret lait 50°C 122°F
P304	Grounds 800 g	Kaffeesatz 800 g	Marc 800 g
P305	Debit/credit OFF	Debit/Credit OFF	Débit/crédit OFF
P306	Machine type normal	Maschinentyp normal	Type de machine normal
P307	Service interval 50000	Serviceintervall 50000	Intervalle serv. 50000
P308	Rinse interval 15 min	Spülintervall 15 min	Intervalle rinç. 15 min
P309	Cleaning alarm 1000	Reinigungsalarm 1000	Alarme nettoyage 1000
P310	Extension	Erweiterung	Extension
P311	Milk mode	Milchart	Mode lait

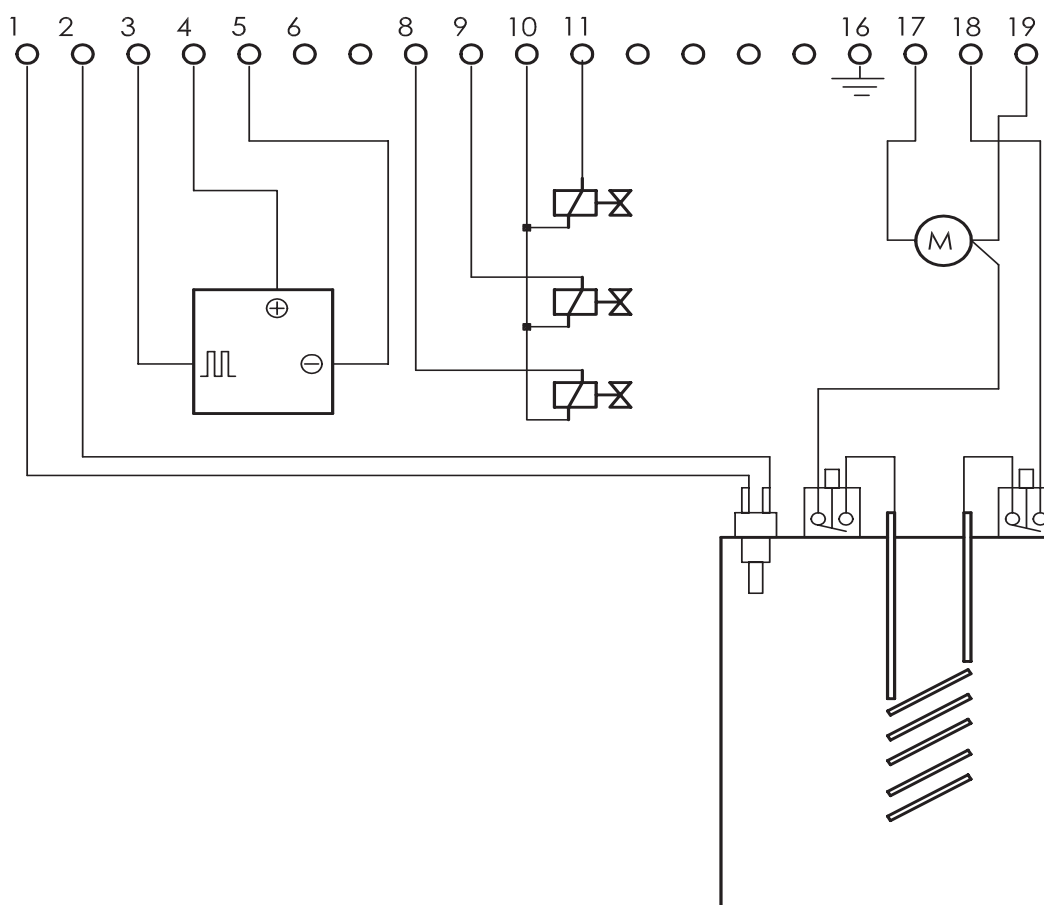





Display messages: Programming level 4

Code	English	German	French
P401	Power supply	Netzanschluss	Alimentation
P402	Mill position	Mahlposition	Position moulin
P403	Voltagecontrol not active	Spannungsüberwa. nicht aktiv	Surv. tension desactive
P404	Cold start rinse 10 dl	Kaltstartspülung 10 dl	Premier rinçage 10 dl
P405	Boilerpurge ON/OFF	Boilerreg. ON/OFF	Boilerreg. ON/OFF
P406	Standby temp. not active	Standby Temp. nicht aktiv	Standby temp. désactivée
P407	Water normal	Wasseranschluss Netzdruck	Pression Eau Urbain
P408	Option counter Off	Option Zähler Off	Option débits Off
P409	Drawer Time: 5s	Satzbehälter Zeit: 5s	Tiroir à marc Temps sorti: 5s
P410	Milkstarttemp. low	Milchstarttemp. tief	Foamer pret tiede

Schema general CTM/CTS



Hydraulic module

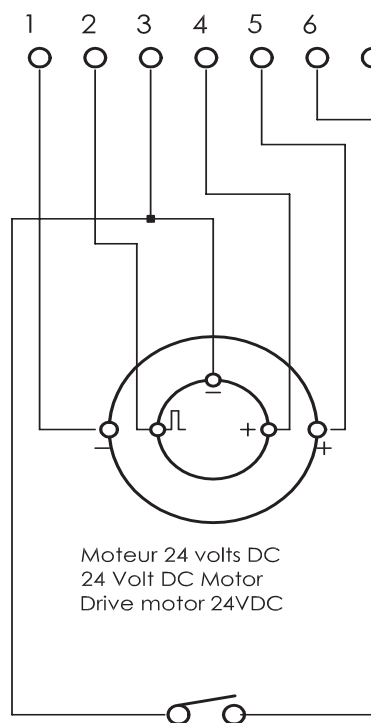
Module hydraulique	Hydraulik Modul	Hydraulic modul	
			
Français	Deutsch	Englisch	Symboles
01 NTC sonde temp. / nr 02 Ntc sonde temp. / nr 03 Signal out / gr 04 + 8 volts / or 05 0 volt / bl 06 07 08 Vanne café / br 09 Vanne by-pass / bc 10 + 24 volts / rg 11 Vanne thé / vt 12 13 14 15 16 Terre / jn-vt 17 Triac mot. ppe eau / bl 18 Triac corps de chauffe / nr 19 Phase boiler café / rg	01 NTC Fühler / sw 02 NTC Fühler / sw 03 Signal / gr 04 Speisung 8 volt / or 05 0 volts / bl 06 07 08 Brühventil / br 09 By-passventil / ws 10 +24 volts / rt 11 Teeventil / gn 12 13 14 15 16 Erde / ge-gn 17 Triac Wasserpumpe / bl 18 Triac Heizung / sw 19 Phase Kaffeeboiler / rt	01 NTC sensor / bk 02 NTC sensor / bk 03 Output / gr 04 + 8 volt / org 05 0 volt / bl 06 07 08 Brew valve / br 09 By-pass valve / wh 10 + 24 volt / rd 11 Tee-ventil / gn 12 13 14 15 16 Ground / je-gn 17 Triac water pump / bl 18 Triac heating / bk 19 Phase coffee boiler / rd	01 Sécurité thermique 02 Sicherheitsbegrenzer 03 Klixon 04 Electro vanne 05 Magnetventil 06 Solenoid valve 07 Moteur 08 Motor 09 Motor 10 Débit-mètre 11 Durchflussmesser 12 Flow meter 13 14 NTC sonde 15 NTC Fühler 16 NTC sensor     
Thermoplan 19.12.00 JPI/IAB			

Mechanical module

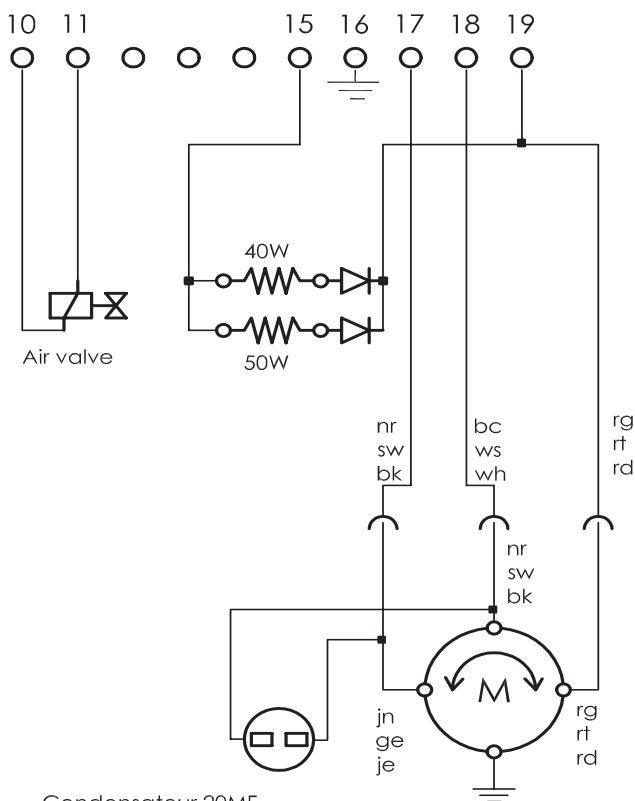
Module café CE

Kaffee-Modul CE

Coffee module CE



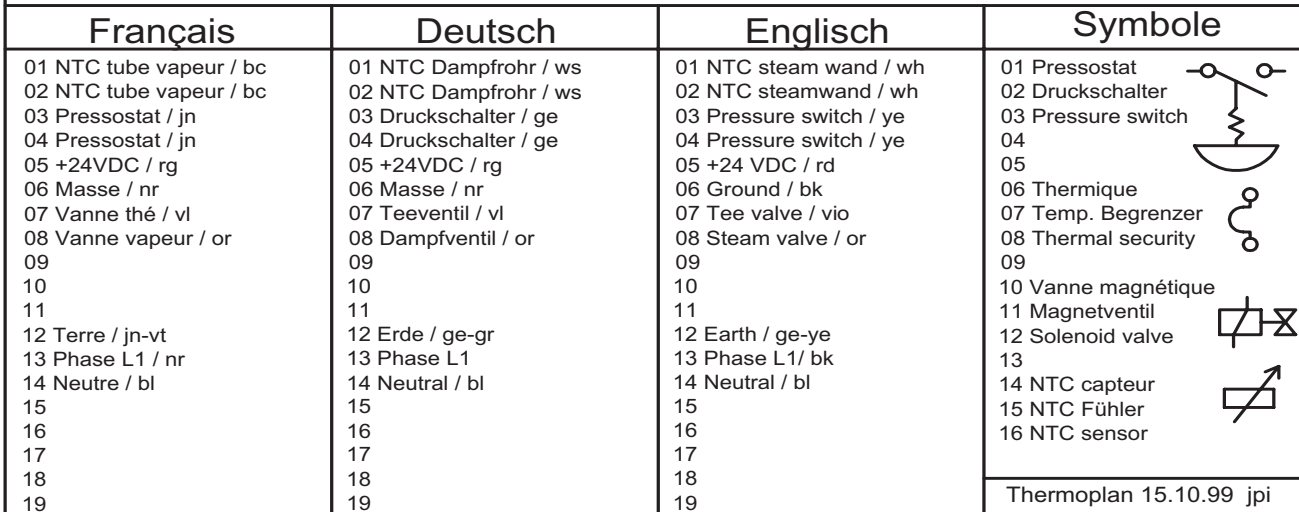
Micro contact reset
Reset Mikroschalter
Reset micro switch



Condensateur 20MF
Kondensator 20MF
Capacitor 20MF

Moteur moulin à café
Mühlemotor
Mill motor

Français	Deutsch	English	Symboles
01 0 volt DC moteur / nr 02 Signal out hall sensor / gr 03 0 volt hall sensor / bl 04 +8 volts hall sensor / or 05 +24 volts DC moteur / br 06 Micro contact reset / vt 07 NC 08 NC 09 NC 10 +24 volts DC / rg 11 Vanne air / jn 12 13 14 15 Neutre / bl 16 Terre / jn-vt 17 Triac mot. moulin 2 / nr 18 Triac mot. moulin 1 / bc 19 Phase 1 / rg	01 0 Volt DC Motor / nr 02 Ausg. signal Hall sensor / gr 03 0 Volt Hall sensor / bl 04 +8 Volt Hall sensor / or 05 +24 Volt DC motor / br 06 Reset Mikrowitch / gn 07 Unbelegt 08 Unbelegt 09 Unbelegt 10 +24 Volt / rt 11 Luftventil / ge 12 13 14 15 Neutral / bl 16 Erde / ge-gn 17 Triac Mühlemotor 2 / sw 18 Triac Mühlemotor 1 / ws 19 Phase 1 / rt	01 0 volt drive motor / bk 02 Hall sensor output / gr 03 0 volt hall sensor / bl 04 + 8 volt hall sensor / org 05 + 24 VDC drive motor / br 06 Reset micro switch / gn 07 NC 08 NC 09 NC 10 + 24 VDC / rd 11 Air valve / je 12 13 14 15 Neutral / bl 16 Ground / je-gn 17 Triac mill motor / bk 18 Triac mill motor / wh 19 Phase 1 / rd	01 Diode 1N4007 02 Diode 1N4007 03 Diode 1N4007 04 05 Cartouche chauffante 06 Heizpatrone 07 Cartridge heating 08 09 Vanne magnétique 10 Magnetventil 11 Solenoid valve 12 13 14 15
Thermoplan 19.12.00 JPI/IAB			

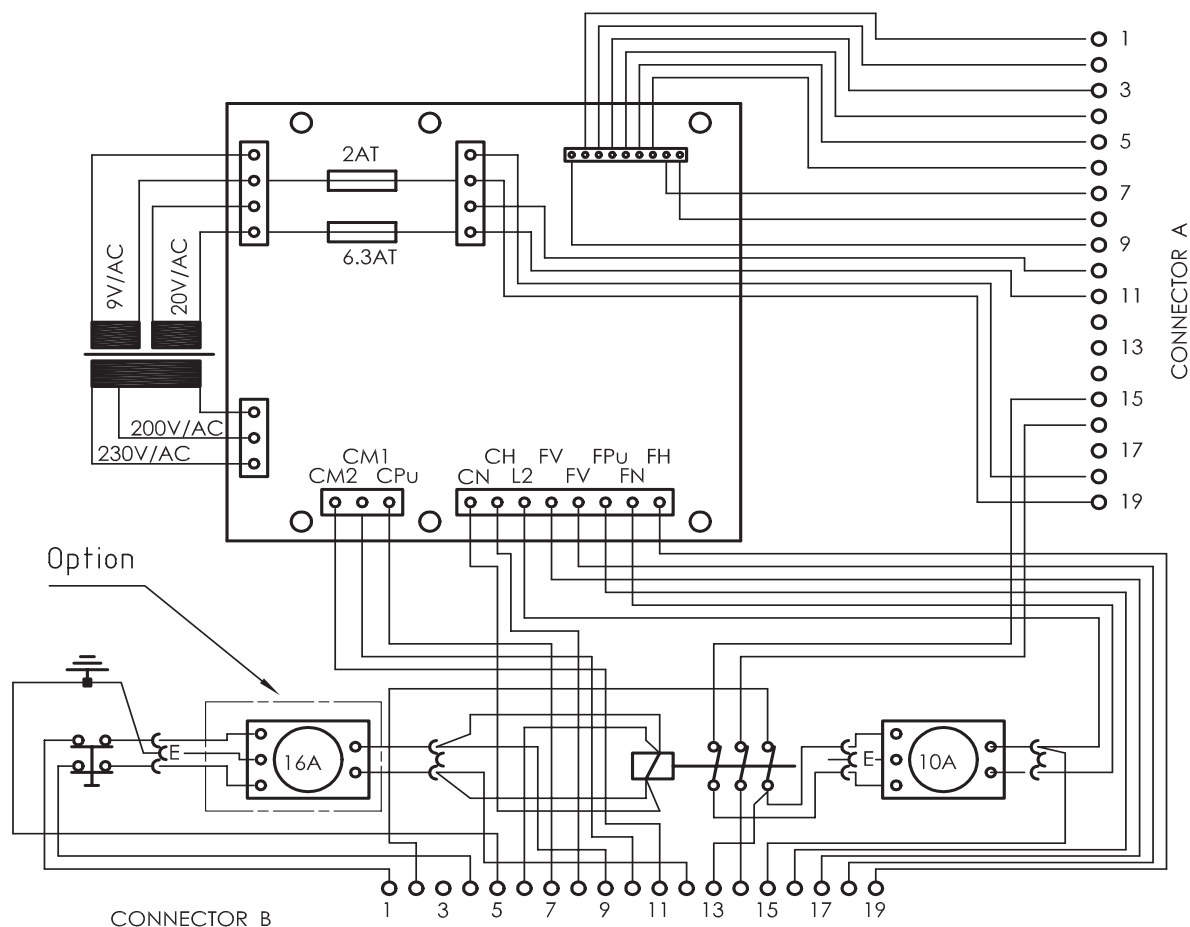


Power management

Power man. V2

Elektro-Schub. V2

Tiroir élect. V2



ENGLISH / A

ENGLISCH / B

ITALIANO / A

ITALIANO / B

01 Opto mill 2 / bk
 02 Opto mill 1 / br
 03 Opto water pump / rd
 04 Opto tea-steam heat./org
 05 Opto coffee heating / je
 06 Opto air valve Foamer / gn
 07 Opto Foamerpump / bl
 08 Opto Foamerheating / vio
 09 +12VDC / gr
 10 28VAC / rd
 11 28VAC / rd
 12
 13
 14
 15 Neutral N2 / bl
 16 Neutral N3 / bl
 17
 18 10VAC / org
 19 10VAC / org

01 Phase L1 / rd
 02 Phase L2 / bk
 03 Phase L3 / wh
 04 Neutral / bl
 05 Earth / je-gn
 06 Phase hydr.drawer. / rd
 07 Triac water pump / bl
 08 Triac coffee heating / bk
 09 Phase coffee drawer / rd
 10 Triac mill1 / wh
 11 Triac mill2 / bk
 12 Neutral coffee drawer / bl
 13 Phase the boiler / wh
 14 Neutral the boiler / br
 15 Phase Foamer / bk
 16 Triac Foamer pump / bl
 17 Air valve Foamer (+) / wh
 18 Air valve Foamer (-) / gr
 19 Triac Foamer heating / bk

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Thermoplan 19.12.00 - JPI / IAB

CTM / CT / CTS

